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Tajikistan



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Tajikistan

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CONTENTS

PREFACE	vii
ABBREVIATIONS	ix
CURRENCY EQUIVALENTS	x
EXECUTIVE SUMMARY	i
THE MACROECONOMIC FRAMEWORK	1
CHAPTER 1: Background and Recent Economic Developments	3
CHAPTER 2: Economic Reforms and External Financing Requirements	15
THE AGENDA FOR REFORM	27
CHAPTER 3: Enterprise Reform and Private Sector Development	29
CHAPTER 4: The Financial Sector	53
CHAPTER 5: Trade Regime	69
CHAPTER 6: The Social Sector	77
SECTORAL TRANSFORMATION	93
CHAPTER 7: Agricultural Sector	95
CHAPTER 8: Industry and Mining Sector	111
CHAPTER 9: The Energy Sector	131
CHAPTER 10: Infrastructure	147
CHAPTER 11: Investment in Human Capital	169
CHAPTER 12: Environment	183
STATISTICAL APPENDIX	193
MAP	

Tables

1.1	Real Growth in Net Material Product	4
1.2	National Accounts Summary	5
1.3	State Budget, 1991-93	8
1.4	Main Monetary Aggregates	10
1.5	List of Main Consumer Products and Services Subject to State Price Regulation	11
1.6	Monthly Changes in Retail and Wholesale Prices	12
1.7	International Trade, 1991-93	12
1.8	Balance of Payments	13
2.1	Projection of Key Economic Indicators	19
2.2	Medium-Term Projections: External Financing Requirements	21
2.3	Creditworthiness and Required Concessionality	24
3.1	Industry Structure, 1992	32
3.2	Medium and Large Republican Enterprises to be Privatized in 1993-1995	33
3.3	Medium and Large Privatization Accomplishments, as of October 1993	35
3.4	Small State Businesses, Cooperatives and Private Enterprises	45
3.5	Self-Employed Persons	46
3.6	Foreign-Owned Companies, 1991-93	49
3.7	Sources of Foreign Investment, Joint Ventures, October 1993	50
4.1	Tajik Banks	55
4.2	Bank Assets and Funding from Central Sources	56
4.3	Interest Rates	57
4.4	Inter-enterprise Arrears by Bank	60
4.5	Inter-enterprise Arrears by Selected Sectors	61
4.6	Selected Short Term Credit, Growth by Category	61
4.7	Lending by National Bank of Tajikistan, end September 1993	62
4.8	Loan Arrears by Bank	63
5.1	The Clearing Arrangement with Russia	70
6.1	Comparative Social Statistics	77
6.2	Minimum Food Basket Composition for Poor Families	78
6.3	Population Distribution by Family Size and Rural/Urban	79
6.4	Sources of Family Income by Level of Per Capita Income Percent -- 1989	81
6.5	Social Protection Payments as Percent of NMP, GDP and Budget Expenditures	82
6.6	Composition of Pension Fund Beneficiaries	83
6.7	Pension Fund Budgets	84
6.8	Employment by Sector, 1980-92	87
8.1	Growth in Fixed Assets by Subsector	113
8.2	Aggregate Financial Position of Industry Sector	114

8.3	Bank Credit by Industry Subsector	115
8.4	Non-State Owned Enterprises	117
8.5	Silver Mines & Deposits	121
8.6	Coal Deposits	122
8.7	Gold Mines and Deposits	123
9.1	Energy Balance	131
9.2	Energy Trade	133
9.3	Energy Prices	134
9.4	Imports of Oil Products	135
9.5	Generation Facilities in Tajikistan	136
9.6	Energy Supply-Demand and Trade Outlook	140
9.7	Oil, Gas and Coal Production	141
10.1	Telephone Service Quality - Selected Indicators	158
10.2	Summary of Telephone Tariffs	159
10.3	Summary of Financial Results, MOC - All Services	160
11.1	Infant Mortality Rates	170
11.2	Causes of Infant Mortality	171
11.3	Maternal Mortality Rates	172
11.4	Social Sector Spending as Percent of Budget	173
11.5	Student:Teacher Ratio	174
11.6	Average Class Size	175
11.7	Salary and Benefits as Share of Sector Budgets	177

Figures

1.1	Main Macroeconomic Indicators	3
1.2	Retail and Wholesale Price Index	11
1.3	Structure of Exports, 1990	13
1.4	Structure of Imports, 1990	13
5.1	Trade and Supply Contracts	74
7.1	Land Use by Category	95
7.2	Value of Agricultural Production	95
7.3	Land Use by Type of Organizations	96
8.1	Industry Structure, 1992	111
8.2	Industry Trend, Output Index	112
8.3	Age of Equipment, as of 1988	114
8.4	Industry Cost Structure	115
11.1	Tajikistan Education System	174

Boxes

2.1	Tajikistan Emergency Reconstruction Program	22
3.1	Legal Framework in a Market Economy	30
3.2	Privatization Accomplishments	34
3.3	Privatization Decision Process	36
3.4	Small-Scale Privatization Experience in Eastern and Central Europe	37
3.5	Aziz Clothing Store, Dushanbe: A Success Story	38
3.6	Bottom-up/Top-down Approach	39
3.7	Technical Assistance in Privatization	51
4.1	A Description of the Larger Tajik Banks	58
4.2	Prudential Regulations of NBT	63
4.3	Technical Assistance in the Financial Sector	65
5.1	The State Order System	72
6.1	Summary Data	80
6.2	Social Protection: Institutions	82
7.1	Visit to a Cotton Gin	100
7.2	Central Asian Water Resource Management	105
7.3	Technical Assistance in Agriculture	108
8.1	Major Industry Subsectors	112
8.2	Enterprise Sector Organization and Management	116
8.3	The Aluminum Industry	120
8.4	Regional Minerals Profile	121
8.5	Technical Assistance in the Industrial Sector	128
9.1	Tajikistan Energy	138
9.2	Technical Assistance in the Energy Sector	143
10.1	Technical Assistance Needs in the Infrastructure Sector	164

PREFACE

This report is based on findings of a World Bank mission to Tajikistan in October 1993 led by Reza Ghasimi. The World Bank wishes to thank the authorities of Tajikistan for their hospitality, support and excellent cooperation. The Economic Report was prepared by Reza Ghasimi (main author), Jamal Saghir and Lucja Swiatkowski (Privatization), Cevdet Denizler (Macroeconomics), Hong Wei and Barbara Ossowicka (Statistics), Per Schreiner (Trade), Radwan Al-Jabri (Legal Framework), David Wilton (Financial Sector), David Kunkel (Agriculture), Ruth Klinov-Halul and Meskerem Mulatu (Social Sector), Michael Levitsky (Energy), Ranjan Sengupta (Industry and Mining), Jean Charles Crochet (Transport), Eloy Vidal and Bjorn Wellenius (Telecommunications) and Sherry Login (Environment). Valuable comments were provided by Isabel Guerrero, Costas Michalopoulos, and Laura Tuck. Haleh Bridi provided continuous support. The report was processed by Cielito Pelegrin. The work was carried out under the general supervision of Kadir Tanju Yurukoglu, Division Chief, and Russell J. Cheetham, Director.

ABBREVIATIONS

ACU	Aid Coordination Unit
CAR	Central Asian Railways
CBR	Central Bank of Russia
CMEA	Council for Mutual Economic Assistance
DTCS	Department of Transport and Commercial Services
EAMU	External Assistance Management Unit
EBRD	European Bank for Reconstruction and Development
EC	Employment Center
EIA	Environmental Impact Assessment
FDI	Foreign Direct Investment
FSU	Former Soviet Union
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
GMP	Good Manufacturing Practices
GNP	Gross National Product
IBRD	International Bank for Reconstruction and Development
IMF	International Monetary Fund
MOA	Ministry of Agriculture
MOC	Ministry of Communications
MOE	Ministry of Education
MOF	Ministry of Finance
MOH	Ministry of Health
MOH	Ministry of Highways
MORT	Ministry of Road and Travel
MPC	Maximum Pollutant Concentration
MTMR	Ministry of Trade and Material Resources
NBT	National Bank of Tajikistan
NGO	Non-governmental Organization
NMP	Net Material Product
PF	Pension Fund
S/C	State and Collective
SIF	Social Insurance Fund
SOE	State Owned Enterprise
SPC	State Property Committee
STF	Systemic Transformation Facility
TBB	Taj Bank Business
TRACECA	Transport Corridor Europe Central Asia
UNICEF	United Nations Childrens Fund
VAT	Value Added Tax
WHO	World Health Organization

CURRENCY EQUIVALENTS**CURRENCY UNIT = RUELE****Exchange Rate¹****1992**

January	110
February	103
March	93
April	100
May	94
June	89
July	137
August	138
September	217
October	349
November	426
December	417

1993

January	484
February	569
March	662
April	767
May	919
June	1082
July	1025
August	1233
September	1350

¹ Monthly Average

Source: National Bank of Tajikistan.

EXECUTIVE SUMMARY

Tajikistan's economic situation has been affected by unprecedented shocks since it gained independence. Since 1992 the country has undergone a protracted period of civil war, political instability, and major natural catastrophes. The resulting economic difficulties have been compounded by additional shocks stemming from the collapse of the trade and payment system, sharply higher prices for transport and energy imports, and the discontinuation of the transfers from the former Soviet Union (FSU). Between 1992 and 1993, civil strife and political turmoil killed about 50,000 Tajiks and displaced 850,000 more, of whom 150,000 sought refuge in neighboring countries. Many villages were substantially destroyed. Looting was extensive and total damage to homes, infrastructure and other sectors in the country reached devastating proportions. In addition, in 1992 and 1993, the Yakhsu and Kyzylsu Rivers, north of Kulyab, severely flooded and caused extensive damage to flood protection dikes, roads, bridges, villages and cultivated land. Because of the political turmoil and fragile security situation, Tajikistan has received very little development aid other than UN humanitarian assistance.

Even before these shocks Tajikistan was the poorest country in the FSU, and therefore faces some of the development issues common to most lower income countries. Per capita income was already below US\$500 in 1992. Tajikistan is also a rural country. While agriculture only contributes about 40 percent of Net Material Product (NMP), 70 percent of the population lives in rural areas. Only 7 percent of the land is arable, and is heavily irrigated. Tajikistan's main products are cotton, silk, and livestock, especially sheep. Industry, which contributes 30 percent of NMP, consists mainly of labor-intensive processing of indigenous and imported materials. Hydroelectric power supplies 75 percent of the country's electric requirements. Although Tajikistan has many natural resources, including gold, mercury, and other minerals; its foreign trade focuses on a limited range of products. Aluminum, raw cotton and textile products make up about 60 percent of exports. The remainder is concentrated mainly in fruits and vegetables, silk, marble, hides and electricity. The country imports a large part of its energy needs, particularly petroleum products, almost all manufactured consumer goods, and, increasingly during the last two years, grain.

The economic difficulties posed by the combination of shocks and impoverished initial conditions were aggravated because initial progress on structural reforms was not sustained, and even reversed. Total output has declined so much that in 1993 real NMP was only about 40 percent of the 1988 level. The drop in output has been accompanied by a very large fiscal deficit, resulting from the Government's attempts to maintain living standards by increasing wages and subsidies. The budget deficit was around 30 percent in 1992 and 24 percent of GDP in 1993. Such a high deficit was somewhat masked by the fact that Tajikistan was part of the ruble zone and, thereby, continued to be financed by the Russian Central Bank. During 1993, the consumer price index increased twenty-fold in line with Russian inflation. In addition, given Tajikistan's unprecedented output declines, it is urgent to adopt structural and stabilization measures that will bring about an eventual supply response and recovery. This reform must be comprehensive; a piecemeal approach will neither move the economy out of its current crisis nor help obtain much needed assistance from the international financial community.

Economic Reform Program

The Government's first priority should be to stabilize Tajikistan's fragile political and security situation. As soon as conditions allow, reconstruction should begin in parallel with efforts to stabilize the economy. The most essential infrastructure which was damaged by civil strife and recent floods will need to be reconstructed first. A recent review undertaken by the World Bank to identify the main elements of an Emergency Reconstruction Program identified urgent needs, particularly in agriculture and flood protection, transport, telecommunications, housing, and the power subsector. In addition to reconstruction and stabilization, the Government needs to implement structural and sectoral reforms to promote a smooth transition to a market economy. Some of these reforms could start to bear fruit even before there is an improvement in the security situation. Others would stand a better chance of success once there is political stability, and should therefore be postponed for the time being.

Stabilization Policy

Faced with a tense security situation and economic difficulties, the authorities continue to rely heavily on close political, military, and economic ties with the Russian Federation and have been negotiating for Tajikistan's entrance into a monetary union with Russia for almost a year. In September 1993, the two countries signed an agreement on the general principles to create a monetary union but the framework and operational arrangements are yet to be finalized. The authorities' efforts to form a monetary union are understandable since present conditions are not the most propitious for launching an independent currency. If the Government decides to enter a monetary union, negotiations with Russia should be quickly completed. If the decision is made not to enter into such a union, the appropriate conditions for the successful introduction of a new currency should be created as soon as possible.

The resolution of monetary arrangements, whether entering a monetary union with Russia or issuing a national currency, will determine the nature of the country's stabilization program. If Tajikistan decides not to enter the monetary union, it would be able to follow independent monetary and fiscal policies conducive to achieving macroeconomic stability. However, having an independent currency would have some drawbacks. It would probably bring about a reduction in the level of financing and transfers from Russia and greater short-term obstacles to trade. Moreover, the existence of low and distorted interest rates, restrictive exchange and trade regulations, and insufficient institutional capacity, including at the National Bank of Tajikistan (NBT), suggest that the Government is not yet ready to manage a national currency. Although under a monetary union macroeconomic stability would be contingent upon the policies of the Russian Federation, Tajikistan would have to address some of its institutional shortcomings as it would be required to harmonize the country's monetary and exchange policies with those of Russia.

Regardless of which choice is made over currency arrangements, the authorities need to stop their expansionary fiscal policy. Introducing a new currency would require the budget deficit to be reduced to diminish inflationary pressures and establish confidence in the new currency. A monetary union with Russia would also impose constraints on money and credit expansion and require the budget deficit to be brought under control because of monetary union provisions and limits on the amount of financing to be provided by the Russian Federation.

The need to reduce the budget deficit (expected to be around 20 to 25 percent of GDP in 1994) leaves authorities no choice but to contain subsidies to enterprises and consumers and to accelerate efficient revenue generating measures. Measures already introduced in the 1994 budget include

containing local expenditures within available resources and requiring the Pension and other funds to submit annual financial statements on their operations. There are several important measures that the Government should take in the next year to reduce social expenditures, while at the same time rationalizing social services. Some revenue generating measures have already been introduced, such as increasing the income tax and eliminating exemptions to the enterprise profits tax. These measures should be supplemented by applying a uniform enterprise profit tax rate to different sectors. This would discourage investment of resources in relatively less productive sectors to exploit tax advantages. In addition, the Value Added Tax (VAT) should be fully paid by state farms and cooperatives. Excise taxes that result in little revenue, together with all taxes on aluminum exports, should be abolished.

Structural Reforms

In the Short Term

In the short term, the most urgent structural reforms are price liberalization, the acceleration of privatization of small-scale enterprises, and removing obstacles to private sector growth (most critically for small businesses). These reforms could start to bear fruit even before there is an improvement in the security situation. The design and implementation of the institutional and legal environment needed to support a market economy is an area where progress should also be made in preparation for the post war period.

Price Liberalization. Tajikistan initiated price liberalization in April 1991, followed by a wider round of price increases in January 1992, when price controls on 80 percent of goods were eliminated. Although the Government has further liberalized prices since then, a significant portion of consumer goods still remain under price controls. These include various grades of flour, bread, milk, energy products, utilities, rent, transport and communications services. The budgetary cost of subsidies for all these commodities amounted to about 7 percent of GDP in 1993, burdening an already difficult fiscal situation. Moreover, subsidies create a distorted incentive structure through which producers of agricultural goods and providers of basic services are penalized. Subsidies, therefore, result in a disincentive to produce the very goods that the Government so highly values. Stronger measures are required to reduce or discontinue all commodity subsidies, especially on bread, meat, and milk, allowing their prices to rise to market-determined levels. The adverse impact of eliminating price subsidies on the poor should be addressed by means-tested budgetary transfers and targeted social assistance.

Privatization of Small-Scale Enterprises. The Tajik Government has developed a privatization program for small enterprises. Implementation has been slow and the program should be accelerated during 1994-95. The privatization program requires administratively simple procedures since it will involve privatizing over 5,000 small-scale enterprises. The Government needs to develop standardized guidelines for enterprise selection and valuation and to accelerate the work of individual privatization committees. In 1994-95, the State Property Committee (SPC) should launch a series of fair, open, and regularly scheduled small-scale auctions, beginning in Dushanbe. Auctions of small-scale enterprises are a proven way to encourage privatization. The procedures for holding such auctions are not complex, and the implementation requirements are simple, once consensus is achieved on the need for privatization. For small-scale enterprises, the transition from collective forms of ownership should occur as soon as possible.

Private Sector Development. A strong private sector must be developed to support Tajikistan's transition to a market-oriented economy. The Government has taken certain measures in that direction, creating the National Association of the Medium and Small Business and establishing a fund to support private business. However, these types of organizations should be created by the private sector. Government-established business organizations do not have a good track record in promoting private sector development. The Government, however, has a very important role to play in the transition in removing the constraints that inhibit the growth of the private sector. Private initiative in Tajikistan is now constrained by political and economic instability, legal and regulatory inconsistencies, and constraints on foreign trade. As a first step the Government should adopt a simple and automatic license and registration process for new businesses, with minimal requirements and uncomplicated forms. The Government should also allow business associations and information centers to disseminate information and provide business services. Completing the legal framework necessary to move to a market economy should also be a priority to promote private sector development, including the specific measures described below. In addition to a clear legal framework, the private sector needs confidence in the enforceability of agreements, transparency in dispute resolution, and recourse against arbitrary administrative acts.

Institutional and Legal Environment. Tajikistan has enacted several laws aimed at developing a market economy that address specific areas and activities but do not yet provide an overall framework for developing a market economy. There are significant gaps in such areas such as property rights, contract law, secured transactions, transfer of property, and protection against unfair trade practices. In 1994-95, emphasis should be on adopting a modern constitution that guarantees the right of natural and juridical persons to own and exchange property, protects private property, and provides for an independent judiciary. Modern civil and commercial codes that provide a well-defined framework for entry and exit and for market activities, need to be developed. Other important aspects of a necessary enabling legal environment include implementing mechanisms to register property rights, and revision of the 1991 law of state ownership and privatization of property and related implementation decrees. Institutions critical for the success of legal reform, such as company registration offices and banking regulation offices, should also be established. This requires an overall review of administrative reform measures and training officials in legal and regulatory aspects of economic reform. It will also involve strengthening the judicial system's ability to enforce the economic laws and contractual obligations essential to protect property rights.

In the Medium Term

Over the medium term, the structural reforms which are discussed below are necessary to continue building the foundation for a market-oriented economy. They include the implementation of a medium- and large-scale privatization program, enterprise restructuring, financial sector reform, reforms of foreign trade and the foreign investment framework, and a social safety net. These reforms would probably stand a better chance of success once there is political stability after the ongoing conflict is resolved.

Medium- and Large-Scale Privatization. The design and implementation of a medium- and large-scale privatization program is crucial for the reallocation of resources to their most productive use and, therefore, for long-term growth. Without a change of ownership from state to private hands, the enterprises may not gain access to investment, technology, and market-oriented management needed to survive. Also, until they are privatized, many state enterprises are operating in a planning vacuum. The current privatization strategy has several flaws, including a cumbersome and non-competitive decision

making process, which will not allow privatization to accelerate. The privatization program needs to be redesigned and the numerous legal and political obstacles removed. The revised program should encourage broader participation by private individuals. The initial cautious and restrictive policies must be revised to encompass a broad range of methods and sales strategies. Once this is completed the Government should: (i) implement a mass privatization program and prepare a list of medium and large enterprises to be privatized; (ii) establish voucher-based schemes (paper vouchers, points, or savings accounts) while simultaneously introducing case-by-case larger scale privatization; (iii) simplify procedures for enterprise valuation and develop standardized documents and guidelines to accelerate the work of individual privatization committees; (iv) design information packages for enterprises explaining what needs to be done, and by when; and (v) set up simple systems to evaluate and approve privatization plans.

Enterprise Restructuring. Enterprise restructuring is likely to be one of the most challenging components of the reform program because it will probably entail output decline and unemployment. The experience of other countries suggests that it will take several years to complete the privatization process. In the interim, those enterprises remaining in the public sector should operate in line with private sector practice. Commercialization should be encouraged by establishing commercial goals and imposing hard budget constraints. Organizational changes that delegate authority to appropriate levels of management, create mechanisms for owner representatives to monitor performance, reward success and punish failure should also be promoted. The major loss-making enterprises should be liquidated and prevented from having access to the financial sector, so they do not compromise stabilization or financial reform. The Government has started this process but management has very little autonomy. New measures should remove the state from direct involvement in day-to-day decision making of the enterprise. Credit to enterprises should be conditional on clearly defined restructuring or liquidation plans for nonviable enterprises. These steps are all necessary, since trying to maintain employment in state-owned enterprises will put more pressure on the already strained budget, making stabilization of the economy more difficult.

Financial Sector. Financial reforms should focus on eliminating the central direction of credit to specific sectors and allowing commercial banks to play their intermediating role. The Government should encourage development of a financial system capable of mobilizing financial savings and channeling them to the most efficient sectors of the economy. This will require allowing nominal interest rates to increase, at least to Russian levels in the event that Tajikistan does finalize monetary union arrangements. Emerging commercial banks should be freed from the influence of non-viable clients and be allowed to focus on supporting the emerging private sector. In the medium term, bank lending should be based on commercial criteria and proper evaluation of client creditworthiness. Effective prudential regulation, modern accounting and auditing standards, allowing entry to foreign banks, and enforcement of existing regulations on concentrated lending and loans to related parties, are needed if commercial banks are to fulfill their necessary role in the transition to a market economy. While all these measures would only have an impact in the medium term, it is important to start preparing them since they take a long time before they are ready for implementation.

Trade Regime. Tajikistan has inherited an economy that is highly dependent on trade and vulnerable to external shocks. Approximately 80 to 90 percent of Tajikistan's exports and imports are with the FSU. The country's production structure also requires considerable imports of capital goods, well in excess of export earnings. Exports make up about 40 percent of NMP; imports, 50 percent. Tajikistan's trade regime is characterized by substantial Government intervention and efforts to sustain

the old production structure. The focus of the trade regime should shift to the future. The activities where Tajikistan entrepreneurs have comparative advantage in international markets will only emerge after the trade regime is simplified and protection made low and homogenous. Trade policy should not be designed to protect ailing industries. Imports will have an important role in the post war recovery. They will also provide competitive pressure on domestic enterprises, especially on existing monopolies. Trade liberalization can, thus, be a major force behind productivity growth in Tajikistan. But to finance imports, exports need to provide the necessary foreign exchange earnings. And existing policies will not generate the desired earnings as they penalize exports. Therefore, export licensing and export quotas should be discontinued. Trade policy should be simple and transparent. Tariffs should be uniform and ad valorem. If Tajikistan joins the monetary union with Russia, its import tariffs should be consistent with Russian tariff coverage and rates.

Foreign Direct Investment. Tajikistan's experience with foreign investment is very limited. As of October 1993, only 12 enterprises were wholly owned by foreigners and 47 were registered as joint ventures with foreign participation. Attracting foreign direct investment would help Tajikistan to obtain access to modern technology and international marketing know-how. Enhancing international confidence in the economy is the most important prerequisite for attracting foreign interest. To build up such confidence requires political and economic stability as well as credibility in the Government's commitment to the appropriate policies. It also requires an enabling legal environment. The Government guarantees that the provisions of the current Law on Foreign Investment, adopted in 1992, will be applied for 10 years and that foreign property will not be nationalized or requisitioned. Foreign investors are granted the right to transfer their investments and profits out of the country. However, a detailed set of rules permitting foreign investors to transfer their hard currency in and out of the country has not yet been finalized. The law on foreign investment also needs to be reviewed to remove excess registration requirements and simplify concessions. The essential prerequisites for negotiating investment agreements are currently weak because information, such as conditions of local enterprises, sectoral analysis, and financial statements with international standards (usually demanded by international investors) is incomplete or unavailable. The institutional setting for foreign investment is complex, involving at least two ministries. The Government intends to create an independent Agency for Foreign Investments that will have a central role in coordinating foreign investment activities and will become a center for information, policy, and investment promotion. This is an important step. The Government will also need to develop an easy entry and exit process and improve the country's infrastructure in telecommunications and transportation. Opening up the privatization process to foreign investors by removing tight requirements and ceilings on participation will also stimulate and attract further foreign capital. Over time, attention should turn to attracting international investors to explore the country's promising but as yet unexploited geological formations.

Social Safety Net. The transition to a market economy will impose unavoidable hardships on the population. Reducing subsidies will diminish living standards. Real wages, which have already declined, will further decrease. And unemployment could rise considerably. Inefficient enterprises will probably fold faster than efficient private ones can emerge -- this is a common feature of the transition toward a market economy. If popular support for reform is to be maintained, the Government will need to revise its social policies to address these transitional problems. Inescapably, the generosity of the old social system cannot continue and must be replaced by more realistic responses. Resources are scarce and notwithstanding the importance of immediate revenue-generating measures, the possibility of considerable tax increases are limited in the short run. On the other hand, the scope for financing budget deficits through currency emission is limited if stabilization is to succeed. Under these conditions, while

essential social safety net spending should be protected, social expenditures should be restructured and economized through targeting to the most needy and reducing the level of some benefits.

During 1994-95, steps should be taken to rationalize social expenditures by improving targeting and sharpening the eligibility to the various welfare programs. Temporarily disabled workers and working pensioners should not be eligible for pensions. The minimum pension age, currently 60 for men and 55 for women, should increase over time. Unemployment benefits should be paid only to persons employed regularly during the previous year. And paid sick leave should be cut to one month per year and paid maternity leave to six months instead of a full year. For the remaining eligible population, several changes in payment scales should be made. A sliding payment scale, reflecting the decline in marginal cost per extra child, should be implemented. At the same time, the Government should also balance its policy of providing child allowances to large families against its objective of population control. Per capita monthly payments of 1800 rubles to compensate for rising bread prices should be scaled back and targeted to the very poor.

Sectoral Transformation

Structural reform must first be implemented in the specific sectors, such as agriculture, that can generate the fastest growth response. The infrastructure that was damaged during the civil strife and recent floods must also be reconstructed as soon as the security situation improves to facilitate a supply response in the productive sectors.

The *agricultural sector*, which dominates the Tajik economy, needs immediate reform to promote the economy's recovery. Although per hectare yields of cotton, the major cash crop, had been the highest in Central Asia, because of lack of inputs and poor weather, production in 1993 was 38 percent below 1991 levels. The main policy actions required in the short term include the elimination of the state order system, liberalization of prices, and the establishment of private land ownership. There has been little change so far and the state still dominates prices, input distribution, and production of key crops. In 1993, the Government tightened controls, increasing cotton delivery quotas from 70 percent to 90 percent of production. Free output prices, coupled with the demonopolization of agricultural trade, would give an immediate incentive for collective and state farms to increase efficiency. State farms should also be made accountable by transforming them to private individual farms or cooperative farms with full legal and tradeable property rights. Price liberalization should bring about an immediate supply response as soon as profitability improves and farmers take better care of their crops and land. Over the medium term, agricultural output should increase even more as farmers faced with higher prices for their products look for better crop varieties and improve their on-farm water management and production techniques. For example, former levels of cotton production could be obtained with 20 percent less crop area if yields would increase to those of other countries with similar climate conditions. There is also considerable room to improve livestock production. While almost half of the sector — other than poultry — is privately owned, the remaining state livestock sector should be privatized.

The agricultural sector's problems cannot be resolved under the structure of a command economy. Not only do prices of inputs and outputs have to be left free of state intervention, but the private sector has to be allowed to trade, transport, and distribute. Mega trucking enterprises should be broken up and the transportation units of various ministries, of the concern Madad, and of state farms should be privatized. In a market economy, the state does not have a role in direct distribution, processing, or in wholesale and retail trade. When farmers are allowed to get the market price for all

their products, the rationale to subsidize inputs and credit will disappear. This sector's productive profile is likely to look very different under a market economy than it does now. The inevitable restructuring that will take place will challenge deeply rooted political beliefs concerning the role of the state and its ownership of land. Some products will not be profitable in a market economy and some existing kolhoz and solhoz will inevitably incur losses. The temptation for the Government to step in and hinder the development of the market should be avoided. Otherwise, the benefits of the reforms will not be allowed to surface.

Industrial Sector. The collapse of the interrepublic payment system, the disappearance of markets, supply shortages, terms of trade shocks, and a general drop in investment during the 1980s have put considerable pressure on the industrial sector. In real terms, industrial output declined by over 50 percent between 1990 and 1993. Controls, through decrees and resolutions which seek to centrally manage procurement and distribution and implement intergovernmental agreements by state orders (now covering 70 percent of output), have been tightened. This desperate effort to secure minimum supply levels has not been effective. Moreover, Government intervention in the industrial sector has hampered restructuring and has postponed necessary adjustment to the new realities imposed by the loss of Tajikistan's main trading partners and other permanent shocks. In 1994 and 1995, reforms should begin by eliminating state orders and by limiting price regulations to special cases of natural monopoly. All enterprises, whether private or state, should have equal access to credit, have the same tax treatment, and be subject to the same provisions of the commercial code and bankruptcy laws. Subsidies, if any, should be explicit budgetary transfers, so that their fiscal cost is clear. Budgetary transfers, in turn, should be compatible with the desired budget deficit reduction.

Because of its implications for the overall industrial sector, it is urgent for the Government to decide, by the end of 1994, on the particular option it will choose regarding the aluminum smelter, which currently wastes a large amount of resources. At present, about 40 percent of hydro-power goes to the aluminum smelter. If a strategic investment partner cannot be found to provide the necessary technology and capital to carry out the required restructuring, it is recommended that the Government consider shutting down the smelter, thus saving on electricity use. The social costs of closing down the unit, in terms of unemployment and family hardship, can be addressed through the social safety net. Another urgent industrial subsector that needs attention is the food industry, where quality and safety standards are in urgent need of improvement.

The mining sector in Tajikistan has substantial potential, in gold, silver, mercury, zinc, and other metals. Despite the richness and diversity of deposits, some of the existing mines are depleted, remaining deposits are underdeveloped, and national production is far below previous levels. In order to realize its potential, the mining sector must mobilize substantial amounts of capital. Investment will be required not only to reconstruct and rehabilitate war-damaged operations, but also to develop some of the potentially valuable deposits. Tajikistan faces significant competition from other resource-rich countries for what is likely to be a limited global pool of mining funds. To attract even a small share of these foreign funds the Government must have a sound policy framework for mineral development including a revised mining law that is not open to ministerial discretion and which has transparent statutes and a clear tax and royalty regime. The authorities should also document internationally acceptable evidence of the attractiveness of deposits in terms of size, grade, and other technical specifications.

Tajikistan's *educational system* provides free education for virtually every citizen. Educational attainment is high relative to the country's GDP per capita and there is universal access to nine years of education. Nevertheless, the quality of education is rapidly deteriorating. There have been declines in enrollment, instructional hours, and teacher-to-student-contact. The declines can be linked

to expenditure reductions in inputs such as textbooks and teacher skill upgrading and the growing share of expenditures going to salaries and benefits to compensate their erosion by high inflation. In the short term, non-salary recurrent expenditures should be protected from further cuts. Over the medium term, efficiency gains are one of the few tools the Government has at its disposal to halt the decline in the quality of services. Considerable efficiency gains could be realized by expanding the number of teaching hours, increasing class size, and reducing the oversupply of teachers (which might have already happened due to the sharp decline in real wages in education).

Health services in Tajikistan are free. The Government inherited from the soviet system a widespread regional network of health facilities that deliver a quality of care above Tajikistan's income level. The population's health profile is a mixture of developed and developing countries. In the past, immunization coverage was excellent and childhood diseases were under control. Currently, infant and child mortality and morbidity are caused mostly by infectious diseases, while chronic disease is responsible for most adult mortality. High incidence of diarrheal diseases, hepatitis A, and other gastrointestinal diseases indicates poor water and sanitation, as up to one-third of the population has no access to running water.

In the short term, the Government needs to address problems in the health sector that stem from the civil war and natural disasters. Recent outbreaks of measles, polio, diphtheria, and cholera should be viewed as early signs of a breakdown in health care delivery. The shortage of supplies is contributing to the health care emergency now developing in Tajikistan. It will be necessary to provide vaccines and essential pharmaceutical supplies to most of the population for at least a year. Provision of equipment and spare parts to replace some of the materials lost in the war and flood, as well as some important equipment rendered useless due to lack of maintenance, is also necessary. In addition, there are structural problems facing the sector, some of which need to be quickly addressed. Private sector participation needs to be encouraged by establishing clear procedures for licensing private practitioners and nursing homes. This could immediately relieve pressure on the health care system.

In the medium term, improvements in efficiency, planning, and management in the health sector are vital. Population-to-doctor ratios in Tajikistan are generous by middle-income developing country standards, though below other FSU countries. The Ministry of Health needs to identify those specialties most in need of new personnel and those that are overstaffed, so it can stop training health professionals that are in oversupply. Attention should also be paid to promoting preventive care, health education, and improvement of nutrition and family planning. Training health care professionals in modern medical technologies and procedures and strengthening the Ministry of Health's institutional capacity are other important areas for the medium term.

The Energy Sector. Although Tajikistan's per capita overall energy consumption has fortunately been historically among the lowest of the FSU, the fuel shortages which have resulted from the war are among the worst ever experienced in the region. Most of domestic energy production is concentrated on hydro-electricity and the country relies on imports for nearly all of its oil and gas needs. In the short term, the Government must develop a strategy to deal with the fuel shortages, ensuring that key agriculture and essential industry activities and services are not further disrupted. It is important that the activities of Naftresan (which is responsible for oil product distribution) be made more transparent to allow full oversight of its economic activity. To ensure that energy use is as efficient as possible, a rapid transition to economic pricing of energy should be implemented. Prices for electricity and fuel to households will have to be raised. While it may not be practical to ask households to pay the full economic cost of fuels immediately, prices should be raised substantially and compensation through the social safety net mechanism should be considered for some specific groups.

xx Executive Summary

In the medium term, the energy sector's institutional capacity must be strengthened in order to better develop and implement energy policy. The responsibility for energy policy and oversight of energy enterprises should be centralized within a single ministry or department. Once the fuel supply situation has been stabilized, the policy focus should shift to strategic investment planning and restructuring. An assessment of fuel use priorities will be important. A key consideration will be the best use of Tajikistan's large, installed hydro-power base. As part of a review of both the energy situation and the aluminum smelter's future, it will be important to take full account of the economic cost of this enterprise's large use of fuel. Reduced demand from the smelter could allow greater use of electricity in domestic heating and cooking, for example, which would save high cost imports of LPG and natural gas. It also is possible that power saved by reducing the aluminum smelter's use could be exported to neighboring countries to help finance the costs of oil and gas imports. The future development of Tajikistan's large hydro potential is another key issue. In view of the high costs involved in constructing the Rogun and Sangtudin projects, and given the uncertainty of demand from both domestic and export markets, it is recommended that further work on these projects await the outcome of a special study to analyse the export demand for power from the Rogun project (from such countries as Pakistan and other Central Asian countries). Environmental and social impact of the construction of these projects should also be carefully evaluated before further work.

Transport and Telecommunications. Although Tajikistan's transport system is relatively well developed, lack of competition has kept it from reaching a state compatible with the requirements of a market economy. Eliminating excessive regulations and creating necessary incentives to restructure the transport enterprises are critical for the system's efficient development. In the medium term, the privatization plan should cover enterprises in the transport sector. Enhancing the efficiency and productivity of the remaining state-owned transport enterprises should also be emphasized. Like its transport systems, Tajikistan's telecommunications system also needs improvement. Immediate emergency reconstruction is needed in Dushanbe and the southern part of the country to restore capacity to levels prevailing before the civil war and floods. Active private sector participation could play an important role in developing this sector.

Environment. Water resources, fertile soils, and biodiversity (flora and fauna) are primary national assets of Tajikistan. These assets, as well as clean air, are being threatened by failure to take environmental considerations into account in agricultural practices, industrial development, and waste management. For instance, the inappropriate use of pesticides and fertilizer in the major cotton producing areas has contaminated the soil as well as surface and ground water. Given the wealth of its resources and the considerable vulnerability imposed on them by topographic and climatic conditions, it is important for Tajikistan to develop medium-term strategies to promote better drinking water distribution, treat waste water, manage solid/hazardous waste, replace polluting technologies with cost-effective clean technologies, construct adequate drainage systems that minimize soil salinization, install efficient irrigation systems, and implement environmentally benign pest-control options. The authorities should adopt realistic standards for air and water quality and establish interim emission standards that will allow a move to the new standards within a reasonable time period.

Medium-Term Outlook and External Financing Requirements

As the political and security conditions stabilize and the Government demonstrates its commitment to the stabilization and structural reforms outlined in this document, the economic decline could be moderated. Overall output could stabilize within a few years after reforms have started and have shown positive growth rates thereafter. Over the medium term, the agricultural sector can be expected

to grow steadily as reforms are implemented in the areas of producer prices, state orders, distribution and ownership of agricultural assets. Assuming that trade agreements with the FSU, particularly Russia, are reached and that the Government proceeds with privatization and enterprise reform, the industry, service and trade sectors will likely stabilize after a few years and will start growing thereafter. Provided that the Government remains committed to reforms, a limited recovery of investment may be expected to materialize primarily in infrastructure repairs, housing, and construction. Since the population will try to maintain previous consumption levels, it is expected that private savings will not start to rise before the third or the fourth year after reforms begin. With progress in privatization, price reforms, better targeting of social assistance, and tax reform, public savings could improve. It should be noted, however, that even with strong stabilization and structural reforms and adequate donor support after four years, real GDP will most likely reach only 50 percent of its 1990 level.

The country's development prospects will not be realized if the Government is unable to introduce a comprehensive economic reform program. Without reforms, the process of reallocating factors of production would not start for sometime and adjustment in the industrial sector would be delayed, severely limiting supply response possibilities. With continued state orders in agriculture, tight control of production, and inadequate supplies of imported inputs such as fertilizer, agricultural output would continue to decline. Without the necessary legal and regulatory framework it is expected that the formal service sector would not resume growth. Delayed trade reforms would cause Tajikistan's exports to stagnate while its import requirements would continue to be high. Lack of inputs, continued centralized procurement, and export restrictions would limit cotton exports. Since Tajikistan's imports are made up mostly of petroleum, natural gas, and grain, — products with low elasticities of substitution — the decline in import requirements would be limited despite falling growth rates. Under these conditions, Tajikistan's external financing requirements would keep on growing. In the absence of a stabilization and structural reform program such a gap could not be financed.

If the reform measures are implemented, the international community is likely to contribute to the financial and technical assistance needs of the country. Technical assistance will be needed to overcome existing bottlenecks and institutional constraints. External financial resources will be required to finance priority imports needed to rehabilitate the economy and facilitate the recovery of production. Due to insufficient information, it is extremely difficult to project the country's trade prospects and financing requirements. But preliminary estimates suggest that Tajikistan's financing requirements could average US\$260 to US\$280 million per annum over the first few years of reform. Although these are large amounts they could be mobilized from international donors provided Tajikistan undertakes meaningful economic reform and attains political stability.

Tajikistan's financing requirements are large in relation to its economy and debt servicing capacity. To decrease debt servicing costs — to a manageable level of around 20 percent of export earnings — most of the country's financing and technical assistance would need to be in the form of grants or highly concessional loans. The combination of a strong reform program, the country's low per capita income, very large consumption decline in the past few years, and almost negligible creditworthiness justify a large degree of concessionality in its financing requirements. The World Bank has identified Tajikistan as an IDA-eligible country.

There are risks to the reform program: (i) continued political instability; (ii) weak commitment to reform; (iii) limited implementation capacity; (iv) adverse external environment; and (v) unavailability of external financing. The fragile political situation poses the most uncertainty,

diminishing public confidence in the economy and hindering the successful implementation of reforms. Even if political stability is achieved, implementing the reform program may result in a drop in real wages, generating dissatisfaction among wage earners. Reductions in consumer subsidies and the need to exercise financial discipline by enterprises may also increase opposition from managers who have benefited from soft loans and easy budgeting. Pressure from dissatisfied groups may delay or even derail the reform program. However, without reform, economic instability will increase and the economic crisis will deepen. The costs of exorbitant inflation, inefficient enterprises, and unfulfilled financial and technical assistance requirements would then far exceed the costs of continuing reform.

With political stability and genuine Government commitment to reform, the authorities will still be confronted with the complex task of designing and implementing the reform program. Tajikistan currently lacks the institutional capacities and the skill and experience required to design and carry out the reform program and move toward the market economy. Technical assistance from the World Bank and other donors should be provided to facilitate the design of a reform program and enhance the Government's implementation capacity. The external and exogenous environment may also undermine the success of the reform program. In addition to the increase in security-related expenditures in the absence of peace, other exogenous factors influencing the reform program include economic and political developments in the Russian Federation, with which Tajikistan maintains close ties.

Finally, lack of adequate external financing could jeopardize the success of the reform program. External financing is dependent upon both the resolution of the conflict and the implementation of reforms. Without external financing Tajikistan must curtail investment and consumption – to the detriment of output recovery and public support for continuing the reform program. Design and implementation of a comprehensive reform program will be critical to mobilizing the necessary external resources for reconstruction and to meet the country's technical assistance requirements.

Tajikistan has no direct experience with managing external financial and technical assistance. Effective use of these resources very much depends on the country's ability to coordinate the various types of assistance, including matching requirements with available resources and making effective use of available aid funds through knowledge of the administrative, financial, and procurement procedures of various aid agencies and donors. The World Bank has provided a grant under the Institutional Development Fund to assist Tajikistan in setting up an External Assistance Management Unit.

THE MACROECONOMIC FRAMEWORK

This part of the report reviews recent economic development in Tajikistan (Chapter 1). It then analyzes the priority measures necessary for the transformation and stabilization of the economy, assesses the medium-term outlook of the economy and evaluates the country's external financing requirements (Chapter 2).

The disruption in the trade and payments systems has complicated macroeconomic management and the civil strife and floods have heavily damaged the country's infrastructure. Output has significantly declined, prices have sharply increased, public finances have deteriorated considerably and real incomes have been substantially eroded. Resolving the current economic difficulties requires the Government's firm commitment to initiate a reasonable reform program. The economic crisis has deepened to an extent that no further delay of reform measures can be countenanced. Provided the Government shows strong commitment to stabilization and structural reform as discussed in Chapter 2, the decline in economic activities can be moderated, overall output is likely to stabilize by 1995, and positive growth rates will be realized thereafter. Adoption of such a reform program will encourage financial and technical assistance support from the donor community.

CHAPTER 1

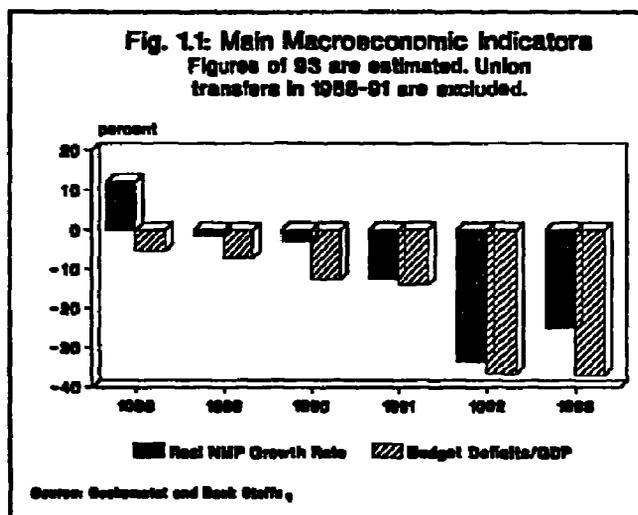
BACKGROUND AND RECENT ECONOMIC DEVELOPMENTS

1.1 Tajikistan is bordered by Uzbekistan, Kyrgyz Republic, China and Afghanistan. Its territory is largely mountainous and includes the FSU's tallest peaks. With an area of 143,000 sq km and a population of 5.6 million in 1992, Tajikistan has the highest rate of population growth – 2.9 percent – in the FSU. Eighty percent of the population is Muslim. The ethnic distribution is 62 percent Tajik, 23 percent Uzbek, 8 percent Russian, 1.4 percent Tatar and 1.3 percent Kyrgyz. The modern Uzbeks, Kazakhs, Kyrgyz and Turkmens are of Turkic origin; the Tajiks are Persian in origin.

1.2 The political situation remains tense and fragile. After independence in September 1991, clan and regional rivalries, dormant during the Soviet era, erupted into civil war. The war ended in May 1992 when a coalition Government was formed, but was short-lived, as the parliament voted the President out of power in September 1992. A broader based coalition ruled for one month, after which Parliament elected Imamali Rahmanov Head of State. The Rahmanov Government has been able to gain control of most of Tajikistan's territory with skirmishes confined to a strip around the Tajik-Afghan border. Outside military support has come mostly from Russia and Uzbekistan, although some troops from other neighboring republics have also been involved, e.g. Kazakhstan and Kyrgyz Republic.

1.3 Since 1929, when it became a Soviet republic, Tajikistan has had a centrally planned economy with extremely close ties with the other FSU republics. Before its independence in 1991, the country gradually shifted from a strictly rural and nomadic economy to one with a substantial industrial sector, which primarily produced semi-processed raw materials. Industrialization was made possible by large investments financed by Union grants and subsidized loans. A basic transportation network of roads, railroads and aviation was developed. Substantial investment in the social sector has resulted in near universal adult literacy and a free and relatively well developed health care system. However, with per capita income of US\$480 in 1992 – about 55 percent of the Soviet average – Tajikistan remains the poorest FSU republic.

1.4 Despite its independence from the FSU, Tajikistan's economy remains highly dependent upon that of the Russian Federation and other FSU members. The structure of production, particularly the industrial sector, is still highly integrated with the FSU, due to regional specialization imposed by central planning. This exposes Tajikistan to the FSU's economic instabilities caused by disruptions in trade and payments systems and complicates macroeconomic management. At the same time, civil war and floods have heavily damaged Tajikistan's infrastructure imposing additional constraints on the country's development. As a result, Tajikistan has experienced much more severe output declines than other FSU countries, as well as unprecedented price increases, an erosion of real income and loss of control over public finances. (See Figure 1.1.)



1.5 Poor data make it difficult to assess the overall macroeconomic situation. The civil war led to breaks in key production figures. Data on consumption, savings, and investment after 1991 are not fully consistent or organized in a national accounting framework. Price indices are not comparable over time. Items that could not have been produced, due to shortages of raw materials and the civil war were dropped from the indices, making inflation calculations difficult. Trade data are not reliable, and there are significant gaps between domestic production and export and import figures, particularly with respect to cotton (possibly reflecting unrecorded transactions). Due to the civil war and the country's instability, the newly created NBT lost a large number of its skilled staff, which led to breaks and inconsistencies in monetary data.

Production and Expenditure

1.6 After growing at an annual average rate of 2.5 percent between 1980-85 and 4.7 percent between 1986-88, Tajikistan's economy began to contract in 1989. NMP fell by 2.9 percent that year. Since then, output has been declining. While the drop in output was limited to 1.6 percent in 1990, it accelerated significantly during 1991 and 1992, when NMP declined by 12.5 and 33.7 percent respectively. The economy continued to contract in 1993 with output falling another 28 percent (Table 1.1) and real GDP in 1993 down to about 40 percent of its 1988 level.

Table 1.1: Real Growth in Net Material Product

	1988	1989	1990	1991	1992	1993
Agriculture, including forestry	10.9	-13.0	-9.18	-9.9	-27.7	
Industry	15.0	1.9	1.9	-7.4	-35.7	
Other	5.8	6.4	2.2	-26.8	-47.2	
Net Material Product	12.1	-2.9	-1.6	-12.5	-33.7	
Gross Domestic Product						-28

Source: State Statistical Committee of Tajikistan.

1.7 Although all sectors have experienced the decline in economic activity, the decline in agriculture began earlier. The agricultural sector, which has registered negative growth rates since 1989, fell by about 10 percent in 1991 due to cold weather and heavy rainfall early in the planting season. In 1992, the situation worsened as shortages of key inputs and eruption of civil war severely hampered production despite relatively favorable weather conditions. Output of almost all agricultural products declined and production targets for cotton, a key export item, could not be attained. Important items, such as silk thread and cotton fibers, declined by 56 percent and 67 percent respectively. The agricultural sector as a whole declined 28 percent in 1992.

1.8 As Table 1.1 shows, the industrial sector did not start to decline until 1991. Before that, the FSU financed continued investment in the sector and funded ongoing projects. With the reduction and ultimate cut off of these transfers, as well as trade and payments system problems, industrial output declined by about 7.5 percent in 1991. The contraction deepened in 1992 and sectoral output fell by about 36 percent, contributing to the large decline in NMP. The construction subsector was hardest hit, declining by 73 percent in 1992. Service sectors also declined. Retail activity dropped 35 percent in

1991 and 68 percent in 1992. Road freight and passenger traffic decreased about 60 percent in 1992, and preliminary estimates suggest another 50 percent decline in 1993, with rail freight expected to be only 33 percent of its 1991 level by the end of 1993.

1.9 Two main reasons for the sharp output declines reinforced each other. *First*, with the break up of the FSU, supply and marketing links under the interrepublican trade system deteriorated and eventually broke down, triggering the initial decline. Bilateral trade agreements between Tajikistan and the rest of the FSU could not make up for the loss of previously centralized trade arrangements, and given Tajikistan's dependence on importing key inputs, the situation gradually worsened. Disruptions in the flow of raw materials and fuel led to progressive reductions in capacity utilization rates. By 1992, a large number of factories were not operating at all. The drastic fall in real household income reduced aggregate demand and contributed to the decline in economic activity. *Second*, the advent of the civil war and floods in 1992 and 1993 delayed reforms and severely reduced the effectiveness of initial measures, introduced in 1991. In addition, the war and floods damaged the country's infrastructure, imposing serious constraints on the activities of productive units and preventing the development of a new system to take the place of the old one.

Table 1.2: Tajikistan: National Accounts Summary (percent of NMP)

	1985	1986	1987	1988	1989	1990	1992
National Income Produced (Net Material Product)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
National Income Used	118.0	120.0	120.0	116.0	118.0	115.0	116.1
Consumption	88.0	94.0	95.0	89.0	96.0	98.0	91.9
Private consumption	78.0	84.0	84.0	79.0	85.0	87.0	83.9
Social consumption	10.0	10.0	11.0	10.0	11.0	10.0	8.1
Accumulation	30.0	26.0	25.0	26.0	22.0	17.0	14.8
Resource Balance ^{a/}	-18.0	-20.0	-20.0	-16.0	-18.0	-15.0	-16.1

a/ Resource balance represents the difference between national income produced and national income used, except for 1992, where an actual trade deficit figure is used.

Sources: Goskomstat, IMF and Bank staff estimates.

1.10 The lack of data on aggregate demand and its components makes comprehensive review of patterns and changes in national expenditures difficult. However, Table 1.2 provides a rough picture of Tajikistan's overall expenditure pattern. From 1980-85, Tajikistan maintained a relatively high negative resource balance because a large amount of external resources came in from the FSU. As the table shows, external resources from the Union climbed to 20 percent of Tajikistan's NMP in 1986 and 1987, and declined to 15 percent in 1990. Consumption over the 1985-90 period rose from 88 percent of NMP to 98 percent, almost all due to the increase in private consumption, which accounted for 87 percent of NMP in 1990.

1.11 Since 1990, there are no consistent consumption estimates.¹ Nevertheless, preliminary national income accounts suggest that real consumption may have declined in 1991 and 1992 by 22 and 40 percent respectively. Trends in monetary income and personal expenditures, retail turnover and wages, which also can be taken to indicate the evolution of consumption, point in the same direction. During 1992 and 1993, price increases surpassed these indicators by a wide margin, suggesting a substantial decline in real consumption. Real decline may have been partially mitigated by dissaving and the emergence of black markets. Based on a survey, the Government estimates that black market turnover may be as high as 25 percent of total retail turnover.

1.12 Investment accounted for about 30 percent of NMP in 1985, gradually declining to 26 percent in 1988 and 15 percent in 1991. The initially high levels of investment reflect the capital-intensive nature of hydroelectric, infrastructure and other industrial projects. Lack of savings due to high levels of domestic consumption during 1985-91 meant that most investment financing came from Union transfers. According to preliminary data, real investment fell by about 36 percent in 1992. There are two reasons for this. *First*, the external resources from the former Union abruptly ended that year. Faced with this revenue shortfall, the Government started tightening its expenditures. *Second*, as a result of the civil war, there was virtually no fixed investment in the second half of 1992. In 1993, budgeted capital expenditures, which provided the only source for enterprise investment, were further reduced to as low as 5 percent of NMP. The sharp falls in investment significantly contributed to the decline in the overall economic activity.

1.13 Except for 1988, domestic savings steadily declined during the 1985-90 period, reflecting the rise in consumption. Savings as a percentage of NMP fell from 12 percent in 1985 to only 2 percent in 1990. Since then, data are not reliable enough to make an accurate assessment, but anecdotal evidence suggests that dissaving continued in 1992 and 1993 as the population sold off assets to maintain consumption levels. Since the loss of Union transfers is permanent, Tajikistan must take immediate action to reverse the declining savings trend in order to finance new investment and take the initial steps necessary to put itself on a path of self-sustaining development.

Employment and Wages

1.14 Official figures vary as to unemployment levels, with some figures indicating very low levels of unemployment. As a centrally planned economy, Tajikistan did not previously experience open unemployment because the State would employ almost everybody. For 1991, official data shows only 8000 people unemployed. In 1992 and 1993, official data show little change in the unemployment figure. However, anecdotal evidence, together with Tajikistan's high population growth rate, 3.1 percent per annum, and declining output, suggest that unemployment is much higher than official figures.

1.15 From 1980-1990, wages remained fairly stable growing at an average annual rate of about 8 percent. Since 1990, wages have steadily increased, although these increases did not keep up with rising price levels, implying a decline in real terms. Goskomstat data indicate that average wages increased by 10 percent in 1990, to 207 rubles and by 64 percent in 1991 to 340 rubles. Wages rose throughout 1992, from 724 rubles in January 1992 to 4336 rubles in December 1992. The average wage

1. Prior to 1990, Goskomstat in Moscow provided these statistics. Since then, this responsibility has been assigned to Tajikistan's Goskomstat, which has no skilled personnel to prepare such data in a national accounting framework.

reached 14,317 rubles in August 1993. In the beginning of 1992, the minimum wage was doubled, from 1000 rubles to 2000 rubles. To mitigate the effects of price rises, the minimum wage was again doubled in May 1992, to 4000 rubles and in October 1992, to 8000 rubles. However, with prices increasing at a rate of about 30 percent per month during 1993, real wages declined.

Public Finance and Fiscal Policy

1.16 The state budget of the Republic of Tajikistan includes the Republican Budget, and covers eleven regions, five cities (including Dushanbe), three oblasts and some villages. There are four other main extrabudgetary funds: the Social Insurance Fund, the Pension Fund, the Employment Fund and the Road Fund. Although these are funded from wages, the state budget covers revenue shortfall.

1.17 Under the centrally planned system, the state budget was an instrument for attaining plan targets. While state enterprises operations were not included in the state budget, they accounted for about 20 percent of revenues and received transfers from the budget to finance their investment. Thus, the state budget accounted for a large part of overall economic activity. The state's dominance in the economy is reflected by the high ratio of expenditures to NMP, averaging around 65 percent during 1985-90. However, domestic revenues persistently lagged behind expenditures over the same period, resulting in a structural deficit of 17 percent of NMP on average in the second half of the decade. Union transfers more than financed the difference between domestic expenditures and revenues and kept the overall budget in surplus until the end of 1991. In that year, these transfers accounted for about 50 percent of total revenues.

1.18 Traditionally, the main domestic sources of revenue have been turnover, profit, and personal income taxes. During 1985-90, their shares in total revenues averaged 50, 25, and 8 percent, respectively. On the expenditure side, current expenditures averaged about 85 percent of total outlays, or 65 percent of NMP in 1985-90. The largest item, subsidies and transfers, absorbed about 36 percent of all expenditures between 1985-90. Capital expenditures, financed by the budget, averaged 15.5 percent of all budgetary expenditures between 1985-90.

1.19 The sudden drop and eventual cutoff of Union transfers after independence has led to major changes in public finances. Anticipating a lower level of transfers for the remainder of 1991, the Government imposed strict expenditure controls. Almost 70 percent of all budgeted capital investments were put on hold and funding for unfinished projects, particularly in housing, was sharply reduced. As a result, total capital expenditures in the budget declined to 2.6 percent of total expenditures in 1991, from 17 percent in 1990. However, social expenditures could not be adjusted. To compensate for rising prices, subsidies and transfers were increased, absorbing 55 percent of total outlays, up from around 39.4 percent in 1990. In real terms, however, expenditures declined as price levels rose 200 percent following the first round of price liberalization in April 1991. Nevertheless, owing to the severe capital outlay cuts, total expenditures for the year were below the targeted figure.

1.20 The 1992 budget originally targeted deficits at 6 percent of expenditures to adjust for the permanent loss of Union transfers. At the same time, as part of fiscal reforms, the Government introduced value added (VAT) and excise taxes in early 1992 and eliminated turnover and sales taxes. While these measures moved in the right direction, coupled with declines in production and trade, their immediate effect was to generate less revenue than expected. VAT receipts were 700 million lower than expected, while excise taxes brought in only 2 billion rubles of targeted 5 billion rubles (Table 1.3). Revaluation tax revenues were the only revenues exceeding planned amounts, due primarily to rising inflation.

Table 1.3: Tajikistan: State Budget, 1991-93 (in millions of rubles)

	1991	1992			1993
	actual	actual	original	amended	
Total Revenues and Grants	5,457	17,441	74,352	104,021	170,113
Turnover Tax	955	112	--	--	--
VAT	--	4,300	32,000	39,565	65,417
Excise Tax	--	2,145	9,800	22,757	13,401
Sales Tax	219	172	--	--	--
Enterprise Profits Tax	604	5,388	1,879	19,455	43,947
Income From Privatization	--	434	100	100	1,412
Tax on Profits of Cooperatives	--	305	427	400	1,578
Personal Income Tax	333	1,634	5,363	8,887	13,954
State Fees, Local Taxes and Incomes	1692	230	320	328	2,109
Revaluation of Enterprise Inventories	393	1,431	1,000	4,445	9,848
Export Tax	1	43	320	160	1,316
Import Tax	1	42	--	--	--
Union Transfers	2,543	--	--	--	--
Other	--	--	7,569	--	17,131
Total Expenditures	5,020	37,094	184,570	255,849	326,532
National Economy	1,315	18,142	46,187	48,775	117,051
Social and Cultural Activities	3,138	13,744	79,471	84,000	103,428
Education	--	7,542	48,403	48,818	55,653
Culture	--	581	3,093	3,425	4,310
Health	--	3,611	19,419	19,858	34,297
Sports	--	19	57	79	82
Aid for Single Mothers	--	25	39	39	--
Social Security	--	1,966	8,460	11,781	9,086
Science	18	196	1,277	1,394	1,704
State Apparatus and Courts	82	602	7,151	7,828	17,726
Police	49	2,056	17,778	18,231	638
Defence	--	255	14,463	28,664	24,338
Compensation	--	--	--	4,500	35,862
Other	418	1,124	3,833	48,371	25,785
Surplus/Deficit	437	-19,653	-110,218	-151,831	-156,419
As percent of GDP	3	-37	-24	-33	-25

Source: Ministry of Finance.

1.21 Meanwhile, the outbreak of the civil war and rising inflation caused expenditures to increase sharply. In part, the rise in expenditures reflected the Government's efforts to maintain the population's living standards by increasing nominal wages and subsidies. Investment expenditures have declined. The actual deficit was 19.6 billion rubles in 1992, accounting for 53 percent of expenditures and 37 percent of GDP.

1.22 The fiscal situation continued to deteriorate in 1993, with deficits at 25 percent of GDP. Revenues remained stagnant, in large part reflecting the effects of declining output. At the same time, prices increased more than 20 fold during 1993. With price controls on seven key items, the subsidies increased the budget deficits. As a result, the budget was amended again in 1993. The original budget,

which planned a 110 billion rubles deficit, was revised to 249 billion rubles. However, the actual deficit for 1993 was 152 billion rubles. Large deficit increase was caused mainly by new wage increases along with subsidies, which started in August 1993 to compensate for price increases for bread and butter, and payments of arrears to bakery houses, arising from previous subsidies. Increased defence expenditures and flood relief also contributed to the rise in expenditures.

1.23 In the absence of other sources of financing, the budget deficits were financed entirely by NBT. This proved to be highly inflationary and its continuation would seriously undermine any stabilization reform. Current fiscal policy has also become an instrument for financing consumption, particularly in the form of higher wages and subsidies. The current fiscal policy is not sustainable and must be reversed. Serious efforts are needed to increase tax revenues and reduce expenditures to amounts in line with available resources. In the absence of fiscal adjustment, the Central Bank of Russia (CBR) may refuse to honor its commitments under the proposed monetary union with Russia, which will complicate macroeconomic management. In any event, economic stabilization will not be possible if budget deficits are not brought under control.

Monetary and Financial Developments

1.24 Prior to the FSU's break up, Tajikistan's monetary policy passively accommodated the financing needs of the annual plan and the budget. The overall money and credit conditions in the country were determined by the former USSR's Gosbank and depended upon actual implementation of the plan. Policies were carried out by the Dushanbe branch of the Soviet Gosbank through the credit plan, which set out deposit and credit targets for the entire economy, credit programs for the State banks and direct lending to state enterprises, cooperatives and individuals. Interest rates were not used to mobilize and allocate resources or to manage aggregate demand. Hence, monetary policy did not play its role in the sense understood in market economies.

1.25 In early 1991, the Government took some steps to initiate reforms in the financial sector. In February 1991, the Supreme Soviet enacted laws founding the NBT and regulating banking and other financial activities. NBT was authorized to conduct monetary policy and supervise the banking system. However, reforms have not yet led to changes in the way resources are mobilized and allocated. While the banks have been given more freedom in their lending decisions, in practice, credit allocation has remained subject to a variety of controls aimed at supporting existing state enterprises and priority sectors. Banking operations are also heavily concentrated. At present, three former state banks control about 96 percent of lending, while the Sberbank dominates mobilizing the population's savings. Since 1991, interest rates have remained highly negative in real terms and have been lower than Russian rates.

1.26 In September 1993, Tajikistan signed an agreement, in principle only, with Russia to create a monetary union. However, the basic terms of agreement are still being negotiated and the framework and operational arrangements for full monetary union with Russia are yet to be finalized. In November 1993, Kazakhstan and Uzbekistan opted out of the ruble zone and introduced their own currencies. This exposed Tajikistan to a massive inflow of old rubles, further increasing inflationary pressures. After monthly inflation rates of 33 percent on average during January and October 1993, consumer prices rose to 63 percent in November and 176 percent in December due mainly to the influx of old rubles from neighboring countries. On January 1994, Tajikistan stopped using the old (pre-1993) Russian ruble as its legal tender, with the exception of small denomination notes which continued to be used to purchase bread, newspapers, stamps and for city transport. Tajikistan obtained a loan of 120 billion rubles for the shipment of new cash rubles from Russia in January 1994. This loan carries an

iInterest of LIBOR plus 2; repayment is expected to begin in June 1994, although Tajikistan's full entry into a monetary union would forgive this loan.

1.27 As Tajikistan exhausted its credit with most FSU republics, interrepublican payments through official channels declined throughout 1992 and 1993. To avoid appropriating their earnings and delays caused by blockage of the interrepublican correspondent accounts, Tajik enterprises resorted to shipping currency, barter and maintaining new ruble accounts in Russia. The resulting sharp increase in enterprises' demand for currency and the use of currency for interrepublican trade has resulted in a currency shortage in the country.

Table 1.4: Main Monetary Aggregates (in millions of rubles)

	Dec 1991	Jun 1992	Dec 1992	Sep 1993	Dec 1993
Net Foreign Assets	16.7	12,424.1	676,150.8	1,173,294.2	1,047,055.9
Net Domestic Assets	5,187.9	2,919.8	-640,846.7	-839,161.0	-506,704.2
Credit to Government	-1505.2	-967.8	706.6	100,009.4	202,103.0
Credit to Other Government	-336.1	-992.3	-1,674.2	-19,208.2	-20,666.6
Credit to the Economy and Other Items, net	7,029.2	4,879.9	-639,879.1	-919,962.2	-688,140.6
Credit to the Economy	6,884.6	26,702.7	71,916.2	467,183.0	633,680.6
Other Items, net	144.6	-21,822.8	-711,795.3	-1,387,145	-1,321,821.3
Liabilities	5,204.6	15,342.9	35,339.7	334,126.2	540,351.8
Currency Outside Banks	2,114.2	4,414.8	17,617.1	131,372.2	175,404.2
Deposits	3,090.4	10,928.1	17,722.6	202,754.1	364,947.6
Velocity of Broad Money	2.57	2.08	1.95	2.43	1.54
Nominal GDP	13,400.0	7,978.0	17,257.0	203,110.0	207,400.0

Sources: NBT.

1.28 According to official data provided by NBT, domestic credit growth has been high, with one third allocated to finance the Government budget and two thirds to state enterprises. Credit to Government increased from 707 million rubles at the end of 1992 to 100 billion rubles by September 1993. Between September 1993 and December 1993, credit to Government doubled to 200 billion rubles. Credit to economy, mostly enterprises, also increased dramatically -- about 9 times relative to its 1992 level. (Table 1.4). In line with these developments money supply has been increasing since 1991. By the end of 1992 and 1993, broad money increased by 7 and 15 times respectively, which was more than broad money increases in Russia.

Prices

1.29 The Government initiated the process of price liberalization in April 1991. At that time, price controls on a limited range of goods were lifted and the prices of goods that remained under price control were raised significantly. On January 10, 1992, a second round of price increases on a much wider scale took place. Price controls on 80 percent of goods were eliminated and only eight items of industrial goods and fifteen items of consumer goods were not liberalized. These controlled items represented about 15 percent of goods and services. Since then, the Government has further reduced price controls. As of the end of October 1993, only 2 percent of the number of goods covering seven

items remain under price controls (Table 1.5). Those seven items still represent a significant portion of consumer expenditures, however, and continued control of these prices would worsen the budgetary situation.

1.30 When Tajikistan was part of the Soviet Union, prices were severely repressed. Official figures show a very modest inflation rate of 4.4 percent in 1990. However, since 1991, price increases have begun to accelerate and follow a pattern similar to that found in other FSU countries, which depends on the pace and magnitude of Russian price liberalization. It is estimated that the initial round of price liberalization resulted in an inflation rate of 95.1 percent in 1991. In January 1992, after Russia raised its prices, Tajikistan experienced an inflation rate of more than 200 percent in that month alone. Price increases continued throughout 1992. Preliminary

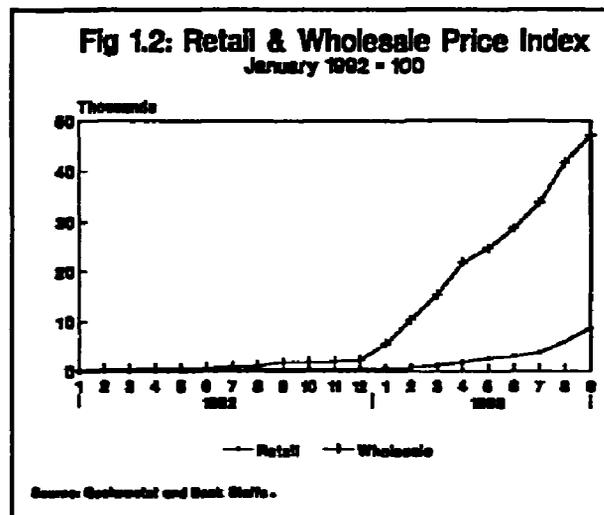


Table 1.5: List of Main Consumer Products and Services Subject State Price Regulation

Item	Date of Liberalization
Flour (Grade I and II)	*
Bread	*
Milk, Diet Sour-Milk Products, Fat Free Curds	*
Locally Produced Meat	March 31, 1992
Baby Food, including nutrition concentrates	June 1, 1992
Food Salt	March 31, 1992
Sugar	June 1, 1992
Vegetable Oil	October 22, 1993
Vodka, Spirit	November 26, 1992
Matches	December 27, 1991
Medicine and Medical Tools	February 1, 1992
Technical Means of Prophylactic Treatment and Rehabilitation of Disabled	February 1, 1992
Petroleum, Diesel, Kerosene	*
Fuel, Firewood, Gas, Oil	July 6, 1993
Utilities	*
Housing Fee, including dorm fee	*
Transport and Communications Services	*

* Indicates prices under Government control.

Source: Ministry of Economy.

data (Table 1.6) show an inflation rate of about 1400 percent in 1992 in terms of retail prices. The monthly inflation rates averaged about 30 percent between January and October 1993. However, inflation rates increased to 63 percent in November and 176 percent in December due to the influx of old rubles from several neighboring countries when they introduced their own currencies in the last two months of

1993. Between December 1992 and December 1993, prices increased more than 20 times, measured in terms of the Consumer Price Index.

Foreign Trade

1.31 Tajikistan has inherited an economy that is highly dependent on trade and vulnerable to external shocks. By 1990, merchandise exports and imports accounted for 36.5 percent and 56.2 percent of NMP, respectively. Interrepublican trade accounted for 89 percent of total exports and 81 percent of total imports in 1990. Such a high share of trade does not reflect the openness of the economy, but rather, the interdependency of FSU economies due to pronounced regional specialization imposed by central planning. Tajikistan's foreign trade is characterized by a limited range of products. Aluminum, raw cotton and textile products, make up about 60 percent of its exports, with the rest mainly fruits and vegetables, silk, marble and hides. The country imports a large part of its energy needs — particularly petroleum products — almost all manufactured consumer goods and, increasingly during the last two years, grain. It is estimated that between 1985-90, Tajikistan current account deficits averaged about 18 percent of NMP. In part, these large and sustained deficits reflected centrally planned development policies that required substantial imports of capital goods and were financed by Union transfers.

1.32 The external shocks, civil war and natural disasters of the last two years resulted in large declines in trade volume. A sharp collapse of output, particularly in 1992, also contributed to declining trade volumes. Tajikistan's inability to honor some of its trade agreements led other FSU countries to reduce their shipments to Tajikistan and insist on settling interrepublican correspondent accounts before issuing new trade credits.

1.33 Official data, although not reliable due to measurement problems and the multiplicity of exchange rates and prices, indicate that trade has been contracting. According Goskomstat, in 1991, imports totalled 3.67 billion rubles, 84 percent from FSU and 16 percent from non-FSU sources. Exports amounted to 3.94 billion rubles, 79 percent going to FSU and 21 percent to non-FSU, creating a small

Table 1.6: Monthly Changes in Retail and Wholesale Prices

Year	Month	Retail Price	Wholesale Price
1992	1	213.1	136.9
1992	2	73.1	260.2
1992	3	12.5	7.5
1992	4	8.7	51.8
1992	5	1.4	7.2
1992	6	13.4	7.1
1992	7	13.0	42.8
1992	8	17.5	10.6
1992	9	10.4	67.6
1992	10	8.0	6.1
1992	11	6.8	6.6
1992	12	13.6	13.1
1993	1	19.0	146.1
1993	2	24.4	83.2
1993	3	34.6	50.0
1993	4	63.9	41.5
1993	5	33.7	13.2
1993	6	15.9	16.0
1993	7	31.8	17.9
1993	8	43.0	23.3
1993	9	36.4	13.1
1993	10	25.1	74.8
1993	11	63.2	24.3
1993	12	176.9	35.8

Source: Goscomstat.

Table 1.7: International Trade, 1991-93 (in millions of rubles)

	1991	1992
Export	3,944.6	37,053.7
Import	3,667.7	43,971.6
Balance	276.9	-6,917.9

Source: Goscomstat.

Fig.1.3: Structure of Exports 1990
(Value shares in 1990 world prices)

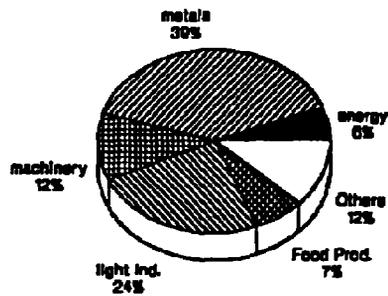
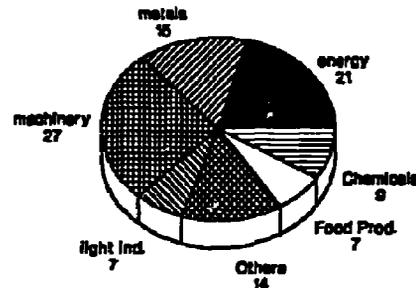


Fig.1.4: Structure of Imports 1990
(Value shares in 1990 world prices)



surplus of 278 million rubles. However, the surplus was due to the sharp fall in imports than improved export performance. Trade balance deteriorated in the following years. Official figures indicate that, in 1992, exports were about 37.5 billion rubles, while imports were about 44 billion rubles, resulting in a trade deficit close to 7 billion rubles in 1992. Relative to NMP, both exports and imports fell in 1992. For 1993, total exports and imports were expected to be US\$418 million and US\$637 million, respectively, resulting in a trade deficit of about 30 percent of GDP.

1.34 Official data also indicate a marked change in the direction of trade in 1992 and 1993. Trade figures provided by Goskomstat indicate that the share of FSU exports, which had been 79 percent in 1991, declined to 45.3 percent in 1992 and to 34.7 in the first half of 1993. This means that almost 56 percent of all exports in 1992 and 65 percent in 1993 were shipped to non-FSU countries. Similarly, the share of FSU imports declined from 84 percent in 1991 to 54.2 percent in 1992. Cotton and aluminum exports to non-FSU countries appear to have increased somewhat. However, in the absence of volume data, the extent of diversification suggested by official figures must be interpreted cautiously. Non-FSU trade data is reported in rubles by enterprises that convert their foreign exchange earnings using an exchange rate close to the market rate, which produces a high value and high share for non-FSU trade. It is therefore difficult to determine accurately the actual volume of non-FSU trade.

Table 1.8: Balance of Payments (in millions of US dollars)

	1993
Total Exports	418
Total Imports	637
Trade Balance	-219
Net Services	-6
Net Interest	-6
Net Non-factor Services	0
Current Account	-225
Net Long-Term Capital Inflow	
Multilateral	0
Bilateral	50
Correspondent Account	175
Direct Foreign Investment	0
Changes in Reserves	0
<u>Memorandum Items:</u>	
Current Account/GDP (percent)	-33

Source: IMF.

CHAPTER 2

ECONOMIC REFORMS AND EXTERNAL FINANCING REQUIREMENTS

2.1 A comprehensive economic reform program is imperative to overcome Tajikistan's current economic crisis. Policies directed toward macroeconomic stabilization and structural reforms are fundamental prerequisites to securing external financing and transforming Tajikistan's economy into a market-oriented one. Ultimately, the reform program's success will hinge on implementing structural reforms and the necessary sectoral transformation. The enabling environment for developing the private sector should be established as soon as possible to ensure that this sector becomes the driving force in the economy.

2.2 Political stability and security are preconditions for implementing a successful economic reform program. It will also be essential to sequence stabilization and structural reforms in an orderly manner. Initial reform measures should include liberalizing prices, phasing out state orders and reducing the budget deficit. These steps should be immediately followed by accelerating privatization of small scale enterprises, developing the legal framework for private sector development and initiating a comprehensive privatization and restructuring program for large state-owned enterprises. Since the civil war and recent floods have crippled the economy's infrastructure and a large part of its productive capacity, it is essential to reconstruct the infrastructure at the same time that specific reform measures are implemented.

Reform Program

2.3 As discussed in Chapter 1, Tajikistan has experienced sustained output falls since 1989. By the end of 1993, the country's real GDP is expected to be only about 40 percent of its 1988 level. This magnitude of output contraction underscores the serious nature of the collapse of the old production arrangements, the permanent loss of Union transfers and the impact of war and floods on the economy and highlights several important reasons for the Government to implement an economic reform program, provided political stability is attained. *First*, it will not be possible to rebuild the economy, which has suffered such great damage and had so much of its structure destroyed, by returning to central planning, as the old Union no longer exists to provide the necessary transfers. *Second*, in order to lay the foundations to develop a market-oriented economy, the economy must be stabilized and reform measures adopted that reallocate factors of production toward their most productive use. *Third*, design and implementation of a reform program will be essential to attract the external resources required for the economy's rehabilitation.

2.4 The Government's proposed reform agenda does not lend itself to speedy economic reform. Particularly in the enterprise sector, it fails to promote medium scale privatization plans and enterprise restructuring programs. Although it envisions establishing small-scale private businesses, adequate consideration has not been given to developing the private sector or creating the enabling business environment required to operate small businesses. Since Tajikistan's small business sector is severely underdeveloped, the reform program should give priority to promoting it by providing the necessary legal and institutional framework. The economic reform program should also establish a stable macroeconomic environment and nurture sustainable economic growth through effective monetary and fiscal policies. Prospects for the successful structural transformation and stabilization of Tajikistan's economy also depend on the Government's ability to: (i) restructure the legal and institutional framework so that it is conducive to a market economy and private sector development; (ii) restructure and privatize

state owned enterprises; (iii) establish a trade policy compatible with output recovery; (iv) reform the financial sector; and (v) initiate a social safety net to protect the most vulnerable groups from the inevitable hardships of the transition period.

Stabilization Measures

2.5 *Fiscal Policy.* The unstable political and economic environment has caused the fiscal situation to deteriorate markedly. Public finance has rapidly worsened and initial budget targets have not been attained due to the civil war and natural disasters. With normalization of political and security conditions, the Government should implement policies to stabilize the economy. As an essential element of stabilization, fiscal policy should aim at controlling the fiscal deficit. The fact that Tajikistan is in the process of completing negotiations with Russia on a monetary union will impose certain constraints on fiscal policies in Tajikistan and require policy coordination with the Russian Federation. If these constraints are not being adhered to when the monetary union is established, and the Russian Federation finances large budget deficits for Tajikistan, the Government would have little incentive to implement tight fiscal policy. On the other hand, if under the agreement limits are imposed on money and credit expansion and the deficit is reduced or if Tajikistan decides to introduce new currency, serious efforts will be needed to expand tax revenues by broadening the tax base, increasing certain taxes and strengthening the tax collection process. In the latter cases, the authorities must also tighten expenditures and enhance the efficiency of Government services if fiscal policy is to be effective.

2.6 *Monetary Policy.* As noted in Chapter 1, Tajikistan has ratified the agreement on monetary union with Russia, but the terms, framework and operational arrangements still are being finalized. Under the monetary union, macroeconomic management will depend to a considerable extent on coordinating monetary policies with the Russian Federation and harmonizing reserve requirements, bank supervision and other prudential regulations to establish equal interest rates with Russia. In fact, the Central Bank of Russia would conduct monetary policy and determine monetary conditions in Tajikistan. Under these conditions, it would be essential that NBT adopt management and operational methods necessary to coordinate with CBR. If Tajikistan is to have an input in formulating policy, it will need to significantly improve its institutional and implementation capacities. Technical assistance from the IMF will help strengthen the NBT's institutional capacity. On the other hand, if Tajikistan decides to introduce its own currency and pursue an independent monetary policy, it should do so with caution and assistance from the IMF, paying special attention to the timing of introducing the new currency and making sure that strong structural and stabilization measures are already in place.

Structural Reforms

2.7 Systemic change from a centralized planned economy to a market economy requires political stability and sustainable and consistent reform that encompasses both short- and medium-term measures. Simultaneous progress in various program components is necessary for a successful, efficient and equitable transition to a market economy. In the short run, the infrastructure must be reconstructed and improved to support the adjustments and safeguard a supply response in the productive sectors.

2.8 *Legal Framework.* The transition from a command to a market economy will require significant changes in the legal and institutional framework. Sustainable development and, in particular, increased private sector involvement in economic activities can only be secured if an appropriate legal system is put in place. Although some relevant laws have been enacted, they reflect concepts of property rights, privatization and entrepreneurial ventures that were prevalent at the very beginning of the FSU's

economic transformation. Some laws have gaps in their coverage, others remain inoperative because of lack of implementing regulations. Moreover, they have been considered in isolation from one another, creating a potential for inconsistency or conflict. Much needs to be done to integrate legal and administrative institutions conducive to market activities. Important steps include: putting private ownership and business activities on an equal footing with public enterprises; defining property rights clearly; promoting competition through anti-monopoly legislation; and encouraging new private firms through company and foreign investment laws. Immediate action is required to bring the various legal reform activities into a comprehensive and systematic framework. The various branches of Government, as well as the Supreme Soviet, should all participate in the lawmaking process to facilitate development of an effective legal reform program.

2.9 The Government should accelerate privatization of the small enterprises and a schedule of small scale enterprises auctions, focusing first on Dushanbe, should be established in the near term. The Government should establish clear and realistic implementation plans for privatizing medium and large enterprises in the medium term. Individual proposals for privatizing large scale enterprises should be developed and the institutions responsible for carrying out privatization should be strengthened. Privatization alone will not promote efficiency, however, and needs to be accompanied by a competitive and conducive environment for private sector development.

2.10 *Enterprise Restructuring.* The Government should define a set of clear strategies to improve the performance of enterprises that will remain under state ownership. The success of enterprise reform hinges on adopting hard budget constraints and implementing measures to reduce the flow of interenterprise arrears. Enterprise restructuring should focus on rationalizing production and employment, improving accounting methods and giving management more freedom to create new business methods. For non-viable enterprises, the Government should develop socially acceptable criteria for closure. Subsidizing positive value-added enterprises suffering from cash flow problems should be considered only within budgetary constraints.

2.11 Attracting foreign direct investment to facilitate private sector development and contribute to capital formation is crucial to developing Tajikistan's economy. Natural resource development offers the greatest possibilities for foreign investment. Tajikistan's natural resources have not been well developed due to lack of capital and know-how. An enabling and conducive environment must be established to promote private sector development and attract foreign investment in this area. Specifically, the essential prerequisites for negotiating investment agreements need to be improved; there is currently a dearth of information about the condition of local enterprises; sectoral analyses are unavailable; and financial statements meeting international financial standards do not exist.

2.12 *Financial Sector Reform.* Financial reforms are an important element of a successful transition program. Focus should be on designing an efficient financial system to mobilize savings and channel them to the most efficient sectors of the economy. In the short-term, a credit ceiling might be used to control the volume of the credit. The medium-term objective should be to reduce the NBT's intermediating role and the central direction of credit to specific sectors. It is also vital to develop commercially oriented banking guidelines and supervision capabilities in the NBT. In shifting to a commercial banking structure, suitable rules for supervision must be put in place. If the monetary union with Russia materializes, interest rates will be the same as in Russia. If national currency is introduced, adopting real interest rates should be a goal. Initiatives should also be taken to improve credit assessment, positive risk management skills and accounting systems in commercial banks.

2.13 *Trade Policies.* Tajikistan's economy is highly dependent on trade. This does not imply openness of the economy, but instead reflects a division of labor based on FSU policies and the Gosplan. Tajikistan's trade regime involves considerable Government intervention, including a system of complex licenses and quotas, barter agreements and an enhanced state order mechanism that are not compatible with structural reform objectives. To help output recovery, the Government must diminish its role in international trade and the current intricate procedures must be simplified. As an overall objective, trade policy needs to promote industries with potential comparative advantages. Trade with the neighboring countries should be strengthened and exports to non-FSU countries should be developed. Tajik exporters should pay attention to marketing factors such as quality control, distribution, pre-sales and after-sales services and services of embassies and Government representatives abroad should be used for the promotion of exports. In general, the Government should indicate that the present command and control system in trade is transitional and announce a clear timetable for allowing the private sector to assume a larger role and greater control.

2.14 *Social Safety Net.* The Government wants to make every effort to protect vulnerable groups against the adverse impact of economic adjustment. After implementing economic reforms, inefficient enterprises most probably will fold faster than efficient ones emerge and considerable time may elapse before the reform measures manifest net positive results. During this period, the Government should protect vulnerable groups against the most severe consequences of economic reform. However, because of budgetary constraints, the past system of generous social benefits should be rescinded and replaced with special assistance programs that target only the most vulnerable groups like targeting the per capita payments to compensate for rising bread prices.

Medium-Term Outlook

2.15 The acute economic crisis and the extent of required adjustment make a strong case for switching to a market economy as quickly as possible. As previously indicated, the authorities have prepared a reform program that includes some elements of stabilization, as well as structural reform measures that are currently being revised. The development prospects discussed below assume that the Government is strongly committed to the reasonable stabilization and structural reform outlined in the previous section.

2.16 There has been some recent progress made in resolving the internal political conflict. These included: Government efforts to negotiate with the opposition; public debate of the draft constitution before the July 1994 referendum; Presidential elections planned for October 1994; and the establishment of parliamentary commissions on human rights and political prisoners. However, under any circumstances, assessing development prospects is difficult. Many factors may affect Tajikistan's economy in unpredictable ways. One key issue is political instability and the continuation of civil strife, since it is not yet clear how the political situation will evolve notwithstanding the recent developments. There is also significant uncertainty as to how fast the economy's current bottlenecks can be reduced, particularly with regard to state enterprises and private sector development. The amount of foreign exchange the country will receive from exports and foreign aid remains unclear. Another complicating factor will be the shortage of skilled and technical personnel. The country lost some of its best people because of the civil war, which will adversely effect the development of institutions to support a market-based system.

Development Prospects

Output

2.17 With political stability and improved security conditions, economic reform is expected to help slow down the output decline and set the stage for the ultimate resumption of growth. If political stability is achieved and economic reform is begun immediately, the following projections about GDP and its components, presented for illustrative purposes, may be realized. After four consecutive years of decline beginning in 1989, it is assumed that the decline in GDP may slow in 1994, which will be called year 1 for illustrative purposes, to 7 to 5 percent. Output recovery is not expected to materialize until the end of year 2 due to negative growth in the industry sector. Agriculture is expected to respond quickly to the new incentives of reform such as price liberalization. As reforms take hold, GDP could be expected to increase by 4 to 5 percent in year 3. In the following years, it is anticipated that the industrial sector could start to recover and that the agricultural and service sectors will become the leading sectors. Output could grow by 7 to 9 percent in year 4 and about 10 percent in year 5. However, taking into account the sustained large declines since the late eighties, at these rates economic expansion could restore real GDP in year 5 to only about 50 percent of its 1990 level.

Table 2.1: Projection of Key Economic Indicators (percentage of change)

	1993	Year 1	Year 2	Year 3	Year 4	Year 5
GDP	-28	-7 to -5	-1 to 1	4 to 5	7 to 9	9 to 11
Agriculture	-10	3 to 5	5 to 7	6 to 8	8 to 10	10 to 12
Industry	-32	-21 to -19	-11 to -9	0 to 2	3 to 5	4 to 6
Services	-37	-2 to 0	0 to 2	5 to 7	10 to 12	13 to 15

Source: World Bank staff.

Sectoral Prospects

2.18 Over the medium-term, the agriculture sector is expected to grow steadily and provide the impetus for supply response to restore growth in the rest of the economy. In 1993, because of fuel shortages, floods and civil war, agricultural output declined by another 10 percent. As critical import shortages are eased and structural reforms, especially price liberalization, begin to be implemented, agricultural output is expected to increase by about 3 to 5 percent in year 1. As reform deepens particularly in the areas of producer prices, state orders, distribution and ownership of agricultural assets, growth is expected to reach 5 to 7 percent in year 2. The cumulative effect of these structural reforms should be felt in year 3, increasing yields substantially, and leading to 6 to 8 percent growth in the sector. Provided that the Government continues its reform policies, agricultural output could grow by 8 to 10 percent in year 4 and 10 to 12 percent in year 5.

2.19 The industrial sector, comprised of manufacturing, construction, mining and energy production, declined about 32 percent in 1993 due to continuing shortages of raw materials, spare parts and energy caused by the collapse of interrepublican trade arrangements. It is anticipated that introducing reforms, which will start the process of reallocating resources, will result in a further drop of about 20 percent in the sector's output in year 1. However, rapid small scale privatization and relaxing central

controls over industry is expected to slow the sector's contraction to 9 to 11 percent in year 2. Assuming that trade agreements with former FSU republics, particularly Russia, are reached and that the Government presses ahead with privatization and enterprise corporatization, industrial output will likely stabilize by the end of year 2 and start growing in year 3. Efforts to attract foreign direct investment, establish new small and medium-sized companies and upgrade technology, particularly in agroprocessing, is further expected to increase output by about 3 to 6 percent in both year 4 and year 5.

2.20 Since the service and trade sectors were underdeveloped under the centrally planned economy, reforms are expected to lead to rapid supply responses in these sectors. Tajikistan has a relatively well educated human resource base and strong entrepreneurial capacity. Provided that the necessary legal and regulatory framework is put in place and financial sector reforms are undertaken, the service sector could be another fast growing part of the economy by year 4. Encouraging the service sector could also serve to limit the departure of skilled people, particularly Russians and other minorities.

Investment, Savings, and Consumption

2.21 As previously indicated, investment has declined from 26 percent of NMP in 1988 to 15 percent in 1991, reflecting the loss of Union transfers. While there is no consistent estimate for 1992, all indications are that fixed investment fell further. Considering the impact of two consecutive years of floods and the 1992 civil war, Tajikistan's investment needs are substantial. Sectoral reviews undertaken by the World Bank as part of an Emergency Reconstruction Program indicate that there are urgent needs, particularly in agriculture and flood protection, transport, telecommunications, housing, and the power subsector which total about US\$116.4 million, of which US\$97.9 million is in foreign exchange (See Box 2.1). These investment requirements relate only to the Emergency Reconstruction Program; aggregate investment requirements are much higher.

2.22 Tajikistan will need to define a core investment plan that can be financed in part by external borrowing and in part by domestic resources. Investment will have to be confined to essential minimums until national savings start to recover. Provided that the Government remains committed to reforms, a limited recovery of investment may be expected to materialize in year 2 of the projection, primarily in infrastructure repairs, housing and construction. It is expected that during the projection period, investment will not reach to pre-independence levels.

2.23 Private savings start from a very low base and are expected to recover slowly after adjusting to lower income levels. Since the population will try to maintain previous consumption levels, it is expected that savings will not start to rise before year 3 or year 4. While revenue generating and expenditure control methods would improve public savings, these will continue to be absorbed by social expenditures for some time, leaving a negative balance. With progress in privatization, price reforms, better targeting of social assistance and tax reform, public savings could improve.

2.24 As discussed in Chapter 1, while post-1990 data are not reliable, official figures indicate that consumption declined by 22 percent in 1991 and about 41 percent in 1992. Although there is no data for 1993, anecdotal evidence suggests that it fell further. Such sustained declines in consumption must be reversed if the population is to support reforms. Since, in the absence of large foreign assistance, the economy is not expected to start growing before year 3, it is not likely that consumption will increase in real terms before that year.

Trade Prospects and External Financing Requirements

2.25 Due to insufficient information, it is extremely difficult to project the country's trade prospects and financing requirements. The following projections assume that reforms are introduced in the base year 1994, which for illustrative purpose will be called year 1 of the projections. The projections indicate the evolution of key macroeconomic variables for years 1 to 5 and thus are illustrative and subject to change. Over the medium term, Tajikistan's exports will be dominated by cotton and aluminium. It is assumed that the possible closing down of the aluminum smelter will not change estimates of Tajikistan's current account as increases in exports of electricity and reduction in imports of raw materials used in the smelter would compensate for the exports of aluminium. Based on sectoral reviews, if reforms are implemented in year 1, exports of these two items are expected to be around US\$200 million each in this year. In the same year, total exports are estimated to be about US\$530 million. As the effects of reform start to take hold and the economy stabilizes, exports are expected to increase to around US\$597 million in year 2 and grow at an average annual rate of about 3.5 percent per annum until year 5. Total exports could average about US\$650 million per annum during the years 3-5.

2.26 Over the medium-term, it is anticipated that energy imports will dominate all other items. In year 1, it is expected that imports of petroleum and related products will amount to about US\$215 million, although this is the largest single import item, it is still US\$185 million less than the Government's estimate. Natural gas imports are anticipated to be US\$100 million in year 1. Grain imports will be the second largest item and are expected to reach about US\$170 million in year 1, gradually declining in the following years as a result of increased domestic production. Total imports for year 1 are expected to be around US\$692 million. As the economy stabilizes, imports are projected to average about US\$800 million during the years 2-5.

Table 2.2: Medium-Term Projections: External Financing Requirements (in US\$ million)

	1993	Year 1		Year 2		Year 3		Year 4		Year 5	
		Lower Bound	Upper Bound								
Total Financing Needs	225	264	293	275	303	290	320	301	332	286	315
Non-interest Current Account	-219	-154	-171	-177	-196	-173	-191	-218	-241	-215	-235
Debt Service											
Amortization	0	-90	-99	-61	-68	-86	-95	-38	-42	-28	
Net Interest	-6	-17	-19	-19	-21	-23	-25	-35	-39	-35	
Changes in Reserves	0	-3	-4	-18	-20	-8	-9	-10	-11	-8	
Total Financing Sources	225	264	293	275	305	290	320	301	332		315
Foreign Direct Investment	0	9	11	9	11	16	17	20	21		27
Multilateral Financing	0	0	0	0	0	49	54	40	45		63
Bilateral Financing	225	255	282	266	294	225	249	241	266		225

Note: The ranges reflect uncertainties around the midpoint of each item, not alternative policy scenarios.

Source: World Bank staff.

2.27 The export and import projections discussed above are expected to result in a current account deficit (excluding net interest) of about US\$162 million in year 1, which corresponds to approximately 23 percent of estimated GDP. In the following years, higher output growth rates should

cause current account deficits to grow to about US\$250 million in year 5 or about 27 percent of GDP. In that case, the financing needs could range from US\$270 to US\$350 million for years 1-5.

Box 2.1: Tajikistan Emergency Reconstruction Program

Tajikistan suffered a short but disastrous civil war during the second half of 1992. In addition, severe flooding occurred in the springs of 1992 and 1993. Damage from these disasters was major. The relatively densely populated southwest corner of the country has been by far the most affected. Over 850,000 people (about 15 percent of Tajikistan's population) were displaced and about 300,000 lost their homes. Important parts of the country's infrastructure were destroyed or severely damaged, including about 600 km of roads and 165 bridges, over 200 km of flood protection dikes, irrigation systems of about 39,000 ha of agricultural land, transformers, substations and about 1,100 km of power lines, and over 5,000 telephone lines. Public services, mainly health and education, also suffered major losses. About 80 health care facilities and over 200 schools were particularly affected. In addition, many infrastructure and public services facilities were looted, with major losses in equipment and parts and supplies.

The Government has taken numerous measures to reconstruct key infrastructure and to restore services. Most of these efforts have been efficiently coordinated and monitored by the State Commission on Emergency Situations (SCES). According to its data, about Rubles 60 billion have been spent so far. The Dushanbe-Khojand road has been repaired and some key bottlenecks have been eliminated. According to incomplete SCES data, about 45 km of flood protection dikes, 20 bridges, and 170 km of roads have been restored.

At the Government's request, a multi-sectoral mission from the World Bank visited Tajikistan in October 1993 to prepare an Emergency Reconstruction Program (ERP) jointly with the Government's experts. Although there are very large needs for rehabilitation and modernization in all sectors of Tajikistan's economy, the mission's work was mainly limited to needs stemming from the 1992 and 1993 disasters. Only in very few areas (mainly health and agriculture, where shortages could have disastrous consequences on the population and the economy) broader needs were included in the ERP. The ERP was also limited to emergency activities, i.e. those which can be fully completed within two to three years.

The mission found that high priority reconstruction needs amounted to US\$116.4 million, of which US\$97.9 million was in foreign exchange. A brief description of the ERP by sector follows:

(i) Agriculture and Water Management. The ERP provides for about 100 farm tractors and spare parts for farm machinery and the supply of agro-chemicals to satisfy essential needs to restore the capacity of state farms in the southern part of the country. The ERP also includes provisions for civil works equipment, spare parts, fuel, pumps, motors and materials such as reinforcing steel to carry out the most important repairs still required on about 200 km of flood protection dikes and on the irrigation systems of about 39,000 hectares of agricultural land.

(ii) Education and Training. The ERP provides mostly for reconstructing schools and supplying essential teaching equipment and materials.

(iii) Health. Given that the shortage of supplies is a major cause of the health care emergency now developing in Tajikistan, the ERP includes vaccines and essential pharmaceuticals for about a year for most of the population. It also includes equipment and spare parts to replace some of the material lost in the war and floods, as well as some important equipment rendered useless by lack of maintenance.

(iv) Power. The ERP includes spare parts and supplies for the main hydro power plants, rehabilitation of the Dushanbe thermal plant, transformers, breakers and spare parts to repair the transmission system, overhead lines, transformers, and other supplies to reconstruct the distribution system in the southern region, telecommunications and transport equipment and supplies to facilitate general operations, and an investment planning study.

(v) Oil and Gas Production. The ERP provides for pumps, electric motors, and other equipment and supplies to restore the productivity of wells in the Beshtentyak oil and gas field to at least the 1991 level.

(vi) Telecommunications. The ERP includes telephone cables and materials to reconstruct the cable distribution network for 47,000 km-pair of telephone lines in Dushanbe and Kurgan-Tyube. It also includes spare parts for telephone exchanges and miscellaneous equipment.

(vii) Roads. The ERP includes civil works equipment, spare parts, workshop equipment, fuel, bitumen, steel, and other materials for repairing 592 km of roads and 165 bridges.

cont'd.

Box 2.1: Tajikistan Emergency Reconstruction Program (cont'd)

(viii) **Housing.** To expand on the success of the UNHCR housing program, the ERP includes the provision of construction material (mostly roofing sheets and timber for about 15,000 village houses) to help the displaced population of the Southwest and Central regions to reconstruct their homes.

Below are summary cost estimates for each sector:

	Local	Program costs Foreign —(US\$ million)—	Total
Agriculture and Water Management			
Agriculture	0.3	5.5	5.8
Flood Protection	5.5	10.4	15.9
Irrigation	1.3	2.6	3.9
Education and Training			
Education	1.0	9.0	10.0
Training	1.0	9.0	10.0
Health	0.5	8.0	8.5
Power	2.9	14.8	17.7
Oil and Gas Production	0.1	0.5	0.6
Telecommunications	0.6	3.4	4.0
Roads	4.4	18.2	22.6
Housing	15.0	15.7	30.7
Implementation (CMU)	0.2	1.5	1.7
Total	18.5	97.9	116.4

Source: World Bank staff estimates.

2.28 The country's development prospects will not be realized if the Government is unable to introduce the economic reform program outlined above. For that case, the process of reallocating factors of production would not start in year 1 and adjustment in the industrial sector would be delayed, severely limiting the supply response of the economy. With continued state orders in agriculture, tight control of production and inadequate supplies of imported inputs such as fertilizer, agricultural output would not be anticipated to recover. Industrial sector adjustment would also be delayed. Without the necessary legal and regulatory framework, it is expected that the service sector would not resume growth. Delayed reforms would cause Tajikistan's exports to stagnate while its import requirements would continue to be high. Lower production from lack of inputs and continued centralized procurement would limit cotton exports. Since Tajikistan's imports are made up mostly of petroleum, natural gas and grain, the decline would be limited despite falling growth rates. Under these conditions, Tajikistan's external financing requirements would be very large and in the absence of a stabilization and structural reform program, such a high financing requirement could not be met and there would be little direct foreign investment.

Creditworthiness

2.29 During 1993, Tajikistan signed the zero option agreement with the Russian Federation. This means that it did not inherit any debt from the FSU era, except for unsettled correspondent account balances with FSU countries. However, the exact amount of these balances – and particularly their terms for settlement – is difficult to determine. The Government is in the process of negotiating with its FSU partners on these issues. At present, there is considerable uncertainty as to how to value these balances, since it is not clear whether these debts will be paid in goods, hard currency or new rubles.

2.30 As a new independent state that lacks any previous credit record, Tajikistan currently has a limited capacity to borrow at market interest rates and must establish itself as a creditworthy country. Over the medium term, Tajikistan's ability to obtain credit will depend upon attaining political stability, sustained implementation of structural reform and strong export performance. Reaching an early agreement with the IMF on a Systemic Transformation Facility (STF) will also help establish creditworthiness. Tajikistan's assets for medium-term development include its well educated human resource base, agricultural and natural resources, and an infrastructure that can be repaired quickly with reasonably small investments. The Government's ability to deal with the current unstable political and economic situation will also significantly affect Tajikistan's creditworthiness.

Table 2.3: Creditworthiness and Required Concessionalality (US\$ millions)

	2000
Exports	734
Debt	3615
Debt service (100% non-concessional)	850
Debt Service Ratio (100% non-concessional)	115%
Degree of concessionality reached to maintain 20% debt service ratio	80%

Source: Bank Staff.

2.31 Since Tajikistan's financing requirements are substantial, one important question is whether they should be based on concessional or non-concessional terms. Table 2.3 presents an analysis of these issues. If all external financing requirements are met through non-concessional borrowing, rapidly increasing debt and a high debt service ratio of 115 percent for the year 2000 would lead to a debt crisis. Alternatively, if there is a financing mix of concessional and non-concessional elements, the debt ratio should not exceed 20 percent of market-based borrowing in order to keep debt servicing capacity manageable. The degree of concessionality in the financing requirements will be 80 percent in 2000. In order to help Tajikistan attain this concessionality, the World Bank has identified it as an IDA eligible country.

External Assistance Management Unit

2.32 Tajikistan has no direct experience with foreign assistance and is unfamiliar with the terms and conditions of obtaining such assistance and with the budgetary and appropriation procedures of various potential donors. The success of the external assistance programs depends on Tajikistan's ability to internally coordinate the requirements for various types of assistance, matching these requirements with available resources and making effective use of available aid funds through knowledge of the administrative, financial and procurement procedures of various aid agencies and donors. To overcome these difficulties, the Government has agreed to establish an External Assistance Management Unit.

EAMU will facilitate contacts between potential donors and various ministries, familiarize Government agencies with the sources of funds and with donors' procedures and help match the available technical and financial assistance with the country's needs while ensuring that required domestic counterpart resources are made available. The unit will coordinate aid programs according to the Government's economic priorities and policies and will advise the Government on the level and sources of foreign assistance and the allocation of this assistance across sectors of the economy. The World Bank has provided a grant under the Institutional Development Fund grant to assist Tajikistan in establishing this unit.

External Debt Management

2.33 Establishing and maintaining creditworthiness requires an effective debt management system. Such a system should enable policymakers to record, monitor and manage the country's existing debt and new external borrowing. In addition, Tajikistan's membership in the IMF and the World Bank requires it to periodically report debts and debt servicing. The Government needs to create a central debt management office within NBT or the Ministry of Finance (MOF). In market economies external debt is managed jointly by the Central Bank and the MOF. Tajikistan should adopt this approach and define the respective roles of the NBT and MOF in the debt management process as soon as possible. The MOF should keep all records on central Government borrowing and closely monitor the level and terms of public and publicly guaranteed debt. The Central Bank should monitor and report the external debt and new borrowing by commercial banks and public and private enterprises. The NBT should also be responsible for managing the country's foreign exchange reserves. This division of labor, while facilitating effective debt management, requires close cooperation between the NBT and MOF. The MOF would undertake external borrowing and related transactions and ensure that funds for debt servicing are budgeted. It would also prepare periodic reports on the debt situation, including upcoming debt servicing needs. This information will need to be shared with the NBT, which will ensure that foreign exchange for debt servicing is available. Since Tajikistan has no experience in the area of debt management, technical and financial assistance will be needed to assist in establishing an effective debt management system.

Major Risks to the Reform Program

2.34 There are five key risks to the reform program: (i) continued political instability; (ii) weak commitment to reform; (iii) limited implementation capacity; (iv) adverse external environment; and (v) unavailability of external financing. The fragile political situation poses the most uncertainty; continuation of the current fragile political situation diminishes public confidence in the economy and impedes successful implementation of reform measures.

2.35 Even if political stability is achieved, implementing the reform program may result in a drop in real wages, generating dissatisfaction among wage earners. Reductions in consumer subsidies and the need to exercise financial discipline by enterprises may also increase opposition from managers who have benefited from soft loans and easy budgeting. Pressure from dissatisfied groups may delay or even derail the reform program. However, without reform, economic instability will increase and the economic crisis will deepen. In this case, the costs of exorbitant inflation, overburdened and inefficient enterprises, and unfulfilled financial and technical assistance requirements will far exceed the costs of continuing reform.

2.36 With political stability and genuine Government commitment to reform, the authorities will still be confronted with the complex task of designing and implementing the reform program. Tajikistan currently lacks the institutional capacities and the skill and experience required to design and carry out the reform program and move toward the market economy. A technical assistance package will facilitate designing a reform program and enhance the Government's implementation capacity. The World Bank, in collaboration with the authorities, has identified a package of core technical assistance needs covering a wide range of activities.

2.37 The external and exogenous environment may also undermine the success of the reform program. The country suffers from civil strife and flood damage. Continuation of the civil war will increase security-related expenditures at the cost of essential consumption and investment. Peace will ensure a conducive environment for implementing the reform program and attracting foreign investment. Exogenous factors influencing the reform program include economic and political developments in the Russian Federation, with which Tajikistan maintains close ties. The country's decision to join the monetary union with Russia will make it very difficult for Tajikistan to guard itself against the risks of macroeconomic instability in the Russian Federation. Developments in the international market, especially in the cotton and aluminum markets, pose another exogenous risk. To cushion the negative impact of developments in the international market, Tajikistan should consider policies that will diversify the composition and direction of its exports. The future of the aluminum smelter is likely to impact both imports and exports. The closure of the plant could conceivably constitute a positive risk as net exports could increase.

2.38 Finally, lack of adequate external financing could jeopardize the success of the reform program. Without external financing, Tajikistan must curtail investment and consumption, to the detriment of output recovery and public support for continuing the reform program. Design and implementation of a comprehensive reform program will be critical to mobilizing the necessary external resources for reconstruction and to meet the country's technical assistance requirements.

THE AGENDA FOR REFORM

Adoption of a comprehensive economic reform program is essential to overcome the current economic crisis and facilitate movement toward a market economy. As will be discussed in Chapter 3, a number of priority measures should be undertaken in order to promote private sector participation in the economy and initiate a program for restructuring public enterprises. These measures include: (i) significant changes in the legal and institutional framework; (ii) rapid acceleration of privatization of small enterprises; (iii) establishing clear and realistic targets for privatization of medium and large enterprises; (iv) strengthening the institutional capacities of the agencies responsible for implementation of privatization; and (v) creating the enabling and conducive environment necessary to attract foreign investment.

An efficient financial sector will play an important role in the success of the reform program. Chapter 4 provides an analysis of the following priorities: (i) assigning the role of mobilizing savings and channeling credit to the banking system; (ii) developing commercially oriented prudential guidelines and strengthening the supervision capacity of the NBT; (iii) aligning nominal interest rates with the Russian rates and considering further increases; and (iv) improving credit assessment, risk management skills, and commercial accounting systems.

An efficient international trade system will provide a competitive environment and help to achieve a quicker moderation of the declining output and earlier recovery of the economy. Chapter 5 presents a description of the trade regime and discusses the importance of diminishing the role of the Government in international trade and promoting industries with potential comparative advantages.

A sound safety net system is essential if popular support for the reform program is to be maintained. Chapter 6 discusses why the past generous social benefits can no longer continue and targeting special assistance programs to the most vulnerable groups is a viable alternative. Modification of pensions, retirement age, paid maternity leave, and leave-without-pay periods are among the main topics of this chapter.

CHAPTER 3

ENTERPRISE REFORM AND PRIVATE SECTOR DEVELOPMENT

3.1 Tajikistan's difficult political and economic conditions, recent natural disasters, and delay in reforming the institutional and legal framework all impede the growth of the private sector and retard foreign investment. To support Tajikistan's transition to a market oriented economy, a strong private sector must be developed rapidly. Private initiatives are constrained by political and economic instability, legal and regulatory inconsistencies, the absence of adequate support institutions, and severe constraints on foreign trade. Underdeveloped financial markets and institutions that do not provide financing on a commercial basis also hamper private sector development. In addition, inflation has eroded the value of domestic savings, so that capital to finance both privatization and private sector development is limited.

3.2 Although privatization began in 1991, the Government is still in the process of establishing the legal and institutional basis for developing of the private sector. Tajikistan's entrepreneurial skills, trading tradition, and natural resources provide the basic ingredients needed by a private sector. This chapter discusses the legal framework that would support a market-oriented economy and an emerging private sector. It then reviews the privatization program and analyzes the various issues related to strategy, methods, and institutional framework. It also identifies the obstacles to privatization and addresses governance and restructuring issues. The final section assesses impediments to developing the private sector and foreign investment. Each section concludes with a set of recommendations.

The Legal Framework to Support a Market Economy and Private Sector Development

3.3 Tajikistan has enacted several laws aimed at developing a market economy. Several laws deal with privatization and private sector development: Leasing (1990); Registration of Enterprises (1991); Privatization of State-Owned Enterprises (1992); Joint Stock Companies (1992); Foreign Investment (1992); Entrepreneurship (1992); Bankruptcy (1992); and Enterprises (1993). These laws address specific activities and areas, but do not yet provide an overall framework for developing a market-oriented economy. There are significant gaps in such areas as property rights, contract law, and secured transactions and collateral. Other deficient areas include the recording and transfer of property, intellectual property rights, and protection against unfair trade practices (false advertising, fraud, collusion, etc.). In addition to a clear legal framework, the private sector needs confidence in the enforceability of agreements, transparency in dispute resolution, and recourse against arbitrary administrative acts. The judicial and disputes settlement system must be improved if they are to effectively handle the complex disputes that are likely to emerge. The current legal framework does not reflect a coherent legislative strategy and displays an increasing dichotomy between enactment and implementation. The lack of coherence is further underscored by the fact that Tajikistan has yet to adopt a modern post-Soviet era constitution. Although several amendments relating to the economic system were introduced, notably to Chapter 2 of the Constitution, the extent to which private property is recognized remains obscure.

Summary of New Laws

3.4 The *Property Law*, enacted in 1990 divides property into three categories: (a) state property; (b) collective property, such as labor collectives, cooperatives, joint stock companies, leased

property, and other economic associations; and (c) "property of the citizen", such as individual economic activity and small enterprises engaged in production of consumer goods and trade. This tripartite arrangement has its origin in the administrative-command economy; in market economies, the only distinction is between state and private property, with collective property a subset of private property relationships. Draft amendments to the Property Law recently introduced in the Supreme Soviet do not substantially change these types of property. Citizen's property is now termed as "private property", and its definition is expanded to include other types of production such as shares. Moreover, in the draft amendments, there are still a number of open issues relating to property rights, including the absence of transparent and enforceable systems of creditors' rights and debt collection; potential liabilities attaching to property, such as environmental risks and costs; and inadequate clarification and protection of ownership rights associated with intellectual property and technology.

Box 3.1: Legal Framework in a Market Economy

The legal framework in a market economy has at a minimum four basic economic functions. These are to: (a) define the universe of property rights in the system; (b) establish a framework for exchanging those rights, (c) set rules for actors entering and exiting productive activities; and (d) oversee market structure and behavior to promote competition. These four basic tasks of a legal system relate to specific and well-recognized areas of law.

Property rights are usually defined in the country's constitution and in more specific laws dealing with real, tangible, and intellectual property. *Exchange* is generally governed by contract law. *Entry* is governed by company and foreign investment law, while bankruptcy and liquidation laws govern exit. Finally, *antimonopoly and unfair competition* laws are intended to promote competition. These basic areas of law are augmented by laws addressing many other important activities such as labor, taxation, and banking. The resulting complex environment constitutes the legal framework for private sector activity in advanced market economies.

Source: Cheryl W. Gray and Associates. *Evolving Legal Frameworks for Private Sector Development in Central and Eastern Europe*, 1993. The World Bank, 1993.

3.5 The *Law on State Ownership and Privatization*, adopted February 21, 1991, defines privatization as an activity of the state which transfers its ownership rights to collective groups and citizens of Tajikistan. The law authorizes transfer property rights to foreigners, including citizens of other FSU republics. Transformation of state owned properties in the privatization process include: lease, lease with option to buy, sale of shares, sale by installment to labor groups and others, purchase of state entity by workers, and free transfer of state property. Discounts, favorable terms, and priority are given to labor collectives. The draft amendments to the privatization law introduce novel and desirable elements such as: and public participation, social protection of all citizens, equality of citizens' rights to obtain a share of property, use of privatization vouchers and saving amount schemes, introduction of a mass privatization program, and better control over the privatization process. The State Property Committee (SPC) is requested to submit a privatization program for the approval by the Council of Ministers. Although the draft amendments add valuable concepts to the privatization law, they do not change essentially the process or guarantee the independence of privatized property.

3.6 The *Joint Stock Company Law* defines three types of joint stock companies that can operate in Tajikistan: open joint stock, closed joint stock, and limited liability companies. Each must have at least two shareholders. The SPC and the labor collectives of the enterprise that is being

transformed are usually the main shareholders. According to the law, these companies are independent and free to determine their own form of management, marketing, wages, and profit distribution. They have a board of directors, and can issue preferred and common stock and bonds. They also can pay dividends, keep reserves, and give stock options to staff. Despite this corporate form, which is similar to that found in free market economies, corporate independence is rather illusory.

3.7 The *Law on Leases* sets the conditions for an enterprise lease with an option to purchase. The period of lease is determined in accordance with agreement. Purchase price is based on the cost of the property at the time of lease. Purchase occurs when a cash payment is made after the lease has expired. Labor groups have priority, but any citizen or group can lease enterprises by forming a leaseholders organization that can issue securities. Leased enterprises have numerous operating restrictions. They continue to receive budgetary support and subsidies, but are held responsible for the social and economic development of the local territory. They must carry out state orders and set prices as specified for state enterprises. They are essentially state enterprises, owned by a labor group and carrying out state-sanctioned activities.

3.8 The *draft Antimonopoly Law*, based on Russian legislation, recognizes that increased competition is necessary to improve the efficiency of state-owned enterprises (SOEs). The law forbids certain monopolistic activities, outlines sanctions and penalties, and designates a specific office in the Ministry of Economy to monitor the behavior and price setting policies of monopolies.

3.9 The *Law on Entrepreneurship* regulates the economic activities of citizens and individual "juridical persons". It emphasizes equality of different types of property and freedom to engage in any economic activity. However, the state also claims a large role in entrepreneurial activities by attracting conditions and operating restrictions to the transfer of state assets. It also closely regulates these activities through registration and licensing requirements. Although it is a step in the right direction, the Law on Entrepreneurship still contains too many of these restrictions.

3.10 The recently enacted *Law on Enterprises* sheds many of the archaic concepts about property. Enterprises can engage in any type of domestic business activity and can independently engage in foreign economic activities, buy foreign currency, and obtain foreign credits. Government interference in the economic, financial, and other operational activities of enterprises is prohibited, and price setting is an exception rather than the rule. This law is a significant step toward liberalization of rules that govern enterprise activities.

3.11 The *Law on Peasant Households* establishes the legal rights of farmer households to carry out economic activities, either individually or in association with other enterprises, and receive a land plot, which is granted for life and can be inherited. The household is given the rights to personal plots adjoining the house. Plots may also be allocated from the land reserve or other agricultural lands not now in use.

Recommendations

3.12 Completing the legal framework necessary to move to a market oriented economy should be a priority. Areas that need special attention during 1994-95 include:

- a. Adopting a modern constitution that guarantees the right of natural and juridical persons to own and exchange property, protects private property, and provides for an independent judiciary and for juridical review of legislative acts.
- b. Enacting modern civil and commercial (including company) codes that provide a well-defined framework for entry and exit and market activities, exchanging property rights, operating business activities and overseeing the structure and behavior of such activities.
- c. Implementing mechanisms to register property rights.
- d. Revising the 1991 law of state ownership and privatization of property and related implementation decrees.
- e. Establishing and developing institutions critical for the success of legal reform and the proper application of the new laws, including privatization agencies, company registration offices, anti-monopoly agencies, banking regulation offices, land offices, legal departments in ministries and other government offices. This requires an overall review of administrative reform measures and training officials in legal and regulatory aspects of economic reform. It will also involve strengthening the judicial system's ability to enforce the economic laws and contractual obligations essential to protect property rights.

Privatization

Privatization, Enterprise Reform, and Corporatization

3.13 Early in the reform process, the Government designed a program for commercialization and privatization of state enterprises. Implementation began in mid-1991, but economic and political instability interrupted the process. The new Government, appointed in November 1992, decided to activate the stalled reform in the face of the rapidly deteriorating economic situation.

Structure of Industry

3.14 In the late 1980's, the industrial sector comprised about 30 percent of GDP. By 1992, as a result of the civil war, several natural disasters, and disruptions in interrepublican trade, industrial output had fallen to less than 50 percent of 1990 levels. The most important industries are

Table 3.1: Industry Structure, 1992

Subsector	No. of Enterprises	Output (mln. rbl.)	Employment
Energy	6	234	3,049
Electricity	28	4,859	7,354
Metallurgy	10	19,301	13,872
Ferrous	1	30	118
Non Ferrous	9	19,271	13,754
Machine Building	398	5,244	37,190
Chemical	13	3,392	10,955
Building Material	210	1,901	11,351
Wood & Paper	189	767	5,598
Light	130	27,692	69,872
Textile	53	25,543	45,342
Food	267	9,487	23,922
Others	314	—	—
TOTAL	1,628	98,421	228,505

Source: Goskomstat.

mining (ores, gold, silver, and coal) aluminum processing, and the textiles. The number of industrial enterprises is somewhat uncertain because some were destroyed during the civil war or are inactive, due to shortages of fuel or spare parts. In the agricultural, trade, industrial, and transport sectors, there are about 2000 state-owned enterprises, all classified as republican property. In the industry sector alone, there are 1304 medium and large enterprises (Table 3.1). At the municipal level, there are about 5,000 entities with less than 50 employees. These are segmented units of small state enterprises, mostly shops, service establishments, and trade units. In sum, there are over 7,000 state enterprises/entities of all sizes.

Scope and Progress of the Privatization Program

3.15 Although the Government regards private enterprise development as a key element of the economic reform program, the current privatization program is too narrowly defined. It focuses on small and medium enterprises, and to some extent, on larger enterprises that are non-profitable or heavily subsidized. The 1991/92 privatization program, approved in October 1991, targeted the sale of 1276 enterprises, of all sizes and from different sectors of the economy. The 1993-1995 privatization program proposed to add medium and large enterprises to the list. Thus, by the end of 1995, the objective is to privatize over 19 percent of all enterprises. This represents only 6 percent of the 1304 the medium and large enterprises (Table 3.2).

3.16 Household plots can only be leased from collectives and state farms. Privatization of houses, and apartments is proceeding on the basis of a special order of the Council of Ministers, since a draft law on privatization of housing has not been adopted. The district (rayon) executive council is in charge of privatization of housing. As of October 1993, over 50 percent of all dwellings were privatized; the average nominal price charged to insiders was 12,000 rubles. The Chairman of the Supreme Council signed an order to provide free apartments to social sector employees (doctors and teachers) and invalids.

Table 3.2: Medium and Large Republican Enterprises to be Privatized in 1993-1995

Sector	1993	1994	1995
Industry	26	7	2
Construction	5	3	-
Transportation	2	-	-
Trade	9	-	-
Supplies	1	-	-
Agriculture	14	1	-
Others	7	1	-
TOTAL	65	12	2

Source: State Property Committee.

3.17 As of October 1993, 846 enterprises of all sizes (excluding housing) were privatized. More than 600 of these were small-scale enterprises with less than 50 employees, while 152 were medium and large enterprises in the agricultural, industrial, transport, trade, and building sectors (Table 3.3). Box 3.2 summarizes the privatization of small, medium, and large enterprises.

Institutional Framework for Privatization

3.18 Privatization policy is carried out at two levels: the SPC and its regional representatives for republican property and the Municipal Executive Committee for municipal property. SPC, which is part of the executive branch, has oblast-level committees for the Leninabad and Khatlon oblasts and the Gorno Badakshan Autonomous Region; a committee for the city of Dushanbe, and eight district offices in regions directly administered by the central Government. The SPC is responsible for the privatization and corporatization of medium and large enterprises. In practice, supervision of large enterprises is still

Box 3.2: Privatization Accomplishments

Regional and district communities are moving ahead with *small scale privatization* mostly through negotiations with labor collectives. As of October 1993, only 12 percent (600) of small enterprises had been privatized. They included enterprises in industry, transport, trade, construction, services, and sales kiosks. Market oriented methods of privatization have not been used often enough. Sixty percent of the privatization agreements have been concluded with labor collectives, often in non-competitive tenders, which has limited the scope of outsider participation. As part of the small scale privatization program, 35 unfinished buildings were also offered for sale but only one was sold. A change in the regulations and procedures and a list of additional enterprises are being prepared to give more chances to outsiders and emphasizing auctions as a method of sale.

Medium and large privatization is moving slowly. Only 12 percent of enterprises (150) in the industrial, agriculture, transport, services, trade, mining and building sectors have been privatized. Only 6 enterprises were sold to private companies, while over half of the enterprises have been sold to collectives (with most shares often retained by the director general). Privatized enterprises are bound to see no change in management and depend on previously established networks of suppliers and distributors.

under the relevant ministries and bodies. Under existing law, the SPC responds to collective initiatives, and does not control the privatization timetable. As a result, the privatization program is proceeding slower than planned.

3.19 In terms of internal organization, the SPC has seven policy departments, one internal administration department, and a related Center for Valuation of State Property. The seven departments are: the Joint Stock Companies and Investment Funds Department, which prepares regulations in these areas; the Privatization Department, which works with local organizations at the municipal level, prepares privatization programs, and supervises implementation; the Valuation and Privatization Plans Department which provides expert advice and drafts correspondence and contracts; the Administration of State Property Department, which supervises the state portfolio; and the Methodology and Statistical Information Department, which provides advice on processes and procedures of privatization, and compiles statistical data on enterprises. In addition, there are legal and accounting departments. The Center for Valuation of State Property is a self-financing autonomous body charged with valuation of SOEs.

3.20 The SPC has 70 personnel slots at the central office, of which about 50 are filled. Personnel shortage is more evident at the regional and district level. Duties are often delegated to the district executive committees which are not always interested in carrying out the additional tasks.

Current Privatization Strategy

3.21 According to the June 1993 draft of the Government's program of economic transformation, the objectives of the privatization policy are: to eliminate state subsidies to enterprises; to develop small and medium businesses; and increase efficiency and competition. There seems to be some confusion about the ultimate goals of privatization and establishing private property. The most important goal of privatization is to reallocate resources to their most productive use. Transferring ownership of state assets and permitting the free flow of capital and labor will contribute to this goal. The objective of maximizing the sale proceeds of privatization should be secondary to the main objective.

Table 3.3: Medium and large privatization accomplishments, as of October 1993

Sector	Private Company	Employee Collective	Leased	Joint Stock Company ^{a/}	Bought Real Estate	Total
Agriculture		15		1		16
Industry		11	3	13		27
Construction & Materials	2	16	5	11		34
Transport		3	3	2		8
Trade, Retail	3	15	2	3	1	24
Catering	1	3				4
Services	1	14	5	7	2	29
Mining Metallurgy		5		1	1	7
Other		1	1		1	3
Total	6	81	22	38	5	152

a/ List of joint stock companies were 40% of shares were sold to labor collectives.

Source: State Property Committee.

3.22 As stated in the draft program of economic reform, as well as in the decree on Privatization dated April 18, 1991, the Government's objective is not to undertake a rapid privatization program, but to promote legal and economic equality in the forms of ownership. This is a very narrow concept of privatization that aims only at freeing the state from the obligation of providing financial support to unprofitable enterprises. This can be seen in the way the Government has categorized all Republican properties or SOEs for purposes of privatization:

- a. SOEs that will not be privatized because they are of strategic importance, such as minerals, electric power lines, gas pipelines, transportation links, telecommunications, land, banks, health facilities, schools, military, etc.
- b. SOEs that will not be privatized during the initial stage of reform because of their role in the national economy, such as the largest industrial enterprises, railways, aviation companies, etc.
- c. SOEs that will be privatized through auctions but with management and control remaining with the state.
- d. SOE which are low profit or bankrupt enterprises that will be privatized through auctions with a transfer of control to new owners.
- e. SOEs that will be privatized through a direct transfer to private ownership on a compensatory and non-compensatory basis.

3.23 The current privatization strategy is restrictive and lacks an overall systematic approach. The decision process is cumbersome (Box 3.3), and the phasing-in of the program has not been well designed. There is a need to develop more innovative methods, to move rapidly into the accelerated

phase of privatizing of medium and large enterprises, and to immediately intensify privatization of small scale enterprises (Box 3.4).

Box 3.3: Privatization Decision Process

The current decision making process for privatization is cumbersome and takes place as follows:

1. Transform selected numbers of medium and large enterprises into joint Stock companies that can be sold later,
 2. Encourage and build on employee initiatives; offer to sell small scale enterprise to the employees; if they are not willing to buy, the enterprise is then auctioned (which has never happened so far).
 3. For medium and large enterprises, the labor collectives first decide whether or not they would like to be privatized; the SPC jointly with the employees, examine different privatization options.
 4. In rare cases, the SPC takes the lead in selecting enterprises for privatization. This happens mainly with non-profitable enterprises or those on the verge of bankruptcy.
-

Methods of Privatization

3.24 The 1991 privatization law specifies several methods of privatization:

- leasing enterprises and other state property;
- leasing enterprises and other state property with the right of subsequent buyout;
- auctioning state enterprise property;
- sale, including on an installment basis, of enterprises, production facilities, and other state property to labor collectives, other legal entities, and citizens;
- gradual buyout of state enterprise property by its labor collectives;
- sale of integral property, which may be carried out through public trading, competitive bidding or auction; and
- transfer of state property without compensation.

3.25 In Tajikistan, the main method of privatization used, so far, has been sale to labor collectives, which have the right of first refusal in the privatization process. This method has allowed the privatization program to start quickly. Often, the privatization of an enterprise goes through various forms of privatization in succession. First, the labor collective leases the enterprise. Accumulated profit is then used by the employees as a downpayment for the purchase of a portion of the shares (up to 40 percent) in the joint stock company. At the end of the process, the labor collective buys 100 percent of the shares. Some employees are lost at each stage, while the remaining ones accumulate more shares. This leads to large inequalities in the ownership interests of managers and workers, and old and new employees.

Box 3.4: Small-Scale Privatization Experience in Eastern and Central Europe

Privatization of small-scale enterprises in Central and Eastern Europe is widely acknowledged to have been successful. The sale or transfer of ownership and/or leasehold rights has occurred quickly, and has not been intensively opposed, either by former employees or the overall population. Small-scale privatization has led to a substantial improvement in the quality and quantity of goods, services, and jobs.

Small-scale enterprises have been the first entities to be privatized in the formerly socialist countries of Central and Eastern Europe. These commercial enterprises usually involve retail trade, public catering, and consumer services. While some Central and Eastern European countries have adopted special regulations and laws governing the privatization of small-scale enterprises, in most, the transfer of ownership has been decentralized and left to the discretion of regional, municipal, and local officials using a variety of techniques, including administrative measures, market transactions, and a wide range of intermediate options. One key element of market-oriented approaches to small-scale privatization has been the liquidation of state enterprises before privatization, which has created conditions for a more efficient use by permitting greater resources and efficient use and transfer of assets of the privatized enterprises. The extreme version of the administrative approach to privatization has involved negotiating contracts with insiders (employees and management), excluding other interested parties from competing for the property. Intermediate options have included tender invitations made exclusively to insiders, and open auctions that offer preferential treatment to insiders. Obviously, the most market-oriented approach has involved selling small-scale enterprises in open auctions, where ownership and/or leasehold rights go to the highest bidder. In some countries of Central and Eastern Europe, notably the Czech and Slovak Republics, all bidders in open auctions participate on an equal footing, and insiders receive no special discounts. However, in some cases, new owners are obligated to maintain existing employment levels and business profiles for a certain period of time. Irrespective of the mode of transfer, privatization in Central and Eastern Europe has allowed both:

- (i) Sale, lease, or transfer of existing enterprises as going-concerns, including their liabilities and obligations to employees; and
- (ii) Liquidation of existing enterprises, with subsequent sale or transfer of only their assets (freeholds or leaseholds, as well as equipment and inventory).

3.26 In many cases, the labor collectives have been able to turn around the company in a very short period of time (Box 3.5). However, the cumbersome and non-competitive aspects of this method have several drawbacks, especially when applied to medium and large size enterprises. First, the method will not allow privatization to accelerate. Second, it does not lead to effective corporate governance and socially just distribution of ownership.

3.27 The privatization process in Tajikistan could be described as "bottom-up", since the proposals and decision to privatize come from labor collectives and managers. On the other hand, once the decision is made, a quasi "top down" approach is followed by the SPC in implementing the transaction. The two approaches are not well balanced (Box 3.6).

Box 3.5: Aziz clothing store, Dushanbe: A Success Story

The case of AZIZ, a clothing store in Dushanbe, is a good example of successful privatization and how it has effected the store's operation. Prior to privatization, the shop was state-owned and subordinated to the industrial amalgamation. In 1990, the labor collective leased the shop from the city, prepared a business plan, opened a bank account, and began to accumulate profit. In August 1991, the labor collective applied for privatization, submitting to the city and to the SPC a set of documents and a program of privatization. In September 1991, a formal offer for purchase was submitted. The State Property Committee and the City Commission examined the application and agreed on the sale price suggested by the SPC. A contract was signed between the City Executive Committee and the labor collective. Twenty percent of the price was paid as a down-payment, while the remainder was to be paid by installments in five years. All payments, however, were paid off in one year. Before privatization, 20 persons were employed, there was no possibility to increase production and the average turnover was 250,000 rubles, which allowed the shop to fulfill the fixed state target.

The shop was sold to the labor collective at the end of 1991. In 1992-1993 the labor collective opened two other branch stores in Dushanbe and started a sewing operation doubling the number of employees. It also opened a subsidiary in another town, with both a shop and a warehouse. Production was diversified and increased threefold; salaries also increased. Since privatization, the company has reinvested 2 million rubles from the after tax profits. The price of the clothes they sell is now lower than those in state owned shops. New employees can become partners after a three year trial period. The company's future plans include opening other subsidiaries in Tajikistan and in neighboring republics. The company also wants to diversify its line of products by offering foodstuffs.

Corporatization

3.28 Corporatization is progressing and 38 enterprises from all sectors have been transformed into joint stock companies. The basic criteria for corporatization is for the company to have over 50 million rubles book value. The transformation is undertaken on a case by case basis, and is done at the enterprise level with the assistance of the SPC. In the case of a group of 25 industrial companies that were transformed into joint stock companies, the Government turned 40 percent of the shares over to the labor collectives, retained 40 percent for the state, and reserved 20 percent for later sale to private investors. In other cases, often more than 40 percent is sold to the labor collectives and 20 percent of the price is required as a downpayment, with the remainder to be paid off within a few years.

Post-Privatization Conditions

3.29 Notwithstanding the possible detrimental effects on the newly privatized firms, many of the post-privatization restrictions stem from Government interest in regulating economic activities. Five main post-privatization conditions usually are incorporated in the sale contract. For a period of three years, the new owner is required to: (i) keep the same type of business profile; (ii) increase the volume of production and not reduce the output to a level lower than before privatization; (iii) fulfill all commitments and contracts signed by the previous owner; (iv) attempt to find jobs for laid off employees for six months after the layoff, with this obligation ending after six months only if the owner can prove that he followed all of the requirements of the labor laws and still failed to find jobs; and (v) not resell or transfer the entity before the final payment is made.

Use of Privatization Proceeds

3.30 The revenues from the privatization of republican property are transferred into a special account and their use is decided by the Supreme Soviet. So far, privatization proceeds have been totally

Box 3.6: Bottom-up/Top-down Approach

The privatization programs that have been developed across the Former Soviet Union (FSU) Republics incorporate all the traditional methods of privatization. The principal privatization approach to emerge so far in most of the FSU countries relies on a balanced use of "top down" and "bottom up" approaches.

In general, most Republics have adopted a "top down" approach to setting rules and establishing an approval process, while adopting a "bottom up" approach that allows the enterprises themselves to put together their privatization plans and implement the transactions. With regard to *medium and large scale enterprises*, Russia has opted for the "bottom up" approach for enterprise proposals while the central authority has set the rules of the game at from the top down. In *small scale privatization*, both rules and program initiatives have largely been delegated to local authorities, leaving the enterprises and central authorities with a notably passive role. Exceptions to this balance of "top down" and "bottom up" approaches have occurred in Kazakhstan, where a "top down" approach seems to have prevailed. In Lithuania, the "top down" approach appears to have been successful in promoting rapid implementation in cases of small privatization.

As for *larger enterprises*, the "top-down" approach so far has been limited to a few transactions where either hard currency earnings or early success have been sought. In light of the relatively slow progress achieved in large privatization relying on initiatives from outside buyers – some FSU Republics – are considering more centralized state initiatives in the future. It is clear that, regardless of the approach, there is a need for transparent rules and regulations governing the process.

In countries where a *mass privatization strategy* has been implemented or is contemplated for medium and large enterprises, a combination of "top-down" and "bottom-up" approaches appears to be preferred. As in Russia, individual privatization plans can then be prepared by the enterprises themselves, under close state guidance within a limited time frame. Moldova appears to be the only FSU Republic considering a pure "top-down" mass privatization scheme, with virtually no participation from non-state bodies. In designing a successful mass privatization program, both the number of enterprises and the desired speed of implementation should be considered to strike an appropriate balance between enterprise initiatives and state control.

transferred to the budget. Proceeds from privatization of municipal property are transferred to the appropriate local authorities. Since 1991, the total proceeds of privatization of republican and municipal properties have amounted to approximately 3 billion rubles.¹ For 1993, the budgeted proceeds were 1.4 billion rubles.

Obstacles to Privatization

3.31 There are numerous obstacles to privatization in Tajikistan. *First*, the legal framework is incomplete. The law on privatization dates from 1991 and reflects concepts about the privatization of enterprises that were prevalent at the very beginning of the economic transformation of the formerly socialist economies. To move forward, new concepts of privatization should be introduced. The procedures for privatization are cumbersome and not easy to understand. There is also little capacity to plan a coherent program of privatization and carry it out in a timely fashion. The *second* major impediment to privatization is political conflict over policy and methods. One conflict involves the exclusion of employees in the social sector and agricultural suppliers from privatization under current rules. Underdeveloped financial markets and institutions are a *third* obstacle that undoubtedly is

1. The proceeds from privatization of republican and municipal properties are consolidated into one account.

contributing to slowing the pace of privatization since they are not organized to provide financing on a commercial basis. The *fourth* constraint takes the form of restrictions prohibiting foreign investors from investing in medium and large SOE's. As a general rule, foreigners are not allowed to purchase more than 40 percent of the equity in these enterprises. The participation of foreign investors is also subject to: (i) acceptance by the employee collectives of a decision to sell their enterprise; (ii) a grant of special permission by the sector ministry and (iii) the agreement of the executive city district. *Finally*, because of confusion as to property rights and political instability, it is difficult for the State to guarantee the security of the privatized property.

Recommendations

3.32 The Government of Tajikistan should accelerate privatization of small scale enterprises during 1994-95, and quickly develop a consistent and coherent overall privatization program with the objective being rapid movement to a market economy. Without a change of ownership from state to private hands, the enterprises may not gain access to the investment, technology, and market-oriented management needed to survive. Also, until they are privatized, many state enterprises are operating in a planning vacuum. If the experience of other transitional economies are any guide, most sector ministries will do little to prevent the depletion of assets and accumulation of interenterprise debt.

3.33 The Government must keep in mind a number of *critical* points in developing and reviewing its privatization program. *First*, speed is essential. Many Tajik enterprises will be operating in a governance vacuum until they are privatized. Market-driven strategy should stimulate private sector demand to purchase those enterprises and promote rapid and successful privatization. This can be achieved only by offering as broad a variety of enterprises and assets as possible to the private sector. *Second*, the privatization process should be as transparent and open as possible at all stages, including publication of the fact that assets are available for privatization, and disclosure of financial and operating information, receipt and review of offers, and negotiation of specific transactions. *Third*, the privatization process should encourage the transfer of assets to private owners with demonstrated technical knowledge, operating expertise, and financial strength. *Finally*, the revised program should introduce measures and financial vehicles to encourage broader participation by private individuals and institutions and to otherwise diversify the methods of privatization. The initial cautious and restrictive policies must be revised to encompass a broad range of methods and sales strategies.

3.34 *Prepare a comprehensive program.* SPC needs to refocus its efforts on the supply side of privatization by accelerating implementation of the 1993/95 privatization program during 1994. The draft 93-95 privatization program includes some 80 medium and large size enterprise as candidates for privatization. Some framework must be prepared to assess the size and impact of the privatization of these enterprises on the economy and the budget. Privatization should include all types of state-owned property (medium and large enterprises, small enterprises, separate assets, housings, etc.). The program should not be limited to enterprises that are not profitable or on the verge of bankruptcy. The Government should state that all enterprises are candidates for sale except those on a specific negative list of enterprises that will not be sold during the next, e.g., five years. The Government also should approve and publish a specific list of candidates for privatization on a yearly basis.

3.35 Speed the process and prepare a priority work program for the next 12 months. The government should adopt a multi-track approach, in which it prepares the groundwork necessary to hold

voucher auctions while simultaneously conducting a series of small scale auctions and case by case larger scale privatization. This should include the following actions:

- a. *Clarify targets.* SPC should: establish realistic targets for its 1994 program; schedule auctions of small scale enterprises (focusing first on Dushanbe); select a few large scale enterprises for case by case privatization; and begin initial preparations for a Mass Privatization Program.
- b. *In the next six months, launch a series of fair, open, and regularly scheduled small scale auctions, beginning in Dushanbe.* Auctions of small scale enterprises are a proven way to encourage privatization. The procedures for holding such auctions are not complex, and the implementation requirements are simple, once consensus is achieved on the need for privatization.
- c. *Design a Mass Privatization Program.* In designing a method to incorporate vouchers/points/saving accounts in a mass-privatization scheme, a number of factors should be considered, including: the number of SOEs to be privatized using vouchers; the percentage of total shares to be offered in exchange for vouchers; the strength of the banking system; the rate of inflation; and especially the level of public support. These and other factors should be used to determine: (i) whether vouchers should have face value; (ii) whether vouchers should be tradable; and (iii) how to distribute the vouchers, i.e., in a physical form or through savings accounts.

3.36 *Diversifying methods of privatization.* Collective ownership of property limits resource mobility and the efficient transfer and use of an enterprise's assets. For small-scale enterprises, the transition from collective forms of ownership should occur as soon as possible. For this reason, public auctions should be the method of privatization for small scale enterprises. In rare cases, conditional auctions should be used, in which buyers agree in writing to observe certain conditions of sale.

3.37 *Simplifying procedures.* Given the scale and complexity of Tajik's privatization program which will involve privatizing over 5,000 small scale and a large number of medium and large scale enterprises, successful implementation requires administratively simple procedures, for, among other things, enterprise valuation, enterprise selection, privatization plan review. SPC should also develop standardized documents and guidelines to accelerate the work of individual privatization committees.

3.38 *Implementing Mass Corporatization.* So far, around 126 enterprises have been transformed into joint stock companies. To accelerate this process, it is recommended that the Government adopt a decree that immediately transforms all enterprises employing more than 200 people into joint stock companies. This mass corporatization approach would define property rights and clear the path for a range of necessary privatization measures and options.

3.39 In the medium-term, once the design issues for privatization are resolved, SPC should begin to implement the early stages of the Mass Privatization Program by focusing on:

- (i) *Demand side.* The next steps for voucher/points schemes should include:
 - (i) gaining final consensus on voucher design, including the scope of the

program and security measures; (ii) if a paper voucher is chosen, settling on a process for selecting a printer, determining how to pay the printer, choosing a printer, and printing; and (iii) if the points or savings accounts scheme is chosen, developing a distribution mechanism in the financial institutions.

- (ii) *Supply side.* Other steps for enterprise selection and preparation include: (i) agreeing on a list of 1994 enterprises to be privatized under the Mass Privatization Program, (ii) designing information packages for enterprises explaining what needs to be done, and by when, in the preparation of privatization plans, (iii) distributing information packages to enterprises, and (iv) setting up systems to evaluate and approve privatization plans.

3.40 *Corporatization, and privatizing trading enterprises.* Trading enterprises including distribution, wholesale, local transport, and other trading enterprises should be corporatized and privatized in the short run as quickly as possible in order to reduce monopolistic structures in distribution and trade..

3.41 *Privatizing Land.* This issue should be reconsidered in the medium-term in light of the Government's concerns regarding legal ownership rights associated with land attached to an enterprise, dwelling, farm, etc.

3.42 In the medium-term, it is important for utilities to undergo institutional reform as a prerequisite to privatization, and to develop a program for infrastructure privatization and private sector involvement in the delivery of public utility services.

Governance and Restructuring of Viable Enterprises

Governance

3.43 The experience of other countries suggests that privatization will take several years. In the interim, enterprises should operate in line with private sector practice as much as possible. Commercialization should be encouraged by introducing user charges, formulating a limited set of achievable targets, establishing commercial goals and imposing hard budget constraints. Also, organizational changes that delegate authority to appropriate levels of management, create mechanisms for owner representatives to monitor performance, reward success, and punish failure should be promoted.

3.44 The Government has started this process. However, enterprises transformed into joint stock companies have not adopted the corporate structure. In essence, corporatized enterprises still operate under the system of state orders and instructions from the state to management. Management has very little autonomy. A shareholders meeting approves a detailed program for the year, elects the board of directors, and appoints the director general. The Board of Directors has no relation to shareholders and is composed of industrial experts and economists. The actual evaluation process should be strengthened. Presently, there are no: (i) planning, evaluation, or managerial incentive programs; (ii) systematic performance reviews; or (iii) requirements to prepare corporate plans and undergo approval

procedures. The concept of autonomy and accountability varies between sectors, activities, and enterprises.

Restructuring Viable Enterprises

3.45 The Government's current restructuring plans involve three main areas. The first intends converting large defense-oriented plants. The second, management of natural resources. Since Tajikistan has served as a natural resource supplier, many of its natural resources are not processed at home. Efforts are being made to build processing facilities, largely with the help of foreign investors. The third area involves upgrading the product quality and building the marketing infrastructure to a point where it can support exports to new markets. So far, Tajikistan has not tackled financial and management restructuring of viable large SOEs. This will become urgent as the liquidity shortage and delays in interenterprise payments take many potentially viable SOEs to the verge of bankruptcy.

Governance and Restructuring

3.46 The corporatization process in Tajikistan should be accelerated and modified to allow a range of necessary private sector involvement. New measures and options should: (i) clarify the ownership of enterprises; (ii) clarify the decision-making process; (iii) remove the state from direct involvement in day-to-day decision making of the enterprise and management; and (iv) open information flows.

Recommendations for 1994-95

3.47 *Adopt a set of principles that will be the basis for corporate governance.* The reform of the remaining SOEs in Tajikistan can be achieved if the Government: (i) provides autonomy to management; (ii) seeks greater accountability from them; (iii) rewards good performance, and sanctions poor performance; (iv) establishes adequate Management Information Systems to monitor SOEs' financial performance; and (v) clarifies the role and responsibility of SPC, Ministries of Finance and Economy, sector ministries, and other supervisory agencies with respect to the SOEs.

3.48 *Prepare a corporate governance system.* A comprehensive program for strengthening enterprise governance and accountability should be established. Managers need clear performance contracts listing their obligations to the owner. These obligations should include using accounting systems and financial reporting based on previously established criteria. Since some companies will need financial restructuring at an early stage, decisions will have to be made about debt restructuring so that limits will be placed on future borrowing and growth of arrears in the medium term. Reduction and rationalization of subsidy programs and directed credit should start during 1994-95. No physical rehabilitation should be planned for companies that will be privatized in the short term. For strategic companies that will remain in the public domain, investment or rehabilitation expenditures must conform with the new role of the enterprise in a liberalized economy.

3.49 *Develop a Management Information System.* A corporate governance system includes a monitoring system to review business plans, investment expenditures, and financial results. This will require a data base and training program for the new directors. A transparent system to appoint boards and managers also is required.

3.50 *Prepare a performance evaluation system.* Performance evaluation systems must include incentives or bonuses for good performance and sanctions for poor performance.

3.51 *Restructuring programs for viable enterprises* will need to be undertaken where privatization in the near to medium-term is not feasible. Restructuring programs in large enterprises would involve financial restructuring; training; and labor redeployment. Some enterprises may require relatively minor but essential capital expenditures to become economically viable level. As far as possible, this should be financed by the enterprises themselves, though some budget support may be needed. However, such support should be conditional upon enterprise performance and the availability of budgetary resources.

Facilitation of Private Sector Development

Private Sector's Current Role

3.52 The development Tajikistan's private sector effectively began around 1985, when Soviet law allowed the creation of cooperatives. The Enterprise Law, adopted in June 1993, specifies the type of enterprises and includes personal, partnership, limited joint-stock companies, and state enterprises. According to Goskomstat, in the middle of 1993 Tajikistan had over 3,000 so-called entrepreneurial structures (Table 3.4), including 643 cooperatives, 1,749 small state enterprises, 182 enterprises registered as joint ventures (but only about 45 of which were active), and 556 private enterprises.² Tajikistan also allows the registration of individual "juridical" persons who engage in business and are essentially self-employed. In the middle of 1993, there were 4,318 such self-employed persons (Table 3.5).

3.53 The entrepreneurial sector is both severely underdeveloped and unevenly distributed throughout the country. Over 40 percent of the so-called entrepreneurial structures are located in the Leninabad region. However, a change in official attitude was demonstrated by the Entrepreneurial Activity Congress in Khojand in October 1993 when Government officials pledged institutional and financial help needed to develop small and private business in all regions. Using the U.S. assistance funds, a Center of Entrepreneurship will be established at Khojand University to act as an incubator for enterprises and help develop new instruments to support entrepreneurial activities.

2. The statistics on the number of enterprises differ from one source to another. According to the tax administration, there are 4,580 private enterprises, 742 state small enterprises, 199 associations, 126 joint stock companies, and 3,088 cooperatives and public organizations that report profits. There are also over 1.2 million household plots in the agricultural sector which accounted for almost one third the value of agricultural output in 1992. For the purpose of this report, official statistics furnished by Goskomstat are used.

Table 3.4: Small State Businesses, Cooperatives and Private Enterprises, as of July 1993

Sector	No. of Units	Percent	Employees	Total Revenues (mln. rbl.)
SMALL BUSINESSES	1,749	59%	24,558	5,264
Consumer goods production	435	14.7%	9,440	339
Trade	196	6.6%	2,744	1,328
Construction	293	9.9%	5,345	1,551
Agriculture	136	4.6%	1,231	83
Everyday Services	122	4.1%	1,105	188
Other	567	19.2%	4,693	1,775
COOPERATIVES	643	22%	9,641	1,395
Consumer goods production	122	4.1%	2,353	125
Trade	29	1%	420	396
Construction	185	6.3%	3,552	423
Agriculture	50	1.7%	707	8
Everyday Services	68	2.3%	1,249	273
Other	189	6.4%	1,360	170
PRIVATE ENTERPRISES	556	19%	5,310	1,337
Consumer goods production	80	2.7%	1,095	209
Trade	196	6.6%	1,230	531
Construction	70	2.4%	1,438	193
Agriculture	18	0.6%	161	21
Everyday Services	8	0.3%	51	4
Other	184	6.3%	1,335	379
TOTAL	2948	100	39,509	7,996

Source: Ministry of Economy.

Constraints to Private Sector Development

3.54 Despite the Government's intention to promote private sector development, there are severe constraints that inhibit its development. The most serious are: (i) entry and exit rules; (ii) labor regulations; (iii) limited access to business information; (iv) the commercial market for office space; (v) lack of competition; and (vi) access to credit.

Entry and Exit Rules

3.55 *Registration of new enterprises* takes about two to four weeks from the time all required documents are submitted to the municipal council. In countries that have successfully developed the private sector, registration takes only few hours. In Tajikistan, preparation of the required voluminous documents takes a long time and involves great expense. Registration of enterprises with foreign participation and joint ventures involves three agencies (Ministries of Finance, Ministry of Foreign Economic Affairs, and the District Executive Committee). Registration of private enterprises (100 percent Tajik owned) or individual economic activity involves only the district executive committee.

3.56 Once registered, businesses still face licensing requirements, especially for importing and exporting goods, services, and related financial transactions. Certain kinds of activities are not allowed at all, such as production of liquor, weapons and ammunition, narcotics, chemicals and medicines; and working with precious metals and stones. A draft law being prepared to simplify registration and licensing procedures will shorten the registration process to a maximum of one week.

3.57 The Bankruptcy Law, enacted in 1992, is not yet operational, so that the exit process remains under question. In all likelihood, as the economy moves toward a free market, many private and public enterprises will fail and be shut down. A well-functioning system of bankruptcy law and practice is thus critical to the new framework and requires serious and immediate attention.

Labor Regulation

3.58 Labor restructuring and dismissal of redundant employees are very sensitive issues in Tajikistan. If the management of a newly privatized enterprise, or any private enterprise, decides to lay off an employee for economic reasons, the labor law obliges the owner to find a job for the dismissed employee.

Business Information

3.59 Lack of information, managerial know-how, and technical and financial advisory services hinder the ability of private businesses to adjust to the rapidly changing conditions of the overall business environment. Access to data about technology, markets, and potential domestic and foreign partners for new entrepreneurs is also inadequate. Few small entrepreneurs have any business training; new organizations are trying to fill this vacuum. The National Association of Small and Medium Business, created on September 1, 1993 and operating under the Council of Ministers, aims to act as a Business Information Center to provide services such as marketing, advertising, insurance, banking, business training, cargo, and transport.

Commercial Market for Office Space

3.60 Contrary to the situation in other FSU republics, in Tajikistan, many premises are empty. However, there is no commercial market for office space. To obtain space, businesses can: (i) buy an unfinished building, furnish it, and use it as an office building or warehouse; (ii) form a joint venture with a state enterprise; or (iii) apply for a lease to different organizations (SPC, city district, committee, or the Supreme Soviet). The process can be long and cumbersome.

Lack of Competition

3.61 The new Antimonopoly Law could play an important role in maintaining well-functioning competitive markets. However, the legislation alone will not increase competition. Tajikistan inherited

Table 3.5: Self-Employed Persons, July 1, 1993

Type of Activity	No. of Self-Employed
Consumer Goods	2805
Services	240
Repairs	333
Transport	86
Other	854
Total	4318

Source: Ministry of Finance.

an economic structure highly concentrated in production and trade, with often only one domestic state-owned supplier or buyer in specific markets. The fragmentation of wholesale enterprises into smaller units is not yet a government priority nor is privatization of trucking and distribution. A competitive network of distributors, agents, and brokers are necessary for a commercial market to emerge.

3.62 Currently, private businesses do not have access to state supply networks, which depend on many middleman organizations and favor state enterprises. These middleman organizations appropriate a large percentage of profits from the sale of the product and make the basic suppliers unresponsive to the qualitative and quantitative demands of final producers. Securing basic inputs is also a problem because state enterprises get priority in an economy suffering severe input shortages. Organizations, such as the Association for Entrepreneurship, are trying to fill this need by helping pay members secure inputs necessary for their businesses. Some commodity exchanges also facilitate this task, but they are often inactive because of the civil war.

3.63 The Ministry of Economy has an Antimonopoly Department that, together with the Department of Price Controls, has the power to supervise application of the Antimonopoly Law, which was approved on December 27, 1993. If an enterprise has more than a 40 percent market share, it is listed in the Register of Monopoly Enterprises. These enterprises must report their prices to the Ministry of Economy which then calculates their profitability and checks it against guidelines. Those who break the law are punished.

3.64 The Antimonopoly Department has also prepared a draft law on consumer protection. It was approved by the Council of Ministers and is being examined by the Supreme Soviet. The antimonopoly department's institutional capacity is limited. As of October 1993, two professionals were working there and only three more staff are planned. However, in the new Ministry of Economy and Forecasting, more professional staff are envisioned.

Access to Credit

3.65 Access to credit probably remains the most significant obstacle to private sector development. Private enterprises have little access to credit and the financial system is still dominated by NBT and specialized Banks. State owned enterprises continue to enjoy almost exclusive access to credit and preferential interest rates. As of October 1993, only 5 percent of total lending was channelled to the private sector. Since there is no collateral and land cannot be privately owned, loans to the private sector represent high risk to the banks. Moreover, most credit presently is channelled to support state priority areas, such as agribusiness, consumer goods, and child nutrition products.

3.66 Some banks, such as Tajik Business Bank, Saving Bank, and Soman Bank are lending to small and private businesses at interest rates between 40 to 60 percent per annum (With monthly rate of inflation of 30 percent, these rates are highly negative in real terms). A few Tajik business banks are planning to increase their lending to private entrepreneurs and are establishing credit departments to serve small businesses.

3.67 Overall, Tajikistan is making an effort to support development of small and private business. On September 1, 1993, the Council of Ministers adopted a resolution on extraordinary measures to support entrepreneurship structures. The resolution resulted in the organization of the National Association of Small and Medium Business under the authority of the Council of Ministers and the establishment of the Fund to Support Private Business is under review in the Council of Ministers.

Also, pursuant to the resolution, the Ministry of Finance will establish a special commission that will have the expertise to evaluate investment projects. In addition, a Public Bank for Support of Private Business is expected to be established.

Recommendations

3.68 To stimulate private business development, the Government of Tajikistan will have to actively eliminate the remaining barriers to entry and undertake specific actions to promote businesses. Specific actions that it needs to consider during 1994-95 are discussed in the following paragraphs.

3.69 *Office space.* Undertake a census of excess space in Government owned buildings and other spaces available in major cities that could be leased to small businesses.

3.70 *Expand contracting activities to the private sector.* To further increase private business development, the Government should consider ways to expand contact between the state-owned productive sectors and the emerging private sector. Small business could become important suppliers of inputs and provider of services to larger manufacturing enterprises and to state and local governments.

3.71 *Coordinating private sector development policies.* At present, The Government has little capacity to coordinate policies in the area of private sector development. The Department of Entrepreneurship in the Ministry of the Economy, which is already playing an important role in proposing new policies and actions to stimulate private sector development, could expand its coordinating role. Specifically, it could: (i) analyze the implications of Government policies for private entrepreneurs; (ii) provide liaison with business associations; and (iii) ensure that basic materials for business start-ups are available and that regulatory compliance is properly addressed.

3.72 *Entry rules.* The Government should adopt a simple and automatic license and registration process with minimal requirements and simple, uncomplicated forms.

3.73 *Ease information bottlenecks.* The Government should provide business with timely updates of Government policy and regulatory changes, and help facilitate contact with suppliers, distributors, and foreign investors. The Government should also support: (i) development of business associations; (ii) private initiatives and information centers to disseminate information and provide business services through such means as the publication of business directories; (iii) establishment business centers across the country that provide fee-based services to new businesses; and (iv) the development of training institutions, private business schools, and other facilities for developing entrepreneurial skills.

3.74 *Over the medium-term, Encourage development of services* such as management consulting firms; economic information and forecasts; market research and databases.

Foreign Investment

3.75 Tajikistan's experience with foreign investment is very limited. The actual amount of foreign investment is not easy to determine. Although detailed records have been kept, the valuation of ruble assets in combination with foreign investment is problematic. As of October 1993, 12 enterprises were wholly owned by foreigners and 182 enterprises registered as joint ventures with foreign

ruble assets in combination with foreign investment is problematic. As of October 1993, 12 enterprises were wholly owned by foreigners and 182 enterprises registered as joint ventures with foreign participation, but of these only about 47 are active (Tables 3.6 and 3.7). The dearth of foreign investment is the result of political and economic instability. The Law on Foreign Investment, adopted in 1992, delineated rules for setting up joint ventures as well as wholly-owned foreign companies, that are no less favorable than those applied to local citizens. The Government guarantees that the provisions of the current law will be applied for 10 years and that foreign property will not be nationalized or requisitioned. Foreign investors are granted the right to transfer their investments and profits out of the country. However, a coherent and detailed set of rules permitting offshore and, to a lesser degree, onshore foreign investors to transfer their hard currency in and out of the country has not yet been finalized. The large drop in output, considerable imbalances in the macroeconomic situation, the deepening budget deficit and rising inflation have created impediments for attracting foreign investment. The essential prerequisites for negotiating investment agreements are currently weak; information, such as representations and warranties about the conditions of local enterprises, sectorial analysis, and financial statements with international standards (usually demanded by international investors) are incomplete or not available. Chambers of Commerce currently handle investment promotion activities, but their capacity is limited and they lack experience. The institutional setting for private investment in general and foreign investment in particular is complex. At present, the Ministry of Foreign Economic Relations collects and analyzes information on foreign investment and makes recommendations to the Government on policy as well as on approval of individual projects. The Ministry of Finance registers foreign investment enterprises, The Government intends to create an independent Agency for Foreign Investments that will have a central role in coordinating foreign investment activities and will become a center for information, policy and investment promotion.

Table 3.6: Foreign-Owned Companies, 1991-1993

Country Owned	Joint Ventures	100 Percent Owned
United States	14	5
Afghanistan	90	1
Lebanon	2	-
India	3	1
Austria	5	-
Bulgaria	6	-
Italy	3	-
Turkey	4	-
China	8	2
Finland	2	-
Germany	6	-
Canada	1	-
Vietnam	2	-
Israel	5	-
Switzerland	3	1
Belgium	1	-
Hungary	1	-
Sweden	1	-
Macedonia	1	-
Spain	1	-
Iran	6	-
Korea	3	-
Slovakia	1	-
Czechoslovakia	2	-
England	1	-
France	1	-
Sri-Lanka	2	-
Cyprus	1	-
Panama	1	-
Ireland	1	-
Syria	1	-
Luxembourg	1	-
Malaysia	1	-
Pakistan	1	2
Total	182	12

Note: 182 enterprises are registered as joint ventures, but only 47 are active (see Table 3.7).

Source: Ministry of Finance.

Recommendations

3.76 *Developing a comprehensive policy of investment promotion.* The creation of a single Government agency dealing with foreign investment during 1994-95 is an important step in attracting and retaining foreign investors. This agency should develop a comprehensive policy of investment promotion to inform potential interested parties about Tajikistan and its investment opportunities. The Government also needs to improve the country's infrastructure (telecommunications, transportation, etc.)

3.77 *Simplifying registration requirements and regulations.* If an easy entry and exit process is developed during 1994-95 it will improve the business climate at the local level and help foreign investors make their ventures a success.

3.78 *Reviewing foreign investment law.* Investment legislation must be reviewed to remove excess registration requirements, simplify concessions, and establish a coherent and detailed set of rules in the medium-term permitting foreign investors to legally transfer hard currency in and out of the country. Opening up the privatization process to foreign investors by removing tight requirements and ceilings on participation will also stimulate and attract further foreign capital.

Table 3.7: Sources of Foreign Investment, Joint Ventures (October 1993)

Source of Investment	Number of Enterprises ^{a/}	Capital in Hard Currency
Afghanistan	7	\$10,522,000 + CA\$30,000
USA	2	\$60,165,000
Sweden	1	323,000 rbl. in convertible currency
Bulgaria	3	\$168,500
Italy	1	\$6,900,000
China	5	\$1,543,000 + 431,244 Swiss Francs
Austria	3	\$300,000 + DM7,000,000
Israel	6	\$7,595,000
Germany	3	DM 420,000
India	3	\$4,860,000
Luxembourg	1	\$1,100,000
Switzerland	2	\$146,000
Turkey	1	\$3,800,000
Pakistan	1	\$4,700,000
Czechoslovakia	1	\$10,000
Lebanon	2	\$25,000
Finland	1	\$400
Yugoslavia	1	\$500,000
Hungary	1	\$12,000
Multinational	2	\$430,000
TOTAL	47	

a/ Number of active joint ventures.

Note: This table presents only the contribution of the foreign investors in hard currency.

Source: Ministry of Finance.

Box. 3.7 Technical Assistance in Privatization

Technical assistance program is needed to support Government efforts to :

- review existing privatization program and recommending a comprehensive program and to accelerate the implementation and use of alternative methods of privatization ; assisting in the preparation of guidelines for small scale privatization; and, proposing amendments to privatization law and regulations.
- assist in the preparation of detailed implementation schedule and data bank on enterprises and transactions.
- review existing laws on property, civil code (focus on contracts), privatization, bankruptcy, registration, entrepreneurship, company and lease and make necessary proposals for either revision or replacement.
- develop and implementing a training program for privatization and private sector development (in-country seminars, lectures and overseas study tours).
- develop a small-scale privatization pilot program for Dushanbe with the objective of replicating this experience in other regions of the country.
- assist in the selection of businesses to be privatized and the identification of the relevant assets to be transferred.
- identify municipal properties for privatization; collect data on enterprises, develop a database, and simplify the informational requirements on the privatization process.
- assist in: (i) organizing and conducting auctions or other privatization mechanisms including logistics for registration, physical preparation of enterprises for privatization, the auction event, and post-auction closing of privatization transactions; (ii) establishing the necessary financial structures; and (iii) finalizing financial and legal arrangements.
- assist in addressing issues concerning sell/lease-payment structures and minimum bid prices for free-holds, inventories and equipment.
- Develop a privatization communication strategy and a public awareness campaign.
- Advise on the implementation of the strategy and dissemination of information (brochure production and distribution).
- Organize seminars and interviews on privatization as mechanisms to determine public perceptions and attitudes.
- review the current foreign investment, policies and regulations including legal systems, business environment, competitiveness, etc.; identify its strengths and constraints; developing a strategy to promote foreign investment and assisting in drafting amendments to the law and regulation.
- review taxation and tariff policies in order to strengthen the investment framework and reduce barriers to foreign investment.
- develop the Agency for Foreign Investment, in particular in the elaboration of its staff positions, procedures, information systems, etc.
- strengthen the Government capacity to attract and negotiate with foreign investors.
- identify the barriers to domestic and international trade affecting the development of the private sector and assist in development and implementation of policies to facilitate private sector activities in the trade services.

CHAPTER 4

FINANCIAL SECTOR

4.1 The Tajik financial sector is dominated by large specialized banks, a heritage from the state banks of the FSU. These banks -- Agroprombank, Orienbank, and Tajikbankbusiness -- account for over 96 percent of bank lending. Sberbank remains the dominant institution in mobilizing the savings of the population but has little role in lending. The National Bank of Tajikistan (NBT) retains a significant role in intermediation. The regulations it administers are largely ex-Soviet regulations; the accounting system used by the NBT and the banks remains the old Soviet system.

4.2 Cash is the dominant method of payment. Enterprises are not free to encash their bank deposits at will and must use payment orders for the majority of transactions. The use of checks by individuals is limited by controls and lack of general acceptability.

4.3 In the transition to a market economy, the Government's policies in the monetary and financial areas have generally hindered resource allocation. Credit, subject to a variety of controls, has been directed mostly toward sustaining existing industries and maintaining living standards. This has driven inflation to unprecedented levels. Deficit financing has allowed the Government to avoid encouraging change in old activities and behaviors.

4.4 Interest rates which are subject to controls, are severely negative in real terms and lower than Russian nominal interest rates. This contributed to an outflow of currency before the collapse of the ruble zone, as arbitrage between Russian and Tajik interest rates took place. The highly negative real rates have imposed a severe tax on household savings.

4.5 Interrepublican payments through official channels have almost stopped, as Tajikistan has exhausted its credit with most FSU republics. To avoid appropriation of their earnings or to get around delays caused by the blockage of the interrepublican correspondent accounts, Tajik enterprises had resorted to shipping (old) ruble currency, barter and maintaining (new) ruble accounts in Russia before January 8, 1994, when the old (pre-1993) Russian ruble stopped being legal tender in Tajikistan. This contributed to a sharp increase in the demand for currency by enterprises. The use of currency for interrepublic trade and arbitrage resulted in a currency shortage in Tajikistan for making large payments.

4.6 The skill base of the financial sector has been significantly eroded by the loss of Russian professional staff. This affects the NBT, the banks and the State Insurance Company. The exodus of skilled personnel has affected the NBT regulatory ability, banks' ability to manage their accounts and modernize, and the efficiency of the domestic payments system.

4.7 Although reliable figures on bank solvency are not available, the Government faces a large and growing contingent liability in terms of a future need to recapitalize the banking sector. A number of factors support this view: the continuation of banks' lending relationships with traditional clients, with Government encouragement; lack of an arms-length relationship between banks and their shareholders; lack of effective NBT supervision, particularly in relation to concentrated lending; the existence of long term overdrafts in NBT settlement accounts; and the effect of hyperinflation on the capital of solvent banks.

The Setting for Financial Reform

4.8 There are 13 banks in Tajikistan in addition to the NBT and Sberbank. A structural view of the banks (see Table 4.1) shows that most of them are partially owned by state enterprises. In addition to the banks, there is a state insurance company and 7 new cooperative insurance companies. There is no stock exchange. The laws regulating the financial sector are: Law on Banks and Banking Activities in the Republic of Tajikistan; Law of the Republic of Tajikistan on the National Bank of the Republic of Tajikistan 1991; Resolution No. 778 of the Supreme Soviet of the Republic of Tajikistan Concerning the Basic Thrusts of Monetary Policies for 1993; October, 1991 Gosbank Rules Governing the Regulation of the Activities of Commercial and Cooperative Banks; Insurance law (draft); Stock Exchange law. New laws to replace several of these laws were in draft form in October, 1993.

4.9 There are several different legal types of bank: state; joint stock commercial; commercial; and cooperative. The two state banks are Sberbank, which has a Government guarantee on its deposits from households, and Khatlon Reconstruction and Development Bank. Khatlon Bank was recently established by the Government as a vehicle to assist development in the Khatlon region. Once this role is fulfilled, it will be dismantled. The difference between the Joint Stock Commercial, Commercial and Cooperative banks relates more to their capital structure more than to their functions. Joint Stock banks issue equities to attract capital, in addition to the capital provided by their founders. Commercial and Cooperative banks have no ability to issue equity and must rely on their founders for capital.

4.10 Bank branches have their own correspondent accounts and use the balances in these rather than a group net balance, in deciding whether they can extend credit. Branches are not strongly directed in the use of resources by bank Head Offices due to lack of information systems. There is some specialization among branches by client type.

Intermediation in Tajikistan

4.11 Although intermediation in Tajikistan has broken away from the previous highly centralized allocation of resources, most credit allocation remains based on regulations, central funding and past relationships. This greatly impairs the financial system's efficiency in allocating resources. To improve the situation, the Government needs to reduce its role by eliminating credit directives and reducing deficit financing; the NBT should end its intermediation; and commercial bank skill levels should be raised. More broadly, a stable macroeconomic environment and realistic assessment of the viability of the larger enterprises in a market environment are also required.

4.12 *National Bank of Tajikistan.* NBT has taken over the role of the former Gosbank. NBT has eight main departments and eight sub-departments, many of which reflect the role of the old Gosbank. NBT's present lack of independence is highlighted by the Government's extensive deficit financing through NBT, to which NBT is strongly opposed. NBT has a significant role in intermediation. A decision was made to transfer management of Tajikistan's foreign reserves to NBT from Tajvneshekonombank, but this has now been reversed. The Ministry of Finance controls most of the resources via Tajvneshekonombank, while the NBT has only a working balance.

4.13 NBT has suffered from loss of experienced staff. Several Directors are relatively new to Central Banking, having been brought in from other areas. The loss of skilled staff at all levels is significant enough that there is doubt as to NBT's functional ability in some areas.

Table 4.1: Tajik Banks

Name of Bank	No. of Branches	Founders
1. AKb Agroprombank "SHARK" (JCS)	54	a) State Committee of Republic of Tajikistan on State Property; b) Konibadam Cotton Processing Plant of Leninabad Region; c) Collective Farm Kasymova, Kurgan-Tube Region; d) Collective Farm Goibrade, Kulyab Region; e) Other shareholders.
2. AKb Tajikbankbusiness (JSC)	2	2 a) Ministry of Trade and Material Resources; b) Concern Tajiklegprom (light industry); c) Concern Sanoati Makhalli; d) Other shareholders.
3. Tajik AKb Orienbank (JSC)	2	0 a) Promstroybank; b) Ministry of Finance; c) Tajikpromstroybank; d) Corporation on Energy and Electricity; e) Other shareholders.
4. Tajvneshekonombank * (JSC)	0	a) Joint Stock Society Somonion; b) State Commercial Insurance Corp.; c) Cotton Processing Corp. St. Aini; d) Joint Venture Sov-Pak-Service; e) Asia-Austrian Association; f) Tajvneshekonombank; g) Joint Venture Cotton Kamiani; h) "Paul Reinhard Ltd", Swiss.
5. AKb Tajikbank (JSC)	1	a) Association Industrial Cooperatives "Vega"; b) "Bera"; c) Small Enterprise "Iskra".
6. Kb Fonon (C)	0	a) "ELTO" Plant; b) "Dovud"; Firm; c) Cooperative "Zeraat"; d) Small Enterprise "Asia"; e) Baradar Corp.; f) Individuals.
7. Kb Khojand (C)	0	a) Collective farms; b) State Farms; c) Khojand Canning Plant; d) Kistakuz Canning Plant; e) Leninabad Abattoir; f) Khojand Cotton Plant.
8. Kulyabcoopbank "Farangis" (CP)	0	a) Kulyab Bread Products Plant; b) Union of Cooperatives of Kulyab Region; c) Cabinet Makers Cooperative; d) United Cooperative "Anis"; e) Industrial-Construction firm "Zhilspetstroy".
9. AKb Ganchina (JSC)	0	a) Toohid Holding Co.; b) Joint Stock Society "Elkhyo"; c) Joint Stock Society "KolinKhoi- Khojand".
10. Kb Somon Bank (C)	0	a) Ministry of Construction; b) Lease Corporation Promstroy; c) Small Enterprise Tajikinformatics; d) Joint Venture "Azartaj"; e) Small Enterprise "Sado"; f) Tajik Construction Dept.; g) State Joint Stock holding company "Bang Tajik".
11. Aviabank (C)	0	State and Private organizations.
12. Kb Express Bank ** (C)	0	State and private organizations.
13. State Bank on Reconstruction and Development by Khatlon Region Soviet of People's Deputies (State)	0	State.
14. Sberbank RT (State)	58 main 3 Region 480 Sub	State.

* The Ministry of Finance recently agreed to become a shareholder, following State guarantee of foreign loans managed on behalf of the State.

** The NBT is in the process of initiating liquidation proceedings against Express Bank.

Notes: JSC = Joint Stock Commercial, C = Commercial, CP = Cooperative

Source: NBT.

Table 4.2: Bank Assets and Funding from Central Sources (in millions of rubles)

	Capital end Aug., 1993	Total Credit end Aug., 1993	Short Term	Long Term	Total Credit end Aug., 1992	% Growth in Total Credit	Funds from NBT end Sept., 1993
Agroprom	1300.0	242976.3	230302.6	12592.8	14278.5	1602	159000.9
Tajikbankbusiness	2928.8	61735.9	56290.0	5378.1	10857.2	469	4528.3
Oriembank	2454.7	51841.6	50671.3	1051.2	8910.8	482	199.3
Tajvneshekonombank	303.7	892.6	892.6	0	2942.7	-70	0
Tajbank	126.6	4451.7	4450.2	1.5	81.2	5382	15100.0
Fonon	22.6	146.0	143.8	0	91.0	60	7.0
Khojand	168.9	6078.1	5807.7	270.4	748.1	712	400.0
Farangis	20.9	112.0	112.0	0	2.6	4207	0
Ganchina	200.0	381.7	83.0	298.7	0	-	0
Somon	112.0	715.3	715.3	0	0	-	0
Aviabank	n/a	859.6	859.6	0	39.3	2087	400.0
Express Bank	51.7	1.9	1.9	0	3.8	-50	0
Sberbank	see a.	274.8	79.1	195.7	107.3	-	3000.0

a/ Capital includes paid-in capital and retained earnings. Agroprombank is increasing its capital to 4bR and US\$500,000. Tajvneshekonombank is increasing its capital to 2bR and US\$1.5m. Sberbank has been capitalized via a 5.5bR interest free loan for 5 years.

b/ The credit figures for Sberbank do not correspond to those from Sberbank itself, which indicate commercial lending of 1.9bnR, interbank lending of 6.55bnR and loans to NBT of 1.55bnR. NBT lending to Sberbank is for reconstruction loans distributed in the Regions via Sberbank.

c/ Differences between Total Credit and the sum of Long Term and Short Term Credit are due to factoring.

d/ In addition to the banks shown above, Khaton Regional Bank had a 31000 million ruble line of credit approved by NBT.

e/ NBT funds to Agroprombank are a 20000.9 million ruble loan and a 139000 million ruble overdraft.

Source: NBT.

4.14 Draft legislation on NBT gives it many of the usual functions of a central bank: formulation of Monetary Policy; Prudential Supervision; Bank Licensing; operation of bank correspondent accounts for clearing in the domestic payments system; and issuance of currency. NBT is also responsible for setting accounting standards. The legislation provides NBT with a range of sanctions with which to enforce policy, including fines, increasing the reserve requirement, appointing provisional management, and cancelling bank licenses. The legislation also provides NBT with a range of instruments with which to operate policy, including reserve ratios, dealing in securities, interest rate controls and credit ceilings. It is envisioned that NBT's policy formation will be done in conjunction with the Council of Ministers or with the approval of the Supreme Soviet. No lender of last resort is specified in the legislation, nor is any deposit insurance role. The draft law has certain weakness: the goals of NBT are mixed, leading to possible contradictions; NBT's current intermediation role is continued; NBT's role in managing foreign exchange reserves is not made clear; and NBT is not given the role of sole banker to the Government, since Ministries are permitted to bank with commercial banks.

4.15 Decree 778 of the Supreme Soviet on Money and Credit establishes priority areas for lending, including agriculture, energy and reconstruction. The decree further establishes reserve requirements for banks, ranging from 10 to 15 percent of deposits, depending on the maturity. NBT is

free to on-lend the funds it receives as reserves. Banks are also to allocate no less than 15 percent of resources obtained from sources other than NBT (self-mobilized funds) to long term lending. The decree does not define long term lending. Interest rates are specified for lending to different sectors (see Table 4.3); the margin on lending is fixed at 5 percent for funds borrowed from NBT and 10 percent on self-mobilized funds. In practice, margins appear to be 6 percent on NBT funds and at least 10 percent (and often more) on commercial lending, based on self-mobilized funds. Nominal interest rates are highly negative in real terms and considerably lower than Russian rates.

4.16 NBT borrows from the State Insurance Company, the Pension Fund and Sberbank. NBT no longer has a compulsory right of acquisition, and these organizations are now free to place their money elsewhere, which they do. However, their ability to adopt a fully active intermediary role is limited by lack of experience.

4.17 NBT lends according to the priorities of the Supreme Soviet. Banks approach NBT with specific loan proposals, for which they do not have sufficient resources themselves. NBT checks to make sure that these proposals fall within the Supreme Soviet priority guidelines, examines the solvency and profitability of the enterprise for which the loan is proposed, and checks to make sure that the bank has received sufficient guarantees from third parties to cover the loan in case of default.

4.18 With the exception of Agroprombank, funds received from NBT constitute a small portion of funds mobilized by the banks. For the major banks, dependence on NBT resources as a percentage of total deposits ranges from 0 percent for Tajvneshekonombank, to 18 percent for Agroprombank. However, Agroprombank has the special circumstance of having a very large overdraft with NBT, which raises its total dependence on NBT funds to 145 percent of total deposits. Khatlon Regional Bank is totally financed by NBT resources, although this is a special case of a bank established by the State for reconstruction.

4.19 Apart from Government directives, commercial bank lending is heavily influenced by past associations. Some of these past associations have been made stronger via ownership ties. Founders of banks generally receive preferential interest rates and preferential access to loans. This re-enforces the status quo and reduces pressure on enterprises to change. Ownership ties aside, there are several reasons for the banks attachment to traditional clients: a desire to keep established clients operating over "difficult

Table 4.3: Interest Rates (October 1993)

LENDING:	Percent
NBT:	
Own resources: Agriculture	10-15
Own resources: Other	25
As agent for deficit financing	0
Commercial Banks:	
Priority lending in priority Regions (1)	5
Farming (1)	15
Other priority Enterprises	20
	25-40
Consumer Purposes	50-60
Founders	15-25
Overdues	200
Factoring	60
DEPOSITS:	
Commercial Banks:	
Demand & Credit Balances of Enterprises	4-6
Individuals	20-60
Sberbank:	
Demand	8
Other	30-60

Note: (1) Set by decree 778.

Source: NBT and various banks.

times" in the hope of future repayment; a lack of banking skills, which blunts the response to existing weak clients and limits ability to diversify; and the debt relief given to existing clients by hyperinflation, which enables them to maintain interest and principal payments, disguising the paucity of their cash flow, which would be revealed in more stable circumstances.

Box 4.1: A Description of the Larger Tajik Banks

Agroprombank "SHARK". "SHARK" is the successor to the previous Agroprombank. By far the largest bank (see Table 4.2), its lending is heavily concentrated in agriculture and agricultural industries. Because of its role in this traditional priority area, the bank has received 20 billion rubles in loans, in addition to a 139 billion ruble overdraft from NBT. Agroprombank is the bank most dependent on NBT as a source of finance for its operations. It has suffered heavily from loss of skilled staff, to the extent that some of this functioning is impaired.

Tajikbankbusiness. Tajikbankbusiness (TBB) is the second largest bank, after Agroprombank, in terms of assets. TBB's clients are mainly in trade, light and local industries. TBB has two branches, which deal with entrepreneurs, lessees and small enterprises. It plans to combine the two branches into a larger sub-bank to further develop its presence in this market.

Tajik Orienbank. Orienbank, based on the previous Promstroy Bank, mostly finances industry and construction, but also has some trading concerns and collective farms as clients. Most big industrial projects has been financed by Orienbank, including the aluminum plant and the hydroelectric plants.

Tajvneshconombank. Previously a subsidiary of Vnesheconombank of the USSR, this bank is the agent of the Republic of Tajikistan in servicing external debt. In this role, its borrowing is guaranteed by the state. As a result, it is described as a State Joint Stock Commercial Bank, although it is not in fact a state entity. The bank manages the existing foreign exchange reserves under the authority of the Ministry of Finance.

Sberbank. Sberbank reports to the Council of Ministry, not to the NBT, and is not included within the sphere of NBT's supervisory powers. Individual deposits at Sberbank are guaranteed by the State. With 1.5m clients, Sberbank continues to dominate the market for individual savings, although other banks have been expanding their role. Although 2.7 billion rubles of the bank's funds were kept by Gosbank Moscow, individual accounts at the Savings Bank are freely available and have not been subject to restricted access. The Government via NBT, has given the bank an interest free loan of 5.5 billion rubles for 5 years, the earnings on which are intended to enable Sberbank to both recapitalize itself and repay the loan. Sberbank is cautiously developing its lending capability, with a focus on smaller enterprises, private firms and individuals; it sees its extensive branch network as a potential advantage in developing this market. Although the bank has been training its staff in lending since late 1992, a lack of trained staff limits to making loans only from one branch in Dushanbe and one in Leninabad. Previously, Sberbank had no lending role.

4.20 It is very difficult to assess how much credit is extended on an approximately commercial basis, using a non-concessional interest rate and impartial risk assessment. The amount differs from bank to bank, depending on the sectoral composition of the client base and the relationship between bank management and the bank's owners. Over the whole commercial banking system, only a small portion of loans are made on an approximately commercial basis.

4.21 While traditional clients continue to get most of the credit, lending to entrepreneurs, small industry, leasees and individuals has grown relatively fast. The Government has in fact considered making funds available to these sectors a priority. Although only approximately 7 percent of all outstanding bank and NBT credit (excluding credit extended via deficit finance) was allocated to these

new groups as of September, 1993, this was up from approximately 4 percent a year earlier. Banks appear to be more careful in their risk assessments when lending to these new areas. Tajikbankbusiness, Sberbank, and some of the newer commercial banks are interested in these markets, as they are the most profitable area of lending, even allowing for risk.

4.22 Most banks require collateral or a guarantee from a third party before they will make commercially based loans. Typically, the party providing the guarantee must have a statement from its bank certifying solvency. The warranty of the third party's bank often appears to allow funds to be taken from the third party's account, or the correspondent account of the guarantor's bank, in the event of a claim. The guarantee system appears to work well for the banks, although it is a barrier to obtaining credit for those without contacts to provide a guarantee. Collateral is far less popular with the banks, due to the lack of a clear and easily enforced law on collateral. The most acceptable forms of collateral are warehouse contents, small items which a bank can keep in its safe, and motor cars. Real estate and fixed assets are the least acceptable. Enforcement of credit contracts is difficult and costly. Twenty percent of the amount claimed has to be deposited with the court in advance and in the event of a successful claim, has to be reclaimed from the debtor. As the means of enforcing a court order are limited, a bank may do nothing more than lose the use of its 20 percent deposit by applying to the courts. This has reinforced the popularity of third party guarantees. The risks of trade finance have increased, as the deterioration in the payments system, particularly interrepublican, has caused vendors to require advance payment. This has also resulted in an increase in the requirement by banks for third party guarantees.

Payments System: Interrepublican

4.23 The accumulation of debt in correspondent accounts began to cause problems for interrepublican settlements in May, 1993, as other states started insisting on payment. Interrepublican payments through the use of correspondent accounts continue under conditions set periodically on a bilateral level. Many exporters have bank accounts in Russia, in the names of Russian subsidiaries. Trade was conducted out of these accounts in new rubles before new rubles became the legal tender in Tajikistan. Exporters were motivated by a desire to retain the use of their receipts for themselves and the state kept the majority of export earnings for its own use. In an attempt to make exporters use the official correspondent accounts, the Government passed Decree 317, giving the State a monopoly over 35 export commodities. From September, 1993, exporters were required to get a license through one of 6 general contractors and the export receipts were required to go to official correspondent accounts (including the accounts of Tajik banks).

Payments System: Domestic

4.24 A system of Clearing Houses (CHs) was introduced in November, 1991. In addition to Dushanbe, there are 5 regional clearing houses in Kulyab, Khojand (2), Kurgan-Tube, and Khorog. Each bank branch has its own correspondent account at the clearing house. The Dushanbe clearing house deals with 45 branches, 22 within Dushanbe and 23 outside Dushanbe, that are not served by one of the regional clearing houses. The Dushanbe clearing house is served by two computer centers -- one at NBT and the other at Orienbank. Transactions are cleared at three levels, depending on the relationship between the place of clearing of the payer and the receiver. If the branches of both payer and receiver use the same computer center, the transaction is done most quickly. If they use different computer centers, but the same clearing house, an additional day is required to send the documents from the clearing house to the other computing center. If different clearing houses are involved, several days are

required to transport the documents to the clearing house of the receiver's bank. NBT has an arrangement with Aeroflot and bus companies to provide a daily document service.

4.25 In theory, clearing should take 2 to 3 days within Dushanbe and 5 to 7 days between centers. In practice, it takes 5 to 7 days in Dushanbe and 15 to 20 days in the more remote regions. The delays are in part related to the current civil situation. Fuel shortages affect the delivery of documents within and between cities, since cars are not available and busses and air transport are delayed. The most significant problem is the current CH technology, which is old, the lack of skilled CH staff has resulted in a large number of processing errors. While commercial bank staff should check the returned documents for errors, there is a physical limit on the number of documents that can be handled, especially since staff leave early because of the civil situation. Once an error has been made, it can take many months to rectify.

4.26 The banks are actively seeking to improve the efficiency of domestic payments. This is in part motivated by a competitive urge to offer a better service that will attract clients. It is also motivated by a desire to free capital by reducing the size of the payments float (funds tied up in clearing and not available for use), which is in the region of 90 billion rubles and has risen at approximately the rate of inflation. The bank's first concern is to centralize clearing between their own branches on a same day basis. This will both reduce the float and the number of transactions passing through the clearing house. The objective is to process payments documents as much as possible inside each bank, rather than in the clearing house, and to have the transfers made electronically between banks.

Table 4.4: Interenterprise Arrears by Bank
(in millions of rubles)

	end Aug., 1992	end Dec., 1992	end Aug., 1993
Total	9520.2	11866.8	28064.7
NBT	0.3	1.6	1.5
Agroprombank	1812.4	2901.9	16937.1
Orientalbank	5968.5	6853.6	9698.8
Tajikbankbusiness	1542.5	1855.4	988.1
Other Banks	196.8	254.3	439.2

Source: NBT.

4.27 Sberbank is interested in linking its branches, but does not have access to foreign exchange to buy the necessary equipment. Each branch is -- at least partly -- computerized, but there is no communications link between branches. To facilitate transactions for its clients, Sberbank offers settlement cheque and telegraphic transfers.

4.28 Interenterprise arrears have grown considerably more slowly than inflation. Tables 4.4 and 4.5 indicate the level of interenterprise arrears by bank and by sector. The information presented in the tables are based on settlement documents that have not been cleared when presented, due to insufficient funds. Trade credit and debts not matched by presented settlement documents are not captured by the data. Three net-offs of interenterprise debt were conducted by NBT in 1992. The more rapid growth in arrears of Agroprombank may reflect its practice of allowing selected clients "unlimited checkbooks" that are honored regardless of account balance.

4.29 While NBT permits negative balances in correspondent accounts, Decree 778 imposes a fine of 0.2 percent per day for every day there is a debit balance in a bank's correspondent account on all banks, excluding Sberbank. Poor information systems within the banks and delays in the payments

system cause overdrafts to be permitted in spite of the credit risk this places on NBT's balance sheet. The credit risk is not an academic issue; Agroprombank has run a large and growing overdraft for at least two years. Although the overdraft has grown at less than the inflation rate over the last year, at end August, 1993 Agroprombank's overdraft stood at 139 billion rubles. The imposition of a fine may encourage Agroprombank to manage its liquidity, but it also may simply add to the debt. The overdraft is a further avenue that banks use to deal with financial constraints.

Credit

4.30 As was discussed in Chapter 1, growth in money and credit over the past year has been very large. Much of this growth has been driven by the growth in deficit financing requirement and the extension of overdraft facilities to Agroprombank. The bulk of the credit growth appears to have been directed toward support of agriculture and traditional industries and maintaining living standards. From Table 4.6, it can be seen that credit supplied in real terms to agriculture, metal industries, domestic supply organizations, consumer related organizations, construction and transport increased over the year to end August, 1993. This is consistent with the priorities set by the Government.

4.31 The two areas that suffered the largest declines in real credit were non-agricultural industry and energy. Real credit allocated to trade also declined. This is consistent with the disruption of trade caused by the breakdown in the interrepublican payments system. Banks with a client base in trade and non-agricultural industries reported a lack of demand for credit relative to their ability to supply, which thus attributed to the disruption of trade reducing the need for finance to cover trade flows and capital goods imports.

Table 4.5: Interenterprise Arrears by Selected Sectors (in millions of rubles)

		end Aug., 1993
Agriculture:	Farms	1440.0
	Other	2265.6
Domestic Supply Organizations		628.8
Entrepreneurs, Leasees, Small Enterprises and Individuals		567.7
Bread Production Ministry		9433.8
Metal Industry	355.8	
Consumer Related Organizations		3380.7
Trade		1033.4
Energy		3392.0
Construction		4124.7
Industry, non-Agricultural		2277.8
Transport		743.8

Source: NBT.

Table 4.6: Selected Short-Term Credit, Growth by Category (in billions of rubles)

		end Aug., 1993	end Aug. 1, 1992	% Total end Aug., 1993	% Total end Aug., 1992
Agriculture:	Farms	55.1	3.2	13.7	10.0
	Other	56.0	3.8	13.9	11.8
Domestic Supply Org.		45.4	3.1	11.3	9.6
Entrepreneurs, leasees, small enterprises & individuals		28.7	1.3	7.1	4.1
Bread Production Ministry		28.4	2.5	7.1	7.8
Metal Industry		26.9	1.4	6.7	4.3
Consumer Related		23.6	1.3	5.8	4.0
Trade		23.2	2.1	5.8	6.5
Energy		16.4	3.0	4.1	8.8
Construction		15.3	0.9	3.8	2.8
Industry, General		11.2	3.4	2.7	10.6
Transport		7.8	0.5	1.9	1.5

Source: NBT.

Prudential Regulations

4.32 NBT is using the 1991 Gosbank prudential ratios (see Table 4.7). Sberbank reports directly to the Council of Ministers and is not covered by the regulations or by NBT's prudential oversight.

4.33 NBT has few staff in the prudential area and no capacity for off-site inspection. The department responsible for ensuring that NBT credit is applied to the correct sector seems to be considered more important than the department responsible for prudential oversight. This is a reflection of the previous Gosbank system in which prudential supervision meant little, since all entities belonged to the state.

4.34 At the end of August, 1993, the majority of banks were failing to meet the capital to liabilities ratio. Three banks, including Agroprombank, reported negative ratios, which would indicate insolvency.

4.35 The data on concentrated lending and lending to related parties was not reported by the majority of banks. NBT did not appear to place much emphasis on this data. Concentrated lending appears to be common. With NBT's agreement one major bank had a third of its loans to one client (equal to 7 times total capital) and 55 percent of its loans were to stockholders. Another major bank extended 60 percent of its credit to two parties. There is no requirement for provisioning against doubtful loans. The only provisioning requirement is the Law on Banks and Banking requirement that 25 percent of capital be placed in an insurance fund.

4.36 The Law on Banks and Banking makes clear that the State is not responsible for the liabilities of the banks. In law, if there are not sufficient funds after liquidation, there is nothing further NBT can do to assist depositors. NBT currently is initiating the process for liquidating Express Bank. The procedure for liquidating a bank does not specify what happens to clients with credit balances if the liquidation of assets does not yield sufficient funds to cover their balances. NBT's position is that in theory (the case has not arisen in practice, since the liquidation of Express Bank is expected to cover credit balances) the clients of an insolvent bank will lose their deposits and that clients should take the responsibility for choosing the bank with which they deal. In theory, this lack of state responsibility for deposit insurance provides a useful separation between the State budget and banks' activities. In practice, however, the separation is unlikely to exist because it would be politically difficult for the Government to do nothing in response to the collapse of one of the larger banks.

Table 4.7: Lending by NBT, end September 1993 (in billions of rubles)

TOTAL:	272.0
Source From:	
Sberbank	1.3
NBT own resources	42.7
Unfinanced	228.0
Allocated to:	
Commercial Banks	40.6
Khatlon Bank	31.0
Sberbank	3.0
Regional NBT	19.0
Ministry of Finance	145.3
Direct to end user	33.1
In addition:	
Overdraft to Agroprombank	139.0

Source: NBT.

Box 4.2: Prudential Regulations of NBT

Capital to Liabilities. The ratio of net worth to liabilities must exceed 5% for commercial banks, 8% for cooperative banks and 3.3% for Agroprombank.

Individuals deposits to Capital. Deposits of individuals must not exceed capital.

Maximum indebtedness of a single borrower. The maximum exposure to a single borrower should not exceed 50% of capital.

Loans to related parties. Loans to any one stockholder or organization connected with bank management should not exceed 30% of capital.

Major Credits. Any lender the bank has an exposure exceeding 15% of capital is considered a major credit. The total of all major credits should not exceed 8 times the bank's capital.

Five largest Major Credits. The total of the five largest Major Credits should not exceed 3 times net worth.

Source: NBT.

Bank Solvency

4.37 No adequate data are available on bank solvency. The figures on loan arrears in Table 4.8 are very likely to considerably understate the case. Some banks indicated that they had delayed classifying loans in arrears because they hoped to get relief from the Government. This hope has been encouraged by the allocation of funds to assist enterprises and cooperatives affected by the war and floods, and enterprises made illiquid by hyperinflation. It also seems that the debt of enterprises that have stopped operating due to a lack of funds may not have been classified where the bank hopes to recover the debt through sale of assets or the assumption of debt by a new owner.

Table 4.8: Loan Arrears by Bank
(in millions of rubles)

	end Aug., 1992	end Dec., 1992	end Aug., 1993
Total	447.3	1835.8	1955.1
NBT	0.0	50.1	438.4
Agroprombank	14.2	45.8	123.5
Oriensbank	78.8	425.8	118.7
Tajikbankbusiness	320.0	1274.1	479.4
Other Banks	34.3	40.0	795.1

Source: NBT.

4.38 All banks, however, face a common set of circumstances:

- The former state banks have inherited portfolios from a period when credit was allocated according to a central plan.
- The State still influences credit allocation and interest rates.
- Banks' experience with lending on a commercial basis is limited. Lending tends to be conducted on the basis of historical relationships and shareholdings. In the current

environment of uncertainty, distorted cost structures and non-market based accounting systems, it would be difficult for any banker to assess credit risk.

- Bank portfolios are concentrated in terms of geography, industry and individual clients.
- Information and accounting systems for managing overall balance sheet risks do not seem to exist.
- Hyperinflation is eroding the real value of accumulated debt.
- Hyperinflation is also decapitalizing solvent banks, a situation exacerbated by a 55 percent tax rate on nominal profits and by the payment of dividends out of nominal profits.

4.39 In terms of credit risk, Sberbank's asset portfolio is possibly less risky than that of other banks. Its main risk lies in its exposure to the other banks. Sberbank has lent 1.9 billion rubles directly to individuals and collectives. These loans are covered by guarantees of two third parties and/or collateral that Sberbank is confident of being able to collect. 1.55 billion rubles is lent to NBT and 6.55 billion rubles to other banks. Sberbank has maintained full access to deposits, and so has retained the confidence of the public. In light of this, and its recapitalization and the probable quality of its assets relative to other banks, Sberbank does not present the special problem that Saving Banks in other republics present.

4.40 In the short run, macroeconomic stabilization would reveal the weakness of the cash flow of many bank clients. Liquidity problems would lead to a more realistic appraisal of the value of the clients' fixed assets. In this process, the solvency of Tajik banks is likely to be severely tested. The absence of stabilization will merely delay the revelation of the problem and further weaken any remaining solvent banks.

Bank Registration

4.41 Establishing new banks and branches of existing banks (except Sberbank) is controlled by NBT. All banks had to re-register after the USSR dissolution. NBT considers there to be sufficient banks in Tajikistan. Certainly, NBT's ability to supervise more banks is limited. However, the law permits more banks to be established, and NBT must examine each application on its merits and respond the application within six months. Somon Bank, the most recent bank to register, was in July, 1993. It was not a new bank, but the branch of a Russian bank transferring to local ownership.

4.42 The minimum authorized capital is 100 million rubles for Joint Stock Commercial Banks and Commercial Banks and 20 million rubles for Cooperative Banks. The capital must be fully paid up, an account is opened at NBT for this purpose. A bank cannot have fewer than three Founders. No Founder may own more than 35 percent of the authorized capital. The chairman and the chief accountant of the bank must each have at least three years experience in banking. Each applicant must provide a statement of purpose and a set of forecast accounts for the first year of operation. NBT's head office must receive positive reports from audits of the financial position of the Founders of the proposed bank, as well as from the NBT branch in the region in which the bank plans to open, which will conduct a feasibility study. The regional authorities must also approve the bank.

Other Financial Institutions

4.43 In addition to the banks, there is the State insurance company and seven cooperative insurance companies. The state insurance company (SIC) has 63 branches and 700 staff, down from 1500 previously. SIC was split off from the Ministry of Finance in 1992 but was not provided with any capital. During the FSU's dissolution, central bodies in Moscow retained 360 million rubles of capital, and local capital was retained by the Ministry of Finance. The SIC has thus been left trying to establish a capital base from profits in an environment that is not the most attractive for insurance. There is no State guarantee if the SIC becomes insolvent. SIC has twice approached the Government for re-imburement for war related claims, but has received no response.

4.44 Hyperinflation is eroding the value of capital faster than it can be accumulated. In the last year, SIC had premium income of 1.8 billion rubles and paid out claims of 1.7 billion rubles. SIC has funds of 250 million rubles, which it invests. Investing funds is a new exercise, since previously the Ministry of Finance had use of reserves.

4.45 Inflation is eroding the value of life insurance, diminishing a business already hit hard by the departure of many Russian professionals. Both compulsory and voluntary insurance exist in Tajikistan. Insurance is compulsory for State and Collective farm property, enterprises, and on passengers. Voluntary insurance is available on life, children, weddings, accidents and personal property. At present SIC does not insure small businesses, due to the civil instability and the risk of fraud.

Box 4.3: Technical Assistance in the Financial Sector

Technical assistance in the financial sector should help to:

- Educate NBT staff in the rationale behind market-oriented prudential regulations.
- Compare Tajikistan's current economic norms with prudential market regulations and work with NBT staff to recommend a set of market-oriented prudential regulations for commercial and savings banks. A phased introduction, allowing banks to adjust to the new regulations, should be considered.
- Establish reporting formats for banks, based on the current set of Tajik accounts and on the internationally based accounting standard adopted in other parts of the FSU.
- Identify software and hardware needs and recommend acquisition and the staffing needs.
- Identify the causes of the solvency position, including: war, flood and other external events; credit assessment practices and skill; concentrated lending; direction of credit on non-commercial criteria, and inflation.
- Assess the main causes of clearing and settlement delays.
- Identify how best to improve the payments system, taking into account local developments already underway and the need to integrate the Savings Bank into the payments system. The plan should be divided into reasonable stages.
- Facilitate training courses to improve bank management understanding of banking practices in a market economy and the accounting and information systems required for adequate bank management.

Recommendations

4.46 To develop a system capable of efficiently allocating financial resources, financial discipline must be imposed on clients and credit allowed to be allocated by the market. A banking system can be assessed in terms of five elements: capital adequacy; skill in banking, risk management and other staff skills; information systems that permit bank-wide analysis and management of risk and liquidity; the quality of the potential pool of clients; and the distribution system for accessing the market. In Tajikistan, capital adequacy is very problematic; banking skills are limited, accounting and information systems are not those required by a market environment; and the quality of the potential pool of clients is highly uncertain, due to business adjustments and lack of economic stability during the transition period. While the Tajik banking system has an adequate distribution system, this alone cannot ensure efficient resource allocation or impose financial discipline. A plan to develop the other four elements is therefore required.

4.47 When a banking system has the above-mentioned five elements, the incentive structure present in the market economy acts to allocate resources efficiently. The market incentive structure is shaped by competition, bank ownership structure, prudential regulation and the absence of inappropriate central bank and Government behavior. In Tajikistan, an appropriate market incentive structure is absent. Too often bank owners' objectives are to fund their own businesses, as opposed to the business of banking. Prudential regulation is underdeveloped. There is no requirement for provisioning for bad debts and existing regulations on concentrated lending and lending to related parties are not enforced. By directing credit to areas of political priority, the Government reduces the incentive for banks to develop their own credit allocation skills and creates "moral hazard", to the extent that banks consider their loans the Government's responsibility. Hyperinflation erodes bank capital and greatly shortens the lending horizon. The ability to operate overdrafts on correspondent accounts at NBT reduces banks' incentives to manage their liquidity, while the ability to borrow from NBT reduces the incentive to competitively mobilize deposits. To move toward a functioning market environment, these problems must be redressed.

4.48 Developing the banking system is a long term task, which should begin by focussing on skill levels and information systems. Information and training should be made available to bank management to familiarize them with concepts and methods used in banking in market economies, including credit analysis, managing credit risk by diversification, the rationale for provisioning doubtful debts, and management of liquidity risk, and risks caused by interest rate fluctuations. The training needs of Tajikistan's financial sector are very large. During 1994-95, training should start at the senior and middle levels, since support at senior levels will encourage more effective training programs to be developed internally.

4.49 Awareness of the information necessary to manage banking risks should also be developed. This will stimulate demand for a new accounting system, more suited to banking in a market environment. Initially, a mapping from the existing accounting system to market-relevant information is needed to enable management to obtain a better view of the consolidated bank position and improve risk management. This process has begun for the domestic payments system, but the use of computer networks should be expanded to include management information over the medium-term.

4.50 Each bank's worst problem clients, particularly those of the major banks, should be isolated to reduce the flow of problem loans. At the very least the influence of major problem clients over banks, by virtue of ownership, should be broken. The process of identifying and isolating the least viable major enterprises is likely to be difficult. Apart from social and political issues, the current accounting systems and unstable economic environment will make analysis of the enterprises long term viability

difficult. This suggests that the assessment will take time and that in the meantime, funding of these enterprises will continue. To enable the process to begin as soon as possible, banks should be required to provide details to NBT on all loans on which: (i) interest and/or principal is overdue; (ii) interest has been capitalized; or (iii), no interest or principal is being paid, regardless of the terms of the loan. Regular reporting on all loans representing 10 percent or more of bank capital should be initiated. The bank secrecy provisions of the Law on Banks and Banking should not preclude furnishing client information. An independent agency could be established to liquidate, downsize or establish ground rules for continued operation of major enterprises identified as non-viable. This would also assist NBT to establish limits on enterprises' access to credit. Subsidies to enterprises considered socially important should be financed directly from the budget. While this would not save external resources, it would enable bankers to concentrate on bank development. Making the banking system undertake the burden of non-viable SOEs would severely hinder financial intermediation.

4.51 In the short term providing adequate corporate governance in the banking sector is likely to be difficult. If the political will to reform enterprises and agriculture was strongly evident, the Government could appoint managers to oversee the banks, which would provide better governance than management controlled by Ministries and enterprise shareholders. For now, however, it is likely that the most that can be achieved is to isolate banks from their worst clients, train bank staff and develop prudential regulation.

4.52 Recapitalizing banks will be of little benefit until the continued flow of bad loans is dealt with by improving banking skills and information systems and isolating banks from major non-viable clients. Recapitalizing before the problem of bad loans is addressed would discourage bank management from changing their previous lending practices. However, over the medium-term, eventually recapitalization has to occur. The Government should ensure that the banking system will not automatically assume recapitalization. Otherwise, banks will be encouraged to postpone dealing with bad loans.

4.53 The prudential supervision capability of NBT needs to be developed. As an initial step, existing prudential regulations need to be monitored and enforced, particularly requirements relating to concentrated lending and lending to related parties. Once effective monitoring is in place, regulations on lending to related parties and concentrated lending could be gradually tightened to international standards, encouraging diversification and reducing owners' ability to influence bank lending. As suggested above, more detailed reporting on large loans and reporting potential doubtful debts needs to be initiated to help identify potentially non-viable enterprises. Sberbank should be brought under NBT's prudential oversight on the same basis as other banks. During 1994-95, staff should be trained in current concepts in prudential supervision, provisioning and risk-based capital adequacy requirements.

4.54 An important part of NBT's transformation into a central bank for a market economy will be its withdrawal from its current role in intermediation, which is inconsistent with effective prudential supervision. NBT's current practice of approving the use to which commercial banks put the funds it advances to them will keep it from effectively engaging in prudential supervision. Intermediation by the central bank also reduces bank incentive to develop networks and skills to mobilize funds. At the same time, NBT should reduce the central direction of credit to specific sectors and abolish it as soon as possible. Staff resources freed by eliminating the intermediation role could be used in prudential supervision. Retention of short term (overnight) overdraft facilities is a practical necessity, given the difficulty banks have in managing daily liquidity. However, as the domestic payments system improves, NBT should stop extending further long term overdraft facilities and should monitor the need for continued short term overdrafts. Over the medium-term, NBT's capacity to conduct monetary policy and

control the volume of credit to the economy also needs to be developed as part of the financial reform. In the short-run, in the absence of other means, credit can be controlled through credit ceilings. In the medium term, NBT should rely more on market-oriented monetary instruments to influence the volume of credit in the economy.

4.55 Support for socially sensitive enterprises should be shifted from the banks to the budget. If this is not possible, banks should distinguish between State directed lending and lending made entirely at the bank's discretion in their balance sheets. The quality of the banks own lending would be an indicator of banking skills. State direction of credit should be substantially reduced during 1994-95 and eliminated in the medium-term. In the current environment, any bank that made loans on a purely commercial basis would likely withdraw from all lending except trade finance and very short term secured loans. It is thus not credible to expect an immediate switch to commercially based lending and the cessation of all State direction of credit.

4.56 As a first step toward liberalization, interest rates should reach Russian levels. Margin restrictions on banks should also be removed, consistent with reducing NBT's role in intermediation. Total liberalization of interest rates will not achieve the expected market response until enterprises are sensitized to the fact that they have to pay back.

4.57 The developments underway to improve the domestic payments system are very encouraging. Efforts should be made to ensure that as it develops, the system is capable of being used by all banks. Banks should be helped to develop the ability to clear inter-branch transactions internally and to link into the system for inter-bank transactions during 1994-95.

4.58 The flow of bad loans will gradually slow as the steps suggested above begin to affect bank behavior. Skill building, developing information systems, isolating banks from their worst clients and developing prudential supervision will all take time. However, the longer it takes, the more the real stock of bad debts will go up. Intervention in the financial sector needs to be closely tied to the timing of macroeconomic stabilization, since once stabilization is achieved, inflation will no longer reduce the stock of bad debts.

CHAPTER 5

TRADE REGIME

5.1 Since the break up of the FSU, Tajikistan has sought primarily to maintain its old trade patterns. With the deterioration and eventual collapse of trade arrangements in the FSU, the Government increasingly reinstated the national command system and relied on state orders and quotas and centralized trading. This system, officially described as a transitional anti-crisis measure, has pushed trade into barter. Moreover, coupled with high surrender requirements, the system has reduced incentives to export. Import requirements, particularly energy and grains, have increasingly moved to world prices, resulting in a significant rise in trade deficits. The current trade regime prevents resolution of this imbalance. Tajikistan has not been able to diversify its exports to non-FSU countries. While official data implies diversification, it largely reflects the differential exchange rates that the Government applies to non-FSU countries. Trade has not diversified, with the possible exception of cotton and aluminum exports.

5.2 In the short term, the Government will have to dramatically reduce imports to bring them in line with current exports. It should reconsider its policy of state controlled trade and subsidies. Arresting output decline in the short run depends upon reestablishing FSU trade, medium-term policies need to promote exports and generate foreign exchange. It may not be possible to alter the pattern of trade quickly but to alleviate the trade imbalance, the Government should: i) stop controlling exports, end the state ordering system, and remove itself from direct ownership of production and services; and ii) develop a new trade regime, rather than focusing on bilateral trade arrangements.

Trade Arrangements and Trade Regime

5.3 As noted in Chapter 1, the regional specialization imposed by central planning made Tajikistan's economy heavily dependent upon inter-republican trade. Approximately 80 to 90 percent of Tajikistan's exports and imports are with the FSU. The country's production structure also required considerable imports of capital goods, well in excess of exports. During the 1980's, Tajikistan had current account deficits averaging about 20 percent of NMP. These were financed by transfers from the Union. In 1991, the last year with reliable trade statistics, exports made up 37.4 percent of NMP, imports 54.8 percent. This resulted in a trade deficit of 19.6 percent of NMP, and the dependence of the economy on trade continued.

5.4 Under the old system, trade arrangements were managed in a centralized manner. Almost all FSU trade with Tajikistan was part of the overall national economic plan, specified and directed from Moscow. Trade with non-FSU countries was organized by central trading organizations. There were no local trading organizations in Tajikistan and few officials had trading experience. As the system deteriorated, the Government sought to maintain its existing FSU links and trade patterns by negotiating bilateral trade and economic agreements. Beginning in March, 1991, such agreements were signed with most of the FSU Republics.

5.5 These bilateral agreements were similar to those used previously to determine CMEA trade. Volumes, not values, were specified for goods to be delivered and received. In some agreements, supplying and receiving enterprises were also specified. The agreements specified key items and stipulated that their trading volumes would not fall below 70 percent of the agreed volume. However, these bilateral agreements did not make up for the trading arrangements that had existed under the old

system trade volumes progressively declined for two reasons. First, the bilateral agreements were based on the assumption that the FSU Republics could rely on the old system of state orders to fulfill their obligations. With growing shortages in most FSU Republics, these agreements could not be fulfilled. Second, as a result of severe output declines, Tajikistan did not fulfill its trade obligations. This situation, coupled with exhaustion of trade credits, made Tajikistan's trading partners unwilling to deliver goods. As a result, the flow of trade dropped sharply.

5.6 During 1992 and 1993, most of the trade was part of a single clearing agreement with Russia. It covered the import of certain key essential commodities from Russia in return for exports to Russia (Table 5.1). The clearing agreement was intended to address the deficiencies in the inter-republic payment systems, and to curb the build-up of imbalances in inter-republic obligations. Under the clearing agreement, no money changed hands. The exchange was denominated in world prices, with quantities calculated to exactly offset exports against imports. The total amount of exchange with Russia was set at US\$110 million for 1993. The Government, through the Ministry of Trade and Material Resources (Ministry of Trade), procured domestically items for export at less than world prices, but traded the items at or near world prices.

Table 5.1: The Clearing Arrangement with Russia, 1992

Exports to Russia		Imports from Russia	
Cotton	50,000 tons	Fuel	260,000 tons
Raw Aluminum	42,000 tons	Wood	260,000 cubic meters
		Grain	25,000

Source: Ministry of Trade and Material Resources.

5.7 For an additional, "indicative" list of items, trade agreements were set up with different republics including Uzbekistan and the Ukraine. The Ministry of Trade, in conjunction with the Ministry of Economy, forecasts production targets and supply requirements from different sectors of the economy. It then sends these forecasts to their trading partner Republics and in turn receives from them their corresponding requirements lists. Based on this exchange of information, a set of interrepublican agreements are made. This implies that there is an implicit exchange rate for every product.

5.8 The above trading arrangements were carried out in 1992 within a trade regime characterized by export licenses and the state order system. These measures were extended in 1993, and on June 30, 1993, the export regime was further centralized and licensing tightened. In the second half of 1993, Tajikistan's *export regime* was defined in decree no. 317 from the Council of Ministers. It was characterized by six elements:

- a. All exports were controlled by six so-called *general contractors* that were either ministries or state trading organizations/enterprises. The contractors organize exports and were entitled to issue export licenses to themselves and other entities.
- b. *Quotas* for the main export and import commodities were allocated to the six contractors and to some selected trading firms. The quotas constitute most of the

estimated production for exports, and gave the state a de facto export monopoly in these commodities.

- c. *State orders* were used to make enterprises deliver their products according to quotas.
- d. *Licenses* were required for all exports.
- e. *Export taxes* were imposed on exports outside of bilateral agreements, except for aluminum.
- f. Hard currency earnings had to be *surrendered* to a State hard currency fund.

5.9 *The six contractors, through which exports were to be traded or licensed were:*

- a. Ministry of Trade and Material Resources: all items of import and export, including processed agricultural products.
- b. Union of Co-Operatives of Agricultural Production (Tajikmatlubot, also referred to as Consumers' Union): agricultural crops and processed products procured by its system.
- c. Cotton Cleaning Industry (ginners): cotton.
- d. Tajik Aluminum plant: aluminum.
- e. Ministry of Industry: all types of industrial production, including precious and semi-precious metals and products made of them.
- f. "Tajikglavlegpromsyrye" (Organization for Light and Local Industry under the Cabinet of Ministers): cotton sales.

5.10 Each of these contractors was required to follow a plan designed by the Council of Ministers that specifies quotas for a list of exports and imports from FSU and non-FSU countries. An institution that was allocated a quota, either directly in the decree from the Council of Ministers or via one of the contractors, had to obtain an export permit from the Ministry of Economy and from the Council of Ministers. With these two permits, it could apply for an export license from one of the six export contractors.

5.11 All exports sold for hard currency were subject to a 100 percent surrender requirement. Export items not on the list to be traded by contractors might be traded without quotas but were subject to licenses and surrender requirements. Until October 1993, these were classified under 33 categories and were subject to 10 different surrender requirements, ranging from 32 to 100 percent of export proceeds. In November, 1993, the Supreme Soviet passed a new decree that unified different surrender requirements at 30 percent of export proceeds for exports not traded by the general contractors. Customs duties applied to exports that were not included in barter trade agreements. They ranged from 5 to 1000 percent of ruble value, but could be lower if paid in foreign exchange at a rate specified by the NBT.

Box 5.1: The State Order System

The state order system was never quite abolished in Tajikistan. Since independence in September, 1991, the Government has continued to impose a state order system, e.g., Resolutions #292 for 1992; #161 for 1993, and an updated #449 for the last six months of 1993. Although, enforcement during 1992 and early 1993 was not very effective, primarily due to the war and its aftermath many enterprises continued to follow the state orders, as they lacked the ability to effectively procure and distribute on their own. Also, the Government vacillated in its stance on central planning, as evident in the various transformations of the Goskomplan over this period. By way of illustration, starting in 1991, Goskomplan became the Committee of Forecast, then the Committee on Economy and Forecasting, and finally the Ministry of Economy.

Two events in the first half of 1992 precipitated the present reinforcement of the state order system through updated resolutions #317, #387 & #449: The Russian Government (i) sealed off all payment channels in April, to address the competitive issuing of credit by the Republics and the consequent large buildup of interrepublic imbalances and (ii) later introduced the new Russian ruble. The Government monopoly over exports, established in #317 and updated in #449 (which unlike #161, indicated volumes in money terms), was designed to control Tajikistan's balances in other republics and allocate them to uses deemed most critical by the Government.

The state order system for 1993, in resolution #161, was updated in June by #449. However, Aluminum, Cotton and Fertilizer (Urea) were covered separately by several other resolutions, e.g., #108, #109, #106, etc. In the case of Aluminum, #108 specified that 400 th.tons had to be produced to state order in 1993, but that the plant could retain 230 th.tons of this. This goal was revised under #387 to 156 th.tons, for the balance of 1993, i.e., June through December. Of this, the plant could keep 124.5 th.tons. As for cotton, by Government resolution of May 1992, cotton producers could keep 30 percent of their output. For 1993, this should have translated to 207 th.tons of fibre, based on current estimates. However, due to the farmers reported inability to properly handle and market this residual 30 percent, it was reduced to 0 percent in June, 1993, under #387. Proposals to raise the retention again, to 10 percent, were awaiting approval by the cabinet of ministers. By October 1993, the gineries output is allocated by Klopkoprom, the state cotton industry department, which implements the interrepublic trade agreements for the cotton industry. Tobacco and fertilizer both have to be delivered 100 percent to state orders.

The considerable strengthening of the state order system, by means of the several new resolutions, stricter implementation and the superimposition of licensing requirements appears to be an attempt by the Government to cope with adverse external circumstances, primarily the breakdown of the interrepublic payment system. In some cases, the tightening of controls has been attributed to reported activities of domestic producers. For example, resolution # 447, setting the price of cotton and the related requirement that all cotton sale contracts be approved by the Ministry of Trade, reportedly reflects selling by farmers of the previous 30% retention at giveaway prices of \$400/ton while the market price was \$1200/ton.

In addition to strong economic grounds to dismantle the state order system, there is another compelling reason to end centralized procurement and distribution: the inability to guarantee a supply of raw materials with which to meet state order quotas renders the implementation of the system futile. For this reason alone, the feasibility of continuing the system is questionable.

5.12 The clearance and interrepublican agreements were implemented through a system of state orders (see Box 5.1) that are then formalized under Government resolutions. The Ministry of Trade administered the state orders by sending a notification to each enterprise for the items and quantities that have to be delivered. They indicated to whom, where and when these deliveries were to be made. Based on these notifications, the respective enterprises negotiated and agreed upon prices and delivery schedules.

5.13 On average, state orders covered about 70 percent of the output of the industrial sector. However, the allocation might range from 40 percent, all the way up to 100 percent, depending on the product. Enterprises were free to dispose of any production in excess of the state order quotas. In practice, however, the disposition of these items was dictated by the Government to prevent pilferage and because the enterprises often did not know how or where to supply or procure goods. For this reason, many enterprises relied very much on the Ministry of Trade to provide them with raw materials and orders for their output.

5.14 As an additional measure to ensure compliance with the state order system, the state introduced mandatory licensing of all exports, except those covered by official trade agreements. While items under the official trade agreements were duty free, all other items were subject to export licensing and duties. The state did not issue the export license unless the state order quotas were fulfilled. The licensing policy was formalized under resolution #387, which also assigned the state monopoly export rights over a fairly long list of items. This prevented the export of these commodities by other than authorized "state export contractors" although this was broader because these contractors are also authorized to issue export licenses to enterprises that wanted to export items under the jurisdiction of the contractor.

5.15 Administering this program proved to be difficult since enterprises tried strenuously to avoid these regulations or simply got around the blockage of their interrepublican correspondent accounts, by resorting to shipping currency (old rubles), barter and maintaining accounts in Russia. Management of the system was further complicated by the fact that some of the trading enterprises were owned by the general contractors which reduced their incentive to bring ruble or foreign exchange earnings into the country. By September, 1993, actual exports were only 40 percent of designated quotas. Surrender requirements also did not produce the expected amounts, as the larger part of the trade was carried out through barter arrangements.

Trade and the Economic Transition

5.16 The irreversible nature of the collapse of the previous production and trade arrangements will inevitably change the structure of Tajikistan's external trade over the medium-term. Tajikistan will have to develop trade policies based on the country's comparative advantage, not on sustaining the old production structure. Nevertheless, trade with the FSU will continue to be important. In the short term reversing the decline in output will depend upon reestablishing FSU trade. However, without resources to pay for imports, the situation will not improve quickly. While Tajikistan's joining the monetary union with Russia is likely to increase trade with Russia, it is not realistic to expect a return to the previous level of imports. Over the medium and long term, higher imports will be possible if exports expand. Trade policies will need to encourage promotion of exports, which requires a significant reduction of administrative controls and taxes on exports. It also requires the discontinuation of the state order system and state ownership of productive sectors.

5.17 Export quotas to FSU countries need to be gradually reduced. Such a policy could be pursued within the context of the trade agreements that Tajikistan has been negotiating with its main trading partners. As the prices of items under export quotas move to world levels, there would be no rationale for keeping them under quotas. For other goods, for which there are significant differences between FSU and non-FSU prices, the Government needs to adopt a flexible policy, and may consider reducing the coverage of quotas by a fixed amount each year. At the same time, the Government will need to reduce state orders and ensure that prices are market determined during 1994-95. During the same period, domestic supply contracts should be eliminated, starting with those that do not pertain to any of the interstate agreements (see Figure 5.1).

5.18 Export licensing policy will also need to be discontinued in the medium-term. The present system is too complicated and discriminates against the private sector. In particular, organizations that are themselves exporters (e.g., Tajik Consumers' Cooperative Union) should not be in charge of licensing organizations that could be in competition with them. This is particularly important in the

context of private sector exporters. In many developing countries, licensing in any form has often provided the opportunity for corruption. Careful consideration should be given to this issue before embarking on any licensing program.

5.19 As of November, 1993, exports sold outside the Government monopolies were subject to a single surrender requirement rate of 30 percent. All exports not part of barter trade arrangements were also subject to custom duties, ranging from 5 percent to 1000 percent of the amount of the transaction.

5.20 Over the medium-term, Tajikistan needs to diversify its agricultural exports and domestic production, instead of concentrating on cotton production and importing grains. The country already has a well developed textile and clothing industry that can serve as a basis for further expansion. Increasing grain

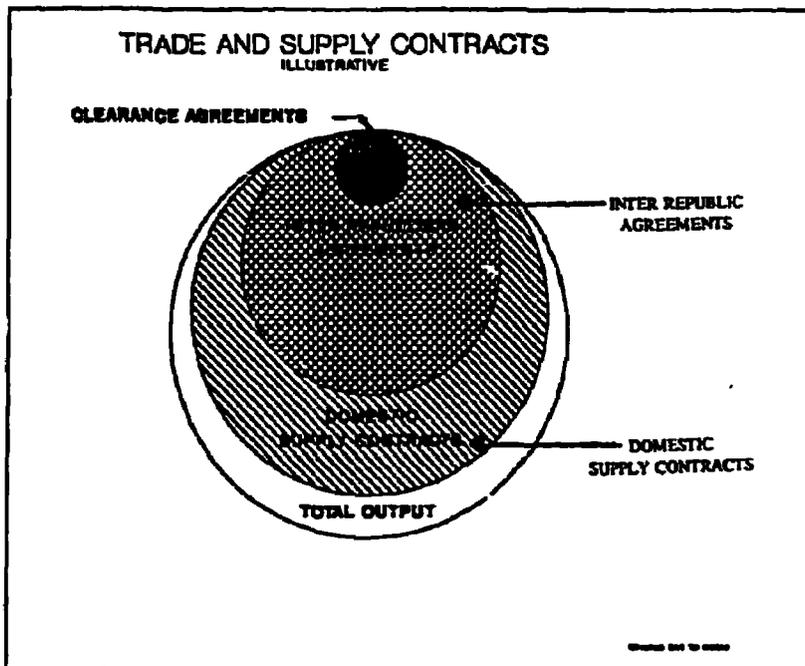
production might be economical, in which case it should reduce import requirements. The future development of the Tajik aluminum plant is critical for Tajikistan's external trade and available options should be considered by the end of 1994. If a partner can not be found to provide the necessary capital for its restructuring, the Government should consider and develop a plan for shutting down the smelter.

5.21 More emphasis should be put on developing labor intensive exports. Over the medium-term, the Government plans to extend the mining industry and develop hydroelectric projects. However, these activities are extremely capital intensive and will require large investments. More emphasis should be put on developing labor intensive exports. The Government's investment program needs to take this factor into account, since Tajikistan is experiencing high population growth, and since 45 percent of the labor force is still in agriculture.

5.22 The present import regime is characterized by import quotas for items traded by the general contractors, as explained in para. 5.8. For all other items, except armaments and narcotics, imports are not subject to any restriction and there are no import quotas. With the elimination of the state order system, import quotas will also need to be removed. Since quotas distort and don't produce revenues, they should be avoided in Tajikistan's trade policy, which should be simple and transparent. If Tajikistan joins the monetary union with Russia, its import tariffs should be consistent with Russian tariff coverage and rates. Tariffs should be uniform and ad valorem.

5.23 Pricing policies for exports have been distortive. The state stipulates the prices paid for exported goods procured centrally through the state order system. However, the domestic payments for the centrally procured items are not related to the proceeds from the exports or to the value of bartered

Figure 5.1



goods at international prices. This situation discourages production and does not provide incentives for producers to declare the actual amount of production. In 1992 and the first half of 1993, domestic prices of imported goods were kept low and the difference was subsidized through the budget. It appears that in the second half of 1993, however, the domestic prices of imported goods were based on actual import price, plus tariffs, transport costs and a mark up for the institutions that manage the trade.

Institutional Infrastructure for a Freer Trade

5.24 At present, the Government is concerned over the lack of compliance with the export regime and state orders. The current regime has not brought exports under control during 1994-95. An improved system of customs declarations and border inspections would make the control of trade simpler, and trade statistics more reliable. The Government should speed the full establishment of the customs administration.

5.25 The Government should establish clear priorities and policies to respond to the changed market situation and effectively deal with the transition period. At the present time, questions relating to trade are handled by many ministries. There are overlapping fields of responsibility and rivalries over authority. To create a unified trade policy with clear priorities, the responsibilities must be gathered and entrusted to one ministry. The most urgent task of the Government with respect to external trade should be to put in place a proper incentive structure to promote economically viable trade flows and to establish the necessary institutions for trade – particularly payment and credit facilities. This will require both the establishment of new institutions and a reorientation and strengthening of existing institutions during 1994-95.

5.26 There is also a need for institutional arrangements to expand Tajikistan's exports in non-FSU markets. Experience from export development initiatives in market economies indicates that it should be approached in a broad and systemic manner. By developing an institutional set-up that removes anti-export bias and assists with information collection, the Government could promote exports. Most countries that have experienced periods of strong export growth have had an ample supply of trained manpower for production, marketing and management. Manpower training is therefore another important instrument to promote exports during 1994-95. For new businesses, Government assistance may help overcome disadvantages of small scale in international marketing.

CHAPTER 6

THE SOCIAL SECTOR

General Living Standards

6.1 Tajikistan is the poorest of the FSU republics and identified by its per capita income as a low-income country. Based on purchasing power conversion (PPC), it is similar to the poorer countries of Central and South America (Bolivia, El Salvador) and Asia (Sri-Lanka, Pakistan) (see Table 6.1). Tajikistan's population is mostly rural (67 percent). Annual population growth is high (3.1 percent) and fertility rates have declined only marginally since 1971. As a result of the young age structure and the predominance of large families, with a larger proportion of children under 14 in the rural population, Tajikistan is faced with low labor force participation. Like other FSU republics, Tajikistan has a better health and education infrastructure than its non-FSU comparison group. In 1991, life expectancy at birth was comparatively high - 69 years; nine years of schooling is almost universal; and the ratio of population to physicians is low, at 350:1.

Table 6.1: Comparative Social Statistics

	GNP per cap. US\$ (1990)	PPC Estimates of GDP per cap. U.S. = 100 (1991)	Pop. growth rate (1980-91)	% pop. 0 - 14 (1991)	% pop. 15 -64 (1991)	Tot. fertility rate (1991)
Pakistan	400	8.9	3.1	44.0	53.5	5.7
El Salvador	1080	9.5	1.4	43.0	55.2	4.1
Bolivia	650	9.8	2.5	41.2	55.8	4.8
Tajikistan	1050	9.9	3.0	44.9	50.2	5.3
Sri Lanka	500	12.0	1.4	31.7	64.2	2.5
Uzbekistan	1350	12.6	2.4	41.6	53.8	4.3
Peru	1070	14.1	2.2	37.9	60.8	3.4
Kyrgyz Republic	1550	14.8	1.8	38.2	55.6	3.9
Turkmenistan	1700	16.0	2.5	41.3	54.2	4.5
Jamaica	1380	16.6	1.0	33.0	61.8	2.7
Azerbaijan	1670	16.6	1.4	33.1	60.1	2.8
Ecuador	1000	18.7	2.6	36.9	58.9	3.7
Kazakhstan	2470	20.3	1.2	31.6	52.4	2.8
Jordan	1050	22.0	4.7	43.6	56.7	5.3
Syria	1160	23.6	3.3	46.1	49.3	6.3
Colombia	1260	24.7	2.0	34.8	62.9	2.7

Source: World Development Report, 1993.

6.2 Per-capita GDP fell from US\$1050 in 1990 to US\$480 in 1992, causing poverty to rise. While the level of bread and grain consumption is high and continues to rise, the average consumption of most other food and non-food items is declining (see Table 6.2). The general decline in food consumption is Tajikistan's first and most acute problem. The Government's decision to maintain living standards has diversified a very large part of external resources to importing grain at the expense of investment and intermediate goods, including fuel. Tajikistan now faces the challenge of finding ways to break this pattern, which perpetuates the output decline, while protecting the most vulnerable groups in the country.

Table 6.2: Minimum Food Basket Composition for Poor Families (in Kg)

Product	1993 Tajikistan Annual Consumption (per cap.)	1991 Tajikistan Annual Consumption (per cap.)	1992 Kyrgyz Republic Annual Consumption (per cap.)
Bread Products	196.9	131.0	111.5
Potatoes	25.8	31.0	60.8
Vegetables (and Melons)	66.2	72.0	104.4
Fruits and Berries	16.8	27.0	38.0
Sugar and Pastries	10.9	21.8	20.4
Meat and Meat Products	20.6	21.0	25.0
Fish	1.7	2.7	8.8
Milk and Milk Products	131.4	124.0	212.0
Eggs (No.)	66.1	82.0	140.0
Vegetable Oils/Margarine	12.1	10.5	10.2
Kilocalorie Intake (per day)	2760.0		2090.0

Source: Goskomstat.

6.3 The solution will not be easy, because Tajikistan is an extremely poor country and cutting grain imports could lead to widespread malnutrition. On the other hand, the present policy cannot be maintained. Family allowances contribute to inflation, while input shortages cause further declines in output. In these circumstances, complementary growth-oriented policies should be implemented, including special measures to enhance local food production, obtaining external financing, and targeting social protection to the most needy. This chapter focuses on the latter.

Income Distribution and Characteristics of Poverty

6.4 *Source of information.* Information on family living standards comes mainly from a comprehensive Family Income and Expenditure Survey, carried out in 1989 and continued on a reduced scale on a quarterly base thereafter.¹ The 1989 survey consisted of 1,230 families out of a total of 90,000 families in the country. Thereafter, it was reduced to 625 families. Income inequality is grossly underestimated because the sample selection method is designed to reflect the cost of living of the average family, rather than income distribution. The State Committee for Statistics (Goskomstat) applied three criteria in selecting families; region, industry, and family size.² Refugees and ex-refugees, and individuals employed in the private sector are thus excluded. Actual income inequality must necessarily be greater in 1993 than in 1989 because of the large increase in refugees. However, Goskomstat ceased publishing this data, due to the small sample size and also because of the high sensitivity of the issue.

6.5 *The definition of poverty.* The concept of minimum income, or a poverty line, has operational significance insofar as it serves as a basis for revising minimum wages, minimum pensions

1. The survey started in 1951 as part of an all-union survey. Definitions were changed in 1966 and in 1988. In 1994, Goskomstat expects to change the sample design.

2. Families are selected so that household heads earn within plus and minus 5% of the average wage in their industry.

Table 6.3: Population Distribution by Family Size and by Rural/Urban (1989)

Family Size	Number of Families			URBAN	RURAL	RURAL	Weighted monthly per cap. Income (RU)	% of Total Income	% of Total Persons
	Total	Urban	Rural	Total Monthly per cap. Income (RU)	Total Annual Family Income (RU)	Total Monthly per cap. Income (RU)			
1	218,542	138,567	79,975	271.35	..	..	271.35	13.51	4.29
2	89,143	62,475	26,668	193.26	4052.2	168.84	185.96	7.55	3.50
3	90,717	58,260	32,457	156.64	4327.1	120.20	143.60	8.90	5.34
4	115,201	65,945	49,256	127.09	4510.3	93.96	112.93	11.86	9.05
5	103,255	43,142	60,113	93.49	4781.5	79.69	85.46	10.05	10.14
6	95,043	28,849	66,194	84.24	6440.6	89.45	87.87	11.42	11.20
7	80,141	19,544	60,597	72.21	6440.6	76.67	75.58	9.66	11.02
8	64,938	13,054	51,884	63.18	6440.6	67.09	66.30	7.85	10.20
9	48,557	8,483	40,074	56.16	6440.6	59.64	59.03	5.88	8.58
10+	111,919	19,932	91,987	40.85	6440.6	44.39	43.75	13.34	26.68
Total								100.00	100.00

Sources: Summary of the All-Union Census of Population in the Republic of Tajikistan, 1989.

and child allowances. Tajikistan has two measures for the poverty line: the first, set by the Ministry of Labor, is based on consumption norms rather than on actual consumer behavior and adds a 27 percent mark-up for expenditures not included in the norms list. Using this method, the minimum food consumption basket (without the mark-up) on October 1, 1993 was 22,000 rubles. Over 90 percent of the population fell below this threshold. The other measure, compiled by Goskomstat, contains a 44 percent mark-up for non-food consumption. This measure is based on the Income and Expenditure Survey, which is updated to determine the nominal income required for a family earning 75 rubles a month in 1989 to buy that year's consumption basket. This is adjusted by assuming that 25 percent of what is consumed is the result of one's own production. On October 1, 1993, the minimum food basket was estimated to be 15,000 rubles; 80 percent of the population fell below this poverty line. Since a majority of the population is at or below it, the absolute level of minimum income is useless as a redistributive tool. However, the percentage change in its nominal value can be useful for the updating of social payments.

6.6 Social payments are related to the minimum wage, to which minimum pension levels and child allowances are linked. The minimum wage is periodically revised to take into account informally changes in minimum nominal incomes, as described above. On October 1, 1993, the minimum monthly wage was 4,000 rubles, but was raised to 8,000 rubles shortly thereafter.

6.7 *Size distribution of income.* Although the 1989 survey underestimates the extent of income inequality, because of its sample selection and grouping methods, two outcomes stand out: first, the inverse relationship of income with family size (see Table 6.3), which is probably stronger than the table suggests;³ and second, the small difference between incomes of rural and urban families. Though data are not published by region, interregional inequality is substantial, as evidenced by large interregional

3. Based on grouping by family size, the Gini index is very low, at 0.146.

differentials in life expectancy and infant and maternal mortality rates. To redress these inequalities, an interregional transfer mechanism urgently is needed at present. Much of the social protection network is set up by oblast, and often operates at the even lower rayon or individual employer level, so that resources are not transferred to where they are most needed (see paragraph 6.18). Since poverty concentrates in certain geographic regions and in large families, these characteristics can serve as guidelines for income maintenance programs and as a basis for interregional transfers.

6.8 *The share of social payments in family' income.* This share of social payments in family income is high and not very progressive. In 1989, transfers were 9 percent of income for an average urban family, and 12 percent for an average rural family (see Table 6.4). Parallel data for January-June, 1993 show similar percentages but are more difficult to interpret. An order of magnitude for 1993 can be gained from Box 6.1. Based on this information (and ignoring income from private activities) an average family is estimated to derive a much higher share of its income from transfer payments. The share could remain very high under any plausible assumption about income from private activities, so that the disincentive for work has risen dramatically.

Box 6.1: Summary Data

The relative size of various social protection payments can be seen in the following comparisons. All figures are monthly, in rubles, for September, 1993.

Minimum Wage	4000
Average Wage	13000
Minimum Pension	6000
Bread Allowance (per family member)	1800
Child Allowance (up to 16)	500

In January-June, 1993, an average urban family had 5.3 present members, of which 1.6 were salaried employees, 0.4 pensioners and 3.3 dependents. An average rural family had 6.8 present members, of which 1.9 were employed, 0.5 were pensioners and 4.9 were dependents. Assuming average wage per earner, an urban family would have 20,800 rubles income from work and 12,150 rubles in transfers. A rural family has 24,700 rubles in salaries and 17,690 in transfers. To complete the picture, income from private activities should be added, but reliable information about this is lacking.

Source: Ministry of Labor.

An Overview of Social Expenditures

6.9 Following independence, the Government has tried to cover the loss of social expenditure resources previously transferred by Moscow out of domestic resources, and has sought to maintain the same scope of social payments in spite of the declining tax base due to the fall in output. Economically, this has resulted in a steep increase in wage-bill taxation and, when enterprises could not come up with the required taxes, an expansion in credit to finance the tax payments. The Government has also tried to maintain minimum consumption standards by distributing ever-increasing lump sum per capita payments to the population. In addition, the Government has maintained its full employment policy, in spite of sharp declines in production. This was made possible partly by real wage reductions, and partly by expanding credit to enterprises. Though employment fell, it did so mostly as a result of the civil war - no significant layoffs took place.

6.10 The overall result is an unsustainable pressure on resources in several ways: expanding

credit to finance wages, taxes and transfers pushes inflation; the high tax rate -- 39 percent on the wage bill for social expenditures alone -- raises labor costs and reduces take-home wages; the attempt to maintain previous consumption levels deprives the economy of investment goods and contributes to a further decline in GDP; and the rising share of transfers in family income discourages work effort. It is clear that the scope of social expenditures and taxation must be radically narrowed. But because of the country's general poverty, the reduction must be implemented without pushing segments of the population below subsistence levels.

6.11 In the longer term, redesigning the social sector could allow it to serve as a source for private savings: when the present hyper-inflation is curbed, the young and relatively healthy population could be a net saver by contributing to pension funds. While the redistribution function would still be important, the social funds could be transformed from being mainly redistributors of income to being agents for private savings.

Table 6.4: Sources of Family Income by Level of per capita Income Percent (1989)

Per-Capita Income	Total Family Income	Salaries (including collective farm salary)	Pensions, stipends and allowances	Individual Farm Income	Other
Non-Farmers	100	73.8	9.3	7.5	9.4
0-50	100	67.0	13.3	12.4	7.3
50-75	100	66.8	11.0	14.1	8.1
75-100	100	69.4	9.1	13.4	8.1
100-125	100	75.9	19.9	4.9	9.3
125-150	100	73.8	10.2	4.5	11.5
150-175	100	82.5	8.9	0.5	8.1
175-200	100	79.1	8.6	2.1	10.2
200+	100	82.8	4.3	0.4	12.5
FARMERS	100	60.4	12.1	22.2	5.3
0-50	100	62.2	18.1	15.7	4.0
50-75	100	59.1	12.5	23.3	5.1
75-100	100	63.4	8.5	24.2	3.9
100-125	100	61.9	9.5	20.2	8.4
125-150	100	63.0	12.5	21.9	2.6
150+	100	44.5	7.8	35.1	12.6

Source: Goskomstat.

The Main Institutions

6.12 *Social Funds.* The reorganization of the social sector reflects the transition from external to domestic financing and administration (see Box 6.2). Until 1990, all social protection expenditures were budgeted and administered by the Ministry of Social Protection. They consisted primarily of pensions, maternity and sick leave payments, family allowances and allowances to the institutionalized (i.e., the disabled). In 1991, an extrabudgetary Pension Fund (PF) and a Social Insurance Fund (SIF) were established. PF and SIF derive their revenues from a 37 percent wage bill tax, of which 84.5 percent goes to PF and 15.5 percent to SIF. In addition, employees pay 1 percent of wages to PF, and a transfer from the Republican budget to PF finances child allowances. The Employment Fund (EF), established in 1992, is in charge of unemployment benefits and retraining and derives its revenues from

a 1 percent wage tax and from transfers from the Republican budget.

6.13 Bread Compensation. When bread subsidies were removed in August, 1993, the Government introduced a flat rate monthly income transfer of 1800 rubles to every person in the republic, to compensate for the rise in bread prices.

6.14 Subsidies and price setting. Subsidies were substantial in 1993, mainly because of arrears in payments of bread subsidies, along with other subsidized items, notably coal and gas for heating. Prices in Government shops are regulated but there is no rationing and an active private market exists for all consumption goods. Aside from bread, state shops seem to offer little else; other food items are offered mostly in the free market.

6.15 Share in NMP and in budget. The reorganization of social protection prevents full comparison of the situation before and after 1991. Still, several facts stand out (see Table 6.5). Social protection expenditures are high. In 1990, they constituted 10 percent of NMP -- much higher than non-FSU countries having the same range of per capita income and higher than most middle income countries, though somewhat lower than other FSU republics.⁴ After independence, these expenditures jumped to 19 percent of NMP and stayed there. Most of this rise is concentrated in family allowances, which are administered per capita. In 1993, social payments were exceptionally high exceeding 20 percent of GDP because arrear payments of subsidies overlap the new compensation.

The Pension Fund

Box 6.2: Social Protection: Institutions

The main institutions responsible for social protection are:

- 1) **Ministry of Social Protection (MOSP):** Traditionally, MOSP was in charge of most of the social protection functions. At present, it supports special populations, such as invalids, runs institutions (old age, invalids), and is in charge of pensions and child allowances, the actual delivery of which it delegates to the Pension Fund.
- 2) **The Pension Fund (PF):** Established in 1991, oversees pensions and child allowances. Collects taxes earmarked for pensions and for allowances for children up to 1½ years old; receives transfers from the republican budget to finance child allowances for ages 1½-16.
- 3) **Social Insurance Fund (SIF):** Established in 1993, finances maternity leave, sick leave and various workers' amenities.
- 4) **The Employment Fund (EF):** Established in 1992, is in charge of unemployment benefits and retraining.

Table 6.5: Social Protection Payments as Percent of NMP, GDP and Budget Expenditures

Year	Social Payments (mln. rbl.)	Subsidies (mln. rbl.)	% in Social Payments in		
			NMP	GDP	Budget
1988	659		13.5		29.8
1989	701		14.6		27.4
1990	763		13.9	10.4	24.0
1991	2,548		24.2	18.8	50.6
NEW SERIES					
1991	2,673	700	25.4	19.7	53.1
1992	9,570	796	22.2	18.2	25.8
1993	57,090	8,432	31.4		30.9

Source: World Bank estimates.

4. See, ILO: *The Cost of Social Security*, Geneva, 1992. Table 6.1 shows the following percent of social security expenditures in GDP in 1986 for comparable non-communist countries (See Table 6.1): Bolivia 1.9; Ecuador 3.0; El Salvador 1.1; Pakistan 0.8; Philippines 0.7; Sri Lanka 2.3 and FSU 15.5.

6.16 Established in 1991, the Pension Fund governed under a 1990 USSR law until July 1993, when a new law was passed. At that time, there were 540,000 beneficiaries, or about 10 percent of the population. The variety of groups eligible for benefits is indicated by Table 6.6 (although Table 6.6 excludes recipients of child allowances financed through budgetary transfers). Most collection and distribution is done at the rayon level. The local PF supervises tax collection from the rayon enterprises. Funds are put in an authorized rayon bank and then transferred to an oblast bank for redistribution among rayons. No money is transferred between oblasts, except for Dushanbe, which pays to the central PF and to the rayons administered directly from the center; and Leninabad, which volunteers some of its balance for redistribution.

6.17 *Old Age Pension Eligibility.* The new pension law distinguishes between individuals entitled to receive a pensions, based on the number of years worked, and those who have not worked at all before reaching the threshold age, who are entitled to only a reduced "social" pension, equal to half the minimum retirement pension. Retirees are entitled by law to receive minimum retirement pensions, plus 1 percent for each seniority year. Working pensioners receive the same pensions as non-working pensioners. Those reaching pension age but not having the required number of working years receive a proportionally reduced pension.

6.18 In practice, 70 percent of the pensioners, including almost all retirees, receive the minimum pension (which is usually 1.5 times the minimum wage).⁵ Currently, Retirement age is 60 for men and 55 for women, with cumulative work requirements of 25 and 20 years, respectively. People engaged in certain categories of demanding physical work are eligible for pension at age 55 and 50, respectively; others at age 50 and 45 respectively. PF labels these as "list I and list II").

6.19 Rayon committees determine *eligibility for invalid pensions*. There are three invalid categories from complete (category 1) to temporary (category 3) disability. Pension depends on the category and the reason for disability. Work accidents are a special case.

6.20 *Work accidents.* For invalids who continue to work, employers pay the pre-accident salary. For those who leave the employer, regardless of whether they work somewhere else, the

Table 6.6: Composition of Pension Fund Beneficiaries (number of persons)

Social Pension	41,000		
Fully retired from work	256,664	Early retirees	6,111
Category 1 invalids	4,000	Dependents	201,600
Category 2 invalids	25,520	Retired from Military	11,885
Category 3 invalids	12,810	Retired local level employees	4,880
Working pensioners	42,480	Retired Republic level employees	2,233
Minimum pension for non-workers	120,000	retired union officials	400
Retired without required seniority	12,173	Special payments to those taking care of invalids	42,422

Source: Pension Fund.

5. Oddly, some receive two minimum pensions, and others even three, though their number is small.

employer pays a lump sum and PF pays a current pension.

6.21 *Survivor pensions.* Each surviving family member – parents, children, and remaining spouse – receives a pension on a per-capita basis when either spouse in a family dies. In practice, each child gets the social pension (half the minimum pension), as does a non-working wife. If the deceased was employed, the employer pays the family the difference between the deceased's wage and the PF pension.

Table 6.7: Pension Fund Budgets, 1991 - 1992 Actual and 1993 Planned (in million rubles)

	1991	1992	1993
REVENUES			
1. Balance from last year	–	135.1	650
2. Taxes from State enterprises	1,087.2	5,216.2	33,810
3. Taxes from workers	54.6	166.8	1,081.4
4. Taxes from private enterprises	–	–	–
5. Other transfers	472.1	1.2	1.5
6. Budget transfer	455.8	1,771.5	3,824.9
7. Year-End Balance	135.1	751.9	1,000
8. TOTAL REVENUES (1 to 6, excluding 7)	1,934.6	6,538.9	38,367.8
9. Total Revenues (without Budget transfer and cash balances)	1,513.9	5,384.2	34,892.9
EXPENDITURES			
10. Pensions to fully retired	792.6	3,964.4	31,264
11. Pensions to partly retired	64.0	384.8	3,696
12. Other pensions (military, VIP)	39.9	190.6	1,218.9
13. Children under 1.5 years	230.7	439.1	1,189.06
14. Children 1.5 - 6 years	582.8	879.4	1,450
15. Children 6-16	–	482.0	1,049.6
16. Needy Families	150.9	59.6	66.0
17. Other Expenditures	73.6	152.9	1,072.0
18. TOTAL EXPENDITURES	2,344.5	6,552.5	41,016.1
19. Total Expenditures (minus Children 1.5-16)	1,351.7	5,191.1	38,506.5
Surplus Definition A (8 minus 18)	0.1	-13.6	-2648.3
Surplus Definition B (9 minus 19)	162.2	193.1	-3613.6

Source: Pension Fund.

6.22 *Child allowances.* PF pays a monthly allowance to all children aged 0-1.5 years out of its own revenues. Until September 1, 1993, 204 rubles were given to working mothers and 150 rubles to non-working mothers. Since then, all mothers have been given a flat rate of 500 rubles. PF also acts as an agent of the Ministry of Finance and distributes a monthly allowance to children between age 1.5 and 16. Until September 1, 1993, the monthly rate was 100 rubles for ages 1.5-6 and 50 rubles for ages 6-16. Thereafter, all eligible children received 500 rubles regardless of age.

6.23 *PF budget.* Since the Ministry of Finance fully finances PF in delivering child allowances (beyond 1.5 years), this part of PF's activities should be ignored on both the revenue and expenditure side (see Table 6.7). The balance is defined as the difference between PF revenues (other than the budget transfer) and its own expenditures (other than child allowances). By this definition (definition B in Table 6.7), there was a small surplus in 1991 and 1992, but a planned deficit in 1993. The money is deposited in authorized oblast banks, but since there are no financial instruments to maintain its real value, it is being eroded by inflation.

6.24 For reasons set forth above, Tajikistan's generous eligibility conditions for social payments cannot be maintained. With regard to pensions, suspending the eligibility of working pensioners and of temporarily disabled category 3 invalids will reduce PF expenditures up to 10 percent. Raising men's and women's retirement age by five years is another possibility, although this may increase unemployment among the young people. In contrast to a certain flexibility in restricting eligibility, there is little room to reduce the size of the pension itself. However, in the longer run, when prices have stabilized and a capital market has developed, PF could serve as a major saver and investor. In a country with a young age structure, even a 20 percent wage contribution by workers should provide sufficient savings for a respectable pension. For example, in Singapore, employers and employees contribute to a personal account that is kept for each insured person and covers old age, work related accidents, and major medical expenses; PF is not used for redistribution. The fund invests its revenues to provide profits, that partly cover its administrative expenses and partly go to the insured. With respect to child allowances, Tajikistan's lump-sum per capita transfers are simple to administer, but do not focus on the poor or take into account the true cost of additional children by using equivalence scales, or provides too strong an incentive to have large families in a country that already has one of the highest natural increase rates in the world.

The Social Insurance Fund

6.25 SIF is responsible for paying for *sick leave*, subject to a doctor's certificate and Trade Union approval. For the first four months, the rate rises from 60 percent of salary, for persons with 0-3 years seniority, to 100 percent, for persons with more than eight years seniority. Thereafter, the person may submit a request for invalid status. SIF also pays for maternity leave. Full wages are paid for 56 days pre-natal and 56 days post-natal (if the birth is abnormal, then 170 days pre-natal and 170 days post-natal), plus three years of baby care upon return to work. Women who do not return to work when their paid leave expires retain the right to return to their old jobs up to three years after the return date. In addition, SIF gives *lump-sum payment for each new-born baby*, amounting to one and a half minimum salaries. It also provides *vouchers* for sanatoria, many of which are owned by the enterprises, for summer camps, and for participating in subsidized sanatoria and sport activities.

6.26 With the disintegration of the FSU, SIF, which is based in the trade unions and previously received a large part of its resources from Moscow at the all-republican level, became dependent on revenues. For funding, it now sets 15.5 percent of the proceeds of the total wage bill tax, of which the center should, theoretically, get 5.7 percent for redistribution, with the rest (9.8 percent of the tax) remaining at the enterprise. At present, very little is actually paid out. Each enterprise-level union is self-funding. There is no information on whether these schemes guarantee sick and maternity leave payments in poorer enterprises, and it is doubtful that a consolidated budget is available at all.

6.27 SIF faces two issues: the generous sick and maternity leave benefits, and the level at which the Fund operates. By any standards, the allotment for sick leave is excessive and breeds absenteeism and low work commitment. A maximum of one – not four – months of paid sick leave is more in line with the rules in most countries, as is six months paid maternity leave, plus a one year job guarantee.

6.28 Given the fragmentation of financial operations, the question becomes which is better: (i) having the employer pay sick and maternity leave; (ii) a tax with the local union paying the benefits; or (iii) transferring both to the republican budget? Direct payment by the employer for sick leave, combined with transferring paid maternity leave to the general budget, may be a solution. Unlike union-paid leave, employer-paid sick leave does not fosters absenteeism. Since short sick leaves are sufficiently widespread, they will not bias employers for or against a specific group of workers. In contrast, transferring responsibility for maternity leave to employers might bias them against employing women. At the same time, maternity leave should not be administered by the local union. Industries differ by gender mix, and since there is no interindustry redistribution some industries will accumulate funds while others will lose them. Paid maternity leave should, therefore, be shortened and its financing, as well of that of the lump-sum payment at birth, should be transferred to the general budget, with a matching cut in the wage-bill tax to reflect the transfer.

The Labor Market

Overview

6.29 In 1990, there were 1.254 million employed persons⁶; of whom 0.8 million were engaged in agriculture, 0.3 million in industry, and 0.3 million in education and health services (see Table 6.8). Since then, substantial changes have occurred. By 1992, total employment declined. Employment in industry and construction decreased, while that in agriculture increased. The decline in aggregate employment reflects the uprooting of refugees and emigration – layoffs were apparently marginal. The rise in agricultural employment has been accompanied by urban to rural migration.

6.30 Though activity in the private labor market is apparent to the visitor, official statistics maintain that, nationally, it is marginal. However, data on family income sources indicate a rise in income (and labor input) from private sales. Private sector work seems to be developing gradually as employees in the state sector or on collective farms increasingly work at their official jobs only on a part-time basis.

6.31 The labor market's main problem is coping with declining job opportunities, and creating jobs for the large additions to the labor force – 3 percent annually. The fall in GDP, shortages in raw materials, fuel and machines all reduce labor demand. But even if these problems are solved, the required annual additions exceed those in most countries, due to the high birth rate.

6. In the country's statistics, employment is sometimes defined broadly and sometimes narrowly. The broad definition (see Table 6.8) includes "others", such as students and "able-bodied persons not employed in the national economy." We use the more customary narrow definition, which includes only those employed in the labor market.

6.32 Even though creating jobs depends largely on the economic regime as a whole, rather than on specific labor market policies, the latter are also significant. Given the ongoing structural change, long-run job creation is possible only if labor is relocated. Since it is impossible to synchronize reductions and additions in employment, some unemployment is inevitable. Creating long-run employment depends on two sets of factors in the labor market: i) the ability of the labor force to relocate (i.e., its ability to retrain and internally migrate); and ii) the economy's ability to sustain transitional unemployment (i.e. to allow necessary layoffs) and set up an unemployment compensation policy. The next sections address these issues.

Table 6.8: Employment by Sector, 1980-1992 (thousands)

Sector	1980	1985	1990	1991	1992	Annual Growth Rate	
						1980-90	1990-92
Agriculture and Forestry	618	724	833	881	892	3.0	3.5
Industry	207	241	261	257	250	2.3	-2.0
Construction	104	118	161	148	132	4.5	-9.4
Other Material Sphere	170	197	208	205	177	2.1	-7.5
Health	66	79	104	106	110	4.7	7.4
Education	128	150	189	197	200	4.0	0.2
Other Non-Material Sphere	149	173	182	177	147	1.2	0.2
Other	514	592	680	683	n/a	2.8	n/a
Total	1442	1681	1938	1970	1908	3.0	0.6

Source: Ministry of Labor.

6.33 Prospects are good for the labor force's general flexibility to restructure. The labor force is young and reasonably well educated, with 77 percent having ten or more years of schooling. Recently, however, massive out-migration, in which a large number of highly qualified employees have left mostly for other FSU countries, has badly damaged the country's human resources capacity. To facilitate retraining, a wider retraining network is required.

Training Facilities

6.34 At present, retraining facilities are very meager. Facilities are administered by Employment Centers (ECs) for the benefit of the unemployed. No facilities exist for the employed and for those outside the labor force. Courses last up to 6 months, but the total number of trainees is small. In 1992, there were 1531 trainees; in 1993 (January to September), there were 2537. Trainees get a stipend, set at minimum wage level. Until this year, courses were opened only to fulfill specific requests of enterprises. Graduates were assured a job in these enterprises. Starting this year, the ECs opened courses for accountants and construction workers that were not commissioned by enterprises. The scale of these courses, however, is small.

6.35 The ECs should consider expanding open-ended training courses, that would admit not only the unemployed, but also, for a fee, the general public. Night courses might be appropriate. English, computer skills, accountancy, and marketing would be worthwhile offering. Currently, there is no network, other than the ECs, capable of handling adult retraining courses. In time, private schools may partly take over this function. Training courses are especially important in view of the recent brain drain. It is important to involve employers in the process of determining what training should be done, but training should not be restricted to what is specifically commissioned by the enterprises.

6.36 *Residence Permits.* At present, the old Soviet system, requiring a residence permit from each citizen, prevails. Since it prevents efficient labor allocation, in the medium-term, it may be desirable to cancel residence permits.

Unemployment

6.37 Despite the recent fall in employment, official unemployment as reflected in the EC's statistics is low – less than 2 percent of the labor force.⁷ The apparent lack of unemployment may be attributed in part to definitions and data collection, but is also traceable to the rural nature of the labor market, which has been intensified by migration from towns, and to the fact that unemployment may be minor in both villages and towns because of family fallback. As in many rural and large-family societies, under-employment, rather than unemployment, may be the prevailing form of labor under-utilization.⁸ The difficulties encountered by enterprises in dismissing workers offer another reason for the low unemployment.

Layoff Practices

6.38 At present, dismissing workers is very costly to enterprises. Normal dismissals require the consent of the relevant trade union. Under the 1991 law for the Protection of Unemployed Population, shut-downs or massive lay-offs by an employer require two-months advance notice to the Employment Center. In this period, the EC tries to arrange for loans, or for Government procurement of the enterprise's product.

6.39 After dismissal, the 1993 employment law, which applies to persons employed at least nine consecutive months prior to their dismissal, requires the enterprise to pay dismissed employees one month's salary. Those who do not find another job continue to get their salary from the enterprise for up to a maximum of 3 months after dismissal. Enterprises that do not have the means to pay their ex-workers get loans for this purpose.

The Employment Fund and Employment Centers

6.40 Prior to 1991, there was a network of labor bureaus whose sole function was to place job seekers. By the 1991 Law, the labor bureaus were renamed Employment Centers (EC) and undertook, in addition to their traditional role, the following functions:

7. EC defines as unemployed all persons registered in ECs who did not find a job within 11 days of registration. These persons are entitled to unemployment benefits and make up the official unemployment figure on and are identified as "registered unemployed". Their estimated number on September 1, 1993 was 13,673. The figure includes both those actually receiving benefits and those who, in principle, are entitled but do not currently receive them (e.g. those unemployed for more than 6 months). Registered unemployed include those entitled to benefits who are training, retraining, or working in public works. This definition of unemployment does not include job seekers who are not entitled to unemployment benefits, such as new entrants or re-entrants into the labor market, even though they are not employed and are looking for a job through the EC. The more comprehensive grouping includes all unemployed who seek jobs through ECs and is labelled in EC statistics as "jobless persons". On August 1, 1993, this group totaled 37,222 persons. All together, registered unemployed and job seekers constitute only 2 percent of the labor force.

8. Another form of hidden unemployment is an extended leave without pay, where the person is formally counted as employed. This practice has been expanded recently.

- a. payment of unemployment benefits;
- b. training and retraining the unemployed;
- c. public works for the unemployed; and
- d. refugee services. Recently the EC network undertook to work with the country's refugees. Activities include registration, providing accommodations and transportation to their destinations, and distributing humanitarian aid.

6.41 ECs operate under the Ministry of Labor, with a special deputy minister in charge. They are financed by the State Fund for Employment Support (SFES), established by the 1991 Employment Law, as an independent financial institution. The Fund is the major financier of the ECs, and has only few activities, such as research. Its budget revenues are derived from two sources: i) a 1 percent tax on the wage bill on all enterprises regardless of ownership (except public sector non-profit entities, including ministries, which are exempt from this tax); and ii) transfers from the general budget, which are not registered in any ministry's budget, but rather as a special item.

6.42 Because only a small number of people were eligible for unemployment benefits in 1992, the Fund had a surplus of over 80 million rubles, most of which was kept in the regions. A surplus was expected for 1993 as well. Although these surpluses would allow the Fund to act as a saver or lender; at present, the sums are held in banks.

6.43 *Unemployment Benefits.* After the first three months of unemployment, presently paid by the previous employer, the EC takes over, and pays those who cannot find a suitable job an unemployment benefit amounting to the prevailing minimum monthly wage (4000 rubles in October 1993) for up to three additional months. The same benefits are extended to employees who quit voluntarily if they worked nine consecutive months before leaving.

6.44 The 1993 Employment Law also authorizes benefits for other categories of unemployed, including entrants and re-entrants into the labor force, persons newly released from the army, and those who worked less than nine months in the previous year. The EC has proposed that benefits be extended to all of these categories.

6.45 The coverage of the present rules seems too wide in terms of the categories of eligible unemployed, and too narrow in terms of the benefits granted to those laid off after a nine month steady employment. Tajikistan cannot afford benefits to employees who voluntarily quit or enter or reenter the labor force, and they should be made ineligible for benefits.

6.46 *Public works.* Under the ECs, the scale of public works is small, and many of the unemployed are reluctant to undertake them. This is unfortunate, in view of the need for post-flood road and bridge repairs and the low import component of such jobs. However, in implementing public works, it is important to keep the wage rate low in order to avoid inappropriate disincentive effects.

Recommendations

Social Sector

6.47 Social policy should be designed to achieve three targets: i) cut the share of social expenditures in line with the availability of budgetary resources; ii) create an insurance system for old age and health, that may, in the longer run, increase private saving and investment, as well as achieve social purposes; and iii) cut wage taxation to a maximum of 20 percent of the wage bill. While expenditure and tax cuts may be implemented immediately, the creation of insurance programs should be coordinated with measures aimed at establishing a financial market.

6.48 *Short-term steps.* On the expenditure side, during 1994-95, the World Bank suggests that steps should be taken to cut eligibility to the various programs: i) category 3 invalids and working pensioners should not be eligible for pensions; ii) the minimum pension age should be raised over time; iii) unemployment benefits should be paid only to persons employed regularly during the past year; iv) paid sick-leave should be cut to one month per year; v) the poverty line should be defined and, to the extent fiscally feasible, people should not be allowed to fall below it; and vi) in view of the need for reconstruction of the roads and bridges the scale of public works should be expanded.

6.49 For the remaining eligible population, several changes in payment scales should be made: More support should be provided to qualifying families for child allowances, diverting part of the sum saved by not paying small families, and a sliding scale of payments reflecting the decline in marginal cost per extra child should be implemented. Paid maternity leave should be cut to six months, instead of a full year. Per capita payments to compensate for rising bread prices should be targeted and scaled back. Sick leave payments should be cut to a maximum of a month per year.

6.50 As long as no insurance network is established and hyper-inflation persists, no attempt should be made to establish personal accounts, since their value will be eroded. Likewise, no general reserve programs requiring extra taxation should be implemented. The Pension and Employment Funds should continue their present policy of paying a minimum sum to everybody. Persons who receive two or three minimum pensions should have that privilege cancelled. The special fund for ex-KGB and Ministry of Interior employees should be abolished. The Pension Fund should increase its efforts to transfer money from the relatively wealthier to the poorer oblasts.

6.51 In the short run, two institutional changes are called for: transferring responsibility for sick leave payments to the employer; and transferring maternity leave and child allowances for children under 1.5 years old to the general budget.

6.52 Reducing wage-bill taxation can be achieved by restricting eligibility for pensions and by the institutional restructuring suggested here. Estimates put the required new taxes at around 20 percent of the wage bill.

6.53 *Longer term structural changes.* Several programs, which until now have been financed through taxation, should become self-financed on an insurance basis, and funded by employer and employee contributions. These include pension payments for work-related accidents, and partial health insurance. Contributions should be administered by an extra-budgetary fund. It is recommended that the Pension Fund cover insurance against old age, low income, work-related accidents, and health insurance.

6.54 All other functions that act as a safety net, regardless of contribution, should be transferred to the general budget. These include child allowances and minimum pensions to persons not contributing to pension funds. Maternity payments are a border-line case: they may be addressed as an insurance item for working mothers or included in the general budget.

Labor Markets

6.55 The following recommendations aim to improve the labor market situation:

- The existing vocational schools should be used effectively and effort should be made to establish a retraining network that serves not only the unemployed, but also the general public. Suitable organizers of such a network are the Employment Centers and various Institutes of Education.
- Artificially continuing employment in defunct enterprises through special loans obtained via Employment Centers should be discouraged.
- Severance pay should be reduced and unemployment benefits should be paid by the Employment Centers from the first month of unemployment, and extend up to a year.
- Efforts should be made to recruit public-works employees from the unemployed and underemployed.
- To facilitate labor reallocation, training and retraining courses for the general public should be expanded. In the medium-term, residence permits should be abolished.

SECTORAL TRANSFORMATION

Systemic reform measures should be formulated in close coordination with sectoral reforms if the overall reform program is to succeed. Sectoral reforms should give priorities to high productivity sectors that are capable of leading the economy out the current economic crisis. Reconstruction and improvement of the infrastructure damaged during the civil war and floods is also necessary to ensure a supply response in the productive sectors.

The agricultural sector could become a leading recovery sector. Chapter 7 presents the priority policies in agriculture as follows: (i) providing economic incentives to increase efficiency through price liberalization; (ii) withdrawing the state from direct distribution of agricultural input; and (iii) creating accountable and responsive economic agents by restructuring state and collective farms.

Industrial and mining sectors could also play an important role. Chapter 8 maintains that serious consideration should be given to limiting price regulations to special cases of monopoly; upgrading, improving, and maintaining industrial plants; and developing a mining law and a conducive environment to attract foreign direct investment into these sectors.

Various aspects of the energy sector will be the topics of chapter 9. The immediate priority should be to obtain essential import requirements, including energy, food, and other basic industrial inputs. Efficient pricing of energy and efficient use of the hydro-power base are among the medium-term policies discussed in this chapter.

Infrastructure is crucial for Tajikistan's development. Chapter 10 discusses the importance of reducing and ultimately eliminating regulations in creating incentives to the transport and telecommunication sectors. Immediate reconstruction of the telecommunication system in Dushanbe and the southern part of the country is a short-term priority. In the medium term, promotion of the private sector in both the transport and telecommunication sectors could play an important role.

Educational and health have been provided free to every citizen. But, as discussed in Chapter 11, the Government cannot continue these services because of budget constraints. Immediate priorities are to expand the number of teaching hours, increase class size, streamline the teaching force, and increase the private sector's role in both education and health.

Chapter 12 discusses the importance of combining economic reforms with appropriate environmental considerations. Developing waste water treatment systems, constructing proper drainage systems and adopting regulations to minimize the impact of industrial pollution are among the immediate necessary measures.

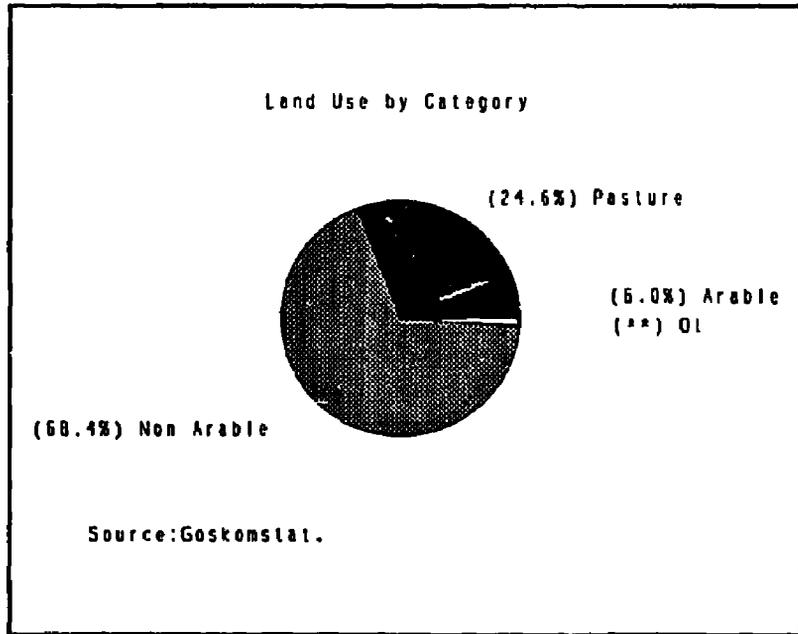
CHAPTER 7

AGRICULTURAL SECTOR

The Setting

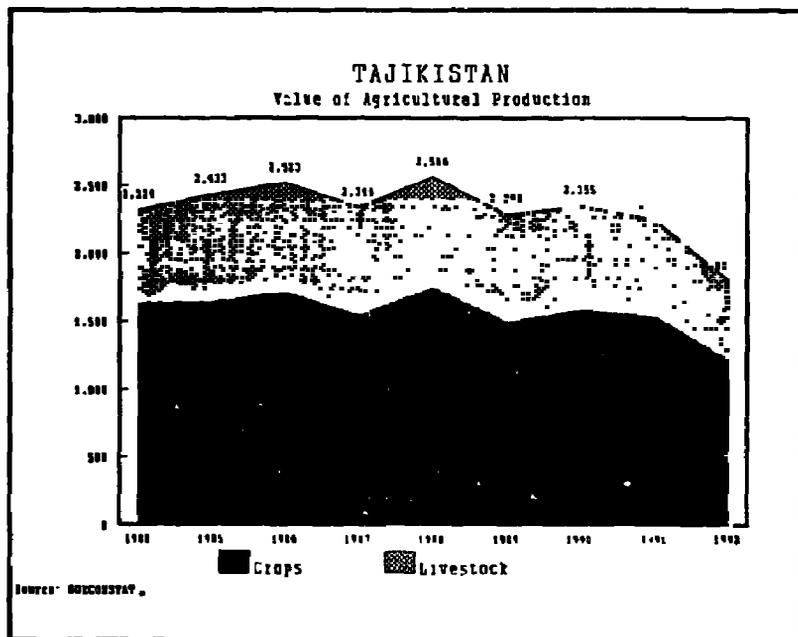
7.1 Tajikistan is a mountainous, landlocked country of 143 thousand square kilometers (approximately the size of Greece), of which 7 percent is arable (see Figure 7.1). Crop production is concentrated in the irrigated valleys along the tributaries of the Amu and Syr Darya rivers, which originate in Tajikistan. The different regions of the country are separated by high mountain ranges and are often cut off from each other during the winter months. The Pamir mountains in the southeast are part of the Himalayan chain and are among the highest mountains in the world.

Figure 7.1



7.2 The agricultural sector dominates the economy, accounting for a large share of the NMP. Although 4 million people live in the rural area, because of the large family size, 45 percent of the labor force is engaged in the agricultural sector. Since 1989, agricultural production has declined considerably. Within the sector, crop production accounts for approximately two thirds of the gross value of output in constant terms, of which half is cotton (Figure 7.2). For 1993, there was a large increase in the gross value of agricultural output in nominal terms because of price increases. But the net value of agricultural output in real terms decreased, due to increases in input costs, fuel shortages and unfavorable weather. Current price levels for inputs and outputs are still below international prices; substantial adjustment will be required before the economy is integrated into the international marketplace.

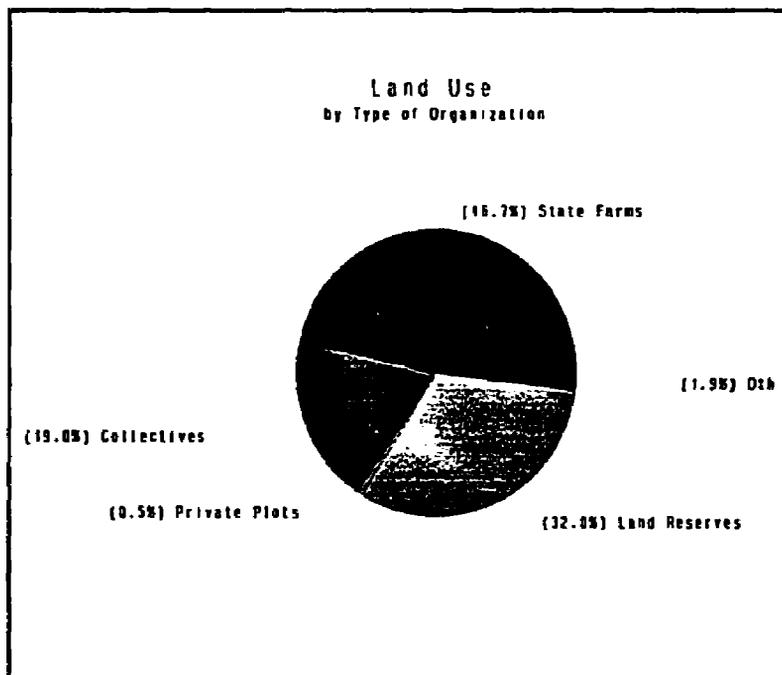
Figure 7.2



7.3 A mechanized agricultural sector has been developed in Tajikistan with relatively high levels of production compared to neighboring countries. Production growth occurred at a high cost, however, in both human and monetary terms, as well as in foregone opportunities to produce and consume other goods and services. The agricultural sector must now become competitive. This transformation is constrained by the structure and incentive system governing production and processing developed over the last 75 years. The task of moving agriculture toward a market oriented system has also been made more difficult by the rupture of economic ties with the other Republics and by the Civil War. Because of broad changes now taking place in Russia and the other Republics, agriculture will have to adjust and become more market-oriented. There has been only limited change so far.

7.4 The state still dominates the sector. Collective and state farms control 9.6 million hectares of land, but only 854 thousand hectares are arable (see Figure 7.3). Under the FSU, neither managers nor workers on state or collective farms had strong incentives to improve productivity, reduce costs or preserve capital and land. Regulated prices often penalized low cost producers. Inputs were provided according to the central plan, with farm managers having little choice over quantities or quality received. Finally, the large degree of specialization dictated by the Soviet system left the economy heavily dependent on cotton, while the FSU provided grain and other food imports. Because of Tajikistan's dependence on outside sources, imports and food security remains a principal concern.

Figure 7.3



7.5 Production of cotton and other key crops is still controlled by state orders (see box 5.1). Production quotas and prices are set by the state. However, state and collective (S/C) farms are allowed to retain a small, specified percentage for their own use. For non-controlled crops, prices are set on a cost-plus basis. Other than production from family plots, the only move toward privatization has been the development of schemes to lease land on some of the S/C farms to individuals.

The Agricultural Sector

7.6 **Farm Structure:** In 1991, there were 206 Collective farms (Kolkhoz), 362 state farms (Sovkholz), and 19 inter-enterprise farms (Meshkov). Out of Tajikistan's 14 million hectares, these enterprises control 9.6 million hectares, of which only 854,000 hectares are arable. Because of limited rainfall, 718,000 hectares are irrigated. In addition to the arable land, there are 3.5 million hectares of permanent pasture and hayfields, mostly in the more mountainous areas. In 1991, private plots and land

allocated to state farm employees totaled only about 75,000 hectares. Allocations of land and leasing have led to some expansion of areas controlled by individuals, but no figures were available as of November 1993. In 1992, the total cropped area was 812,000 hectares, of which 698,000 hectares were irrigated. The non-irrigated areas were principally devoted to grains and fodder crops, as well as some orchards and vineyards. Irrigated areas are devoted to cotton, fodder crops, potatoes, vegetables, melons, vineyards and fruit.

7.7 *Cotton* is still the major cash crop, occupying 42 percent of the irrigated area and 35 percent of total cropped area. Per hectare yields of cotton had been the highest in Central Asia but have since fallen considerably because of poor weather and lack of fertilizer, pesticides and fuel. Cotton production in 1992 and 1993 was severely affected by civil war, floods, weather and the economic dislocation caused by the breakup of the FSU. The reported production of 515,000 tons of raw cotton in 1992 was almost 38 percent below 1991. Production in 1993 was better. Historically, about 20 percent of cotton production has been of good quality extra long staple. Before the breakup of the FSU, most of the cotton was either used by the FSU or exported. Tajikistan exported some lint cotton (fiber) internationally for the first time in 1993 for US\$1,100 per ton. The country's cotton exports outside the FSU are hampered by long distances to market and the FSU grading system, which does not meet international standards.

7.8 *Grains:* Tajikistan is a large net importer of grains, both for human consumption and for livestock. Most grain is produced on large rainfed state farms, with only limited irrigated areas devoted to grains (mostly corn feed for livestock). In 1992, 264,000 hectares devoted to grain produced 257,000 metric tons, clean weight. Wheat production was 133,000 tons – about one third of requirements. Except for corn, yields historically have averaged about 1.1 ton per hectare. Tajikistan also normally produces 25,000 to 30,000 tons of rice annually, though production in 1992 was down to 20,000 tons.

7.9 *Vegetables, Fruits and Vineyards:* Under the FSU, Tajikistan was known for its fruits, vegetables, grapes and wine. The country's soil and climatic conditions are well suited to produce high quality horticultural products. However, because of distance from markets, Tajikistan will need to improve quality and concentrate on high value products. Poor post-harvest handling practices result in high shipping losses. Because wine bottles and bottling capacity are limited, much of the wine was shipped in bulk to the Republics of the FSU. Domestic supplies of fruits and vegetables are plentiful and relatively inexpensive.

7.10 *Livestock:* In 1992, there were 3.0 million head of sheep and goats, 1.2 million head of cattle (of which 531 thousand are dairy cows), 56,000 hogs, and 48,000 horses. Approximately three fourths of the cattle, almost half the sheep, and most of the goats are individually owned. Although, hogs are raised primarily on the S/C farms, numbers are decreasing rapidly. Large-scale poultry production is carried out by the state and is highly subsidized. Poultry numbers have declined from a high of about 7 million birds to around 2 million birds, due to lack of feed and vaccines. Tajikistan has been largely self-sufficient in meat and dairy products. The production of silk cocoons and honey is important for providing household income.

7.11 *Prices and distribution:* While some prices have been freed, the state still sets procurement prices. Distribution of inputs and outputs is still very much under state control through the state order system, which has been tightened in recent months. The Ministry of Economy, under the

direction of the Council of Ministers, is responsible for establishing the level of state orders and prices. Under the old system, each enterprise was given a quota based on past production levels, and the enterprise was provided with the inputs necessary for production. With the breakup of the FSU, the system has broken down because the state can no longer ensure that inputs will be provided or that output destined for other republics will be accepted or bartered. However, the distribution system for collective farm markets still operates in most cities and towns. While not as full of goods as other such markets in Central Asia, they nevertheless provide an outlet, at market prices, for production from private plots, collective farms and emerging private farmers operating on leased land.

7.12 *International trade* is controlled by the Government, which has designated several different organizations for carrying out trade. In turn, these organizations can license other enterprises and organizations to undertake individual transactions. Until recently, most trade was carried out with Russia and other republics of the FSU through barter or clearing arrangements. The principal exports are cotton, tobacco, grapes, wine, other fruits and vegetables. In 1993, the Cotton Ginning Organization made the first international sale of cotton, brokered by a U.S. firm. Exports of grapes, wine and other fruits and vegetables, both fresh and processed, to the FSU have declined substantially since the breakup. Approximately three fourths of cereals, all sugar, and many processed food products are imported from other republics, even though Tajikistan exports fruits and vegetables to them. The agricultural sector is also dependent on imports of petroleum products, fertilizer, agricultural chemicals, feed and machinery, but produces the hydropower used to operate the irrigation system.

Short-Term Issues and Recommendations

7.13 The problems of the agricultural sector cannot be solved under a command economy. The policy changes needed to realize the potential of the agricultural sector challenge deeply rooted political beliefs regarding the role of the state and its ownership of land and industry. However, the potential impact of reforms is great. This has been demonstrated in China, where the restructuring process began in one of its poorest areas and then spread rapidly to the rest of the country. China's introduction of the household responsibility system, price liberalization and reduction of state orders and quotas resulted in large gains in agricultural output from 1978 to 1984.

7.14 Because Tajikistan has a large rural population, the agricultural economy must be transformed with little disruption in production of key commodities if incomes are to be maintained in the short run. At the same time, there must be parallel development of other institutions required for developing a market economy and price liberalization. The Government of Tajikistan should begin the transformation to a market economy by taking the following priority policy actions:

- a. *Establishing Necessary conditions for Private Sector to Support Services for Marketing Outputs and Supplying Inputs:* One of the most critical priorities must be a sectoral policy that provides the right signals for establishing strong support services. This policy should include the withdrawal of the state from direct distribution of agricultural inputs; the privatization of most processing, wholesale, retail trade and small-scale transport operations; and reform of agricultural credit, research, information and marketing services.
- b. *Improving the Incentive Structure:* Equally important is providing economic incentives to collective, state and inter-enterprise farms to increase efficiency through price liberalization, eventual elimination of state orders,

demonopolization of trade and the gradual removal of non-tariff barriers to foreign trade in agricultural products.

- c. *Decentralizing Decision Making to the Lowest Level Possible:* The final step is to restructure state and collective farms, and other agribusiness enterprises, in a way that decentralizes decision making to the lowest level possible. This step is needed to enable state and private agribusinesses to respond to market demand and price opportunities.

7.15 During 1993, the Government's policy was to tighten controls rather than provide more incentives to producers. Cotton delivery quotas were increased from 70 percent to 90 percent of production, with similar changes for other commodities. The official rationale for this policy change was to provide the Government with more resources to obtain necessary imports and stabilize the economy.

Medium-Term Issues and Recommendations to Sustain Output Expansion

7.16. Since Tajikistan's economy will be dependent upon agriculture for some time, the development of sustainable land use practices is of prime importance. For the irrigated areas, this means improving yields, improving on farm water management to minimize water waste, avoid waterlogging and salinization, and develop environmentally sound practices for using fertilizers, pesticides and other agricultural chemicals. On rainfed areas and pasture land, management practices are required that maintain productivity and avoid land degradation.

Box 7.1: Visit to a Cotton Gin

A visit to a cotton gin near Dushanbe showed that the gin was similar to others in Central Asia. The cotton harvesting season was in full swing and the gin was in full operation.

Because of weather and other factors, the cotton harvest was about one month delayed and less cotton than normal had been delivered. The cotton receiving area had a number of raised concrete platforms where cotton was stacked. When a stack was completed, it was covered with tarpaulins until ginned. When the cotton arrived, samples were taken and it was segregated according to grade, using visual methods. While the standards established by the FSU are fairly well defined and the graders are knowledgeable, the cotton did not seem to be rigorously graded. Since the cotton picked first is the best quality, the better cotton will be on the bottom of the stack, with cotton picked later on top. When the cotton is ginned, the stack is used vertically, thus blending the cotton from top to bottom. While this practice produces a consistent grade, the lint produced will be of varying length; when the cotton is sold internationally, the shortest length fibers establish its grade, resulting in a lower classification and price than if the cotton were graded to produce uniform lengths.

The ginning facility was clean, dust free and well maintained. There were double rows of saw gin stands. The second produced linters (short fibers) from the second pass of the seed cotton. Saws were sharpened as required and replaced at the proper times. The ginned cotton was then wrapped with cotton cloth and baled using wire. Normally, imported steel bands are used, but these were not available.

The ginning out-turn for hand picked cotton was 32 percent cotton fiber, 59 percent seed and the remainder linters and waste. Except for cotton especially grown for planting seed, the cotton seeds were sold to the oil pressing factory. The ginning enterprise pays the farmer for the seed cotton and is allowed a 10 percent commission for ginning; any losses are made up by the Government.

7.17 There appears to be substantial room for increasing agricultural output from existing crops in the short run by using improved crop varieties, on-farm water management, integrated pest control and better production techniques. Current yields of most crops are below those attained by other countries with similar climatic and agronomic characteristics. For example, former levels of cotton production could be attained with 20 percent less crop area if yields were increased to those obtained in other areas with similar climatic conditions (e.g. Australia, Israel, Syria and, in the U.S., Arizona and California). Similar increases are possible for grains and fodder crops using proven technology and existing varieties and genetic materials available from international agricultural research centers. Efforts should be made to link Tajikistan and these research centers.

7.18 There is also considerable room to improve livestock production of which almost half -- other than poultry -- is privately owned. Output per unit of inventory is low and much higher productivity could be obtained with better livestock management practices. Within the livestock sector, productivity of small ruminants could be greatly improved. As for the beef and dairy sector in 1991, only milk production was profitable on collective farms. Once prices adjust to market levels and subsidies are reduced, there will be considerable restructuring of cattle production, with only the more efficient units likely to survive. Since most cattle operations are dual meat and milk operations, specialization is also likely to occur. Poultry operations were the most inefficient (losses of up to 70 percent) and are not likely to survive as presently organized. A thorough review of the livestock sector is needed to determine where the comparative advantage lies and how the state livestock sector should be privatized.

The Changing Role of the Government

7.19 An important step in moving toward a market economy is separating governmental functions from commercial functions now provided by state and collective farm enterprises and ensuring that local governments have adequate sources of revenue to take on these functions. At the national level, in the agricultural sector, while the Government should provide public goods investments and basic infrastructure, the Government must stop controlling and directing production, distribution and making pricing decisions. The Government's role in a decentralized market economy is to regulate the market, promote competition, support development of new technology and provide market information. Thus, it is important that a functional Ministry of Agriculture be molded from the disparate entities and branches of ministries that came from the FSU.

Prices and the Economic Environment

7.20 A key requirement for long term development of the agricultural sector is prices that accurately reflect the relative cost of commodities both locally and internationally. Some increase in agriculture production can be achieved in the short-term through price liberalization alone. Even if there is a shortage of fertilizers, farmers will take better care of their plots if they know they will receive a good price. There are also severe shortages in such key areas as fuel, fertilizer, agricultural chemicals, seeds and spare parts, which will have a large impact on the 1994 crop if they continue. The main impact on the 1993 crop was to slow the harvesting of cotton and winter fodder. The winter grain crop was reduced by at least one half because the S/C farms were unable to prepare the land for planting.

7.21 Based on an average exchange rate in September of \$1.00 = 1,500 old rubles, most agricultural commodity prices are still below world market prices. While the initial procurement price was fairly close to the international price at the time it was established, adjustments in state purchase prices lag behind overall price increases. For example, the average procurement price for raw cotton was raised the last week in October 1993, from rubles 250/kg. to 350/kg. This level is still below the equivalent border price of \$1.00/kg. for lint cotton, which would translate into a raw cotton price of around rubles 800/kg.¹ Input prices have also increased and are beginning to approach international price levels, particularly for fertilizer and chemicals.

7.22 Under the Soviet system, food prices were kept artificially low thereby squeezing agriculture. Further development of the agricultural sector will be difficult without commodity pricing parity with world markets, macroeconomic stabilization and new export market development. Inflationary conditions have distorted relative prices, so that it has become difficult to determine which investments would have a positive return. The successful development of viable agribusinesses and transformation of the agricultural sector depends upon a favorable environment that can ensure the long-term viability of privatized enterprises and services.

Processing and Distribution

7.23 Marketing and distribution of agricultural commodities is dominated by state enterprises. In 1993, the state purchased all the cotton, silk and karakul pelts. State purchases are less than one half of production only for vegetables, fruits, milk and meat. The state purchases only limited quantities of grain because most production is used on the S/C farms for feed or for individual consumption. There are two channels of distribution: state managed chains of retail stores under the Ministry of Trade, which serve the urban areas, and consumer cooperatives (Tajik Matlubot), which serve the rural areas. The quantity of goods in state shops is often limited and the quality average, in addition, a number of free markets are run by consumer cooperatives and municipalities. Consumers also receive commodities through their work place and non-market channels. Private shops or sections within stores that have been rented to private retailers are beginning to come into existence. Road side sellers sell a variety of fresh fruits, vegetables and other goods, with prices usually higher than in state shops.

7.24 The development of a modern consumer oriented marketing system will require service oriented marketing and distribution firms linked by modern communications and information systems and selling goods of consistent and known quality. Price liberalization by itself will not produce this result since marketing and distribution is still under state control. Privatization of the retail sector is the easiest step that can be taken to improve marketing. However, of more importance is the development of wholesale markets that are not dominated by the public sector enterprises already operating in this area. Development of the distribution system requires: i) a privatization strategy that allows free entry of firms; ii) a regulatory framework that provides for food safety, standardization and quality control; and iii) support services such as market information, food inspection, financial services, training and technical assistance.

7.25 Farmers' markets are playing an increasing role in marketing and distribution and Government support should be given to expanding their role. Consideration should be given to developing modern wholesale markets near Dushanbe and Khojand that are centrally located near the

1. Based on an exchange rate of \$1.00 = Old Rubles 2,500; a border price of \$1,000/ton lint (fiber) cotton; a 30 percent conversion rate from seed cotton to lint (fiber) cotton; and value of cotton seed equal to ginning cost.

main highway and rail line. Undeveloped space could be used to expand the market area and accommodate access roads, unloading docks, warehouses, and cold storage facilities.

7.26 Agro-processing is carried out by several different organizations. The Ministry of Cereal Products imports grains, wheat flour, and animal feeds, manufactures flour and animal feed, distributes flour; and operates bakeries. The Ministry of Agriculture manages the meat and dairy processing plants. Other food processing is managed by the Committee for Food and Processing Industries (Tajik Pishchprom) under the Council of Ministers. The Cotton Ginning Organization, also under the Council of Ministers, has responsibility for ginning and marketing cotton. The Rural Cooperative Association (Tajik Matbulot) also has some processing facilities, as do some collective and state farms.

7.27 Except for cotton ginning, most agro-processing plants are small and the processing technology is relatively unsophisticated. Only a limited amount of processed food of modest quality is produced, though Tajikistan does export some fruits and vegetables. Losses of fresh fruits and vegetables are high because of poor handling and lack of cold storage facilities. Meat and dairy processing plants generally produce a safe product but need to be substantially upgraded to improve quality.

7.28 The cotton processing subsector is the most developed and integrated because of the high priority placed on cotton production (see Box 7.1). Because of the variety of agricultural crops that could be grown, substantial potential exists for developing the agro-processing industry in other areas. However, because of Tajikistan's location and the similarity of climate conditions to other Central Asian republics, potential areas for investment must be carefully evaluated in terms of markets and alternative suppliers. Since the FSU republics are likely to be the major market for Tajikistan's products, predicting potential demand and likely prices after structural adjustment will be a difficult task. Until the direction of adjustments becomes clear, investments in this area should be carried out only by the private sector and only when there is a clear comparative advantage.

Infrastructure and Services

7.29 *Transport:* Because of Tajikistan's location, transport costs are important in determining which commodities have a comparative advantage. Under the FSU, transportation services were heavily subsidized and geared long distance transport was geared largely to railroads. Because Tajikistan is very mountainous, building, maintaining and keeping roads open during the winter months is costly. The current shipping cost by rail from St. Petersburg to Dushanbe -- a distance of approximately 3,500 kilometers -- is about \$30/ton for bulk commodities, such as cotton and grain. This rate can be expected to increase as energy prices increase to international levels. Roads within Tajikistan are generally adequate for moving commodities to market.

7.30 Road transport services are provided by state and collective farms; Concern Madad, the Ministry of Agriculture's food processing enterprises (eg. milk); and the State Transport Agency under the Ministry of Trade. There are only a few independent truckers. Other than cotton, which is wrapped and baled, shipping losses are high for perishables because of poor packing and handling practices.

7.31 In Western economies, the most efficient means of moving perishables over long distances is long haul road transport. These low cost road transportation services are provided by a large number of independent trucking and service firms. Improvements in long haul capability by rail are also needed to reduce delivery costs and losses for cotton. Because of Tajikistan's distance from its markets, the most efficient form of transportation is likely to be a combination of short and long haul road transport and rail, using efficient transfer terminals and containerized cargo.

7.32 **Recommendations:** Private ownership transportation services should be legalized and regulated. The breakup of mega trucking enterprises and the spinning off of transportation units of various Ministries, Concern Madad, economic enterprises, municipalities and S/C farms into independent companies should be encouraged. Even with these steps, there will need to be large investments in road and rail improvements; all sizes and types of trucks; service facilities; logistics management; long haul tractor-trailers and refrigerated trucks.

7.33 **Supply of agricultural inputs:** The input distribution structure reflects the FSU's policy for highly centralized, interdependent and specialized production. Thus, Tajikistan is totally dependent on imported inputs except hydro-electric power and small amounts of urea produced by an outdated plant. Two organizations are responsible for providing inputs: Concern Madad, which was the Republican branch of Agroprom; and Tajik Agrokimya. These have primary responsibility for supplying all agricultural inputs to S/C farms and the rest of agricultural sector. Tajik Agrokimya handles fertilizer and agricultural chemical sales and application. Most pesticides are imported, but some agricultural chemicals are exported. Pesticide management seems reasonably well controlled because it is the responsibility of this single special service. Tajik Agrokimya decides on import levels, which fertilizer and pesticides should be used and – based on availability of fertilizer –allocates supplies to S/C farms and other enterprises.

7.34 **Fertilizer:** Average fertilizer application rates were relatively high prior to the breakup of the FSU. In 1992, the average application of mineral fertilizers (nutrient basis) for all crops was 151 kg./ha. Crops with the highest level of fertilization were: cotton, at 268 kg./ha. (158 N, 83 P₂O₅, 27 K); corn for grain, at 320 kg./h; vegetables, at 467 kg./ha.; and rice at 217 g./ha. The fertilizer application rates for cotton are within the range of those for California and Arizona, which produce irrigated cotton under similar climatic conditions. Without more information on actual field conditions and fertilizer response levels, it is not possible to determine whether these rates were economical or not. Fairly high levels of organic fertilizers were used on potatoes, vegetables and corn. More careful use of mineral fertilizers can be expected because of their high cost and limited availability. For 1993, the limited availability of mineral fertilizers has affected crop yields.

7.35 **Agricultural Chemicals (Pesticides, Herbicides, Defoliants, Growth Regulators, etc.):** Application rates of pesticides on cotton have been reported to have come down considerably. Also, because Tajikistan has invested heavily in specialized cotton production, which requires the heavy use of agricultural chemicals, there will continue to be a high demand for these products. At this time, the Ministry of Agriculture is not projecting major changes in current agricultural practices. However, serious efforts are being made to reduce the use of agro-chemicals and develop integrated pest management systems using biological pest control methods. Wide-scale introduction of integrated pest management is hampered by lack of funding for laboratories and personnel training. The use of hazardous defoliants has been curtailed and is no longer applied using aerial methods.

7.36 Because of limited information with which to evaluate economically and environmentally sound cropping intensity and input requirements, cooperative arrangements should be established with Western research institutions with similar agronomic conditions. The goal should be to review and compare existing research results, develop an updated methodology that incorporates economic and environmental factors and undertake new field trials using the updated methodology.

7.37 **Machinery and Equipment:** Concern Madad is responsible for the distribution and repair of agricultural machinery. In 1991, there were 37,000 tractors of all types, one for every 22 hectares, and 3,000 cotton picking machines, one for every 95 hectares. In 1991, Tajikistan received almost 2,900

new tractors. This number declined by about one half in 1992, and even fewer tractors have been delivered in 1993. Deliveries of other machinery have declined in a similar manner. A visit to a regional machinery repair facility and parts depot showed that only a few tractors in for rehabilitation and on which work had halted because of lack of spare parts.² Little activity was observed and only a few pieces of new machinery were present. The parts depot had a number of empty bins for needed parts, while at the same time, other bins were full of items not in great demand. Agreement has been reached to provide Tajikistan with a number of grain harvesters. The prices quoted for tractors and grain combines, while substantially higher than previously quoted prices, still were well below U.S. prices for similar equipment.

7.38 Most machinery is energy inefficient and larger than appropriate if farm sizes are reduced. Over the longer term, this equipment will need to be replaced with modern, energy efficient equipment suited to a restructured agriculture. The key to improving the farm machinery efficiency is to develop an independent dealer and service network that maintains adequate repair facilities and supplies of spare parts. Because of emphasis on machine production under the FSU, the ratio of spare parts inventories to new equipment has been much lower than that found in most market economies. Privatization of repair depots and promotion of independent repair services is the most efficient way to provide farm machinery services. Even in developing countries, there are usually a large number of private repair facilities, many with the capability to fabricate otherwise unavailable parts. A similar service sector should be promoted to help develop Tajikistan.

Irrigation and Water Management

7.39 While Tajikistan's mountainous terrain gives rise to a wide range of climates, since the cultivated areas are located in the flood plains of the Kafirnagan, Vakhsh, Yaksu, and Kyzylsu rivers in the southwest, and along the Syr Darya in the North, any implementation of flood control measures could decrease fertility of the alluvial soils. The climate in these areas consists of hot, dry summers and mild, warm winters, making irrigation necessary for intensive, high yielding agriculture. Approximately 720,000 hectares are irrigated, of which about 670,000 are served by large to medium scale irrigation projects. Rivers are the main source of water. The river system includes the Nurek Dam on the Vakhsh, one of world's highest elevation dams. Approximately 60,000 hectares are irrigated from ground water and 370,000 hectares are served by pumps with lifts ranging from 10m to 400m. An additional 0.85 million hectares have been identified as irrigable, but water availability is limited due to water sharing agreements with the downstream riparians of Uzbekistan, Turkmenistan, and Kazakhstan (see Box 7.2). Tajikistan is entitled to 8 percent of the Syr and 13 percent of the Amu Darya's annual water volume. The largest area that could be developed is near Danagra, which is already partially served by a tunnel from the Nurek reservoir. The Danagra area currently produces dryland grain on large, extensive state and collective farms.

7.40 The Ministry of Water Management is responsible for managing and maintaining the irrigation systems in Tajikistan. Irrigation project design is carried out by Tajik Giprovodkhoz and new system construction by Tajik Vadstroï. Almost all land is irrigated using the furrow method. Because water is a very scarce resource, improved drainage and water management and control, both on the farm

2. The FSU maintenance and repair system completely knocked down and rebuilt tractors every seven years, in contrast to most market economies where machines are regularly maintained, repaired as needed and replaced when repair costs become non-economic. Thus, Tajikistan's fleet will contain tractors that are quite old by U.S. standards.

and at the system level, is of foremost importance. Drainage and salinity problems affect approximately 180,000 hectares, of which only 10,000 hectares have high salinity.

Box 7.2: Central Asian Water Resource Management

Water allocation in Central Asia was initially governed by decrees from Moscow. More recently, the allocation was confirmed by agreements between the riparian republics. Coordination is overseen by the Inter-Governmental Coordination Committee and implemented by two river basin commissions (BVO's), one each for the Amu Darya and the Syr Darya rivers. The BVOs control all river and canal off takes that affect more than one country, manage interrepublic and intersectoral allocations and monitor water use and water quality. Proposals are being developed for strengthening the analytical and monitoring capability for the Syr Darya and the Amu Darya BVOs.

7.41 Investments in modern water savings techniques, such as sprinkler and drip systems, are quite expensive (US\$6-7,000/ha). Therefore, the applications most likely to provide a positive return on investment will be on farms near cities, to which vegetables can be sold and for production of other higher value crops, such as fruit and nut trees that can be grown for processing or export. Water can be saved under the existing system through better intake controls, by lining canals to reduce water loss and by improving drainage to reduce salinity levels. More efficient use of water can also be achieved through better on farm water management, land leveling and changes in the cropping pattern.

7.42 The Government should give strong consideration to introducing water charges that at least cover operation and maintenance costs. These charges are also needed to reflect the scarcity of water and promote its most efficient use. In addition, a system wide review should be undertaken to identify where efficiency improvements are possible and to develop a long-term water strategy for the next 25 to 30 years.

Land

7.43 The transition from a centralized command economy to a market driven economy requires continuous decentralization of decision making, from the central planners to independent firms and individuals in all sectors of the economy. This, in turn, requires that the Government develops a set of legally defined property rights for land, water and intellectual services. The first steps, allowing leasing and the allocation of private plots at the farm level, have been taken. However, before economic actors will risk investing, there must be secure, tradeable rights for the particular activity. If the private ownership is not to be allowed, leases must have long-term well-defined rights and be tradeable. Secondly, privatizing only part of the economy will not have the desired results because production decisions will still be subject to control by the non-privatized part of the economy.

7.44 While Government officials recognize the need for eventual privatization, they do not favor private ownership of land out of fear that privatization would lead to large numbers of small subsistence farms. Although a land reform law has been passed that would allow leasing, little has been done to implement it. Another new law allocates land to peasant households and provides for transfer by inheritance, as well as allocating unutilized land and leasing additional land. Officials state that 145,000 hectares of land have been allocated to peasant households for their use. Individuals and "entrepreneurs" also can make use of the leasing law to obtain land for productive purposes. There are indications that leasehold farms are beginning to have an impact. A number of produce sellers in farmers markets stated that they had leased land from the collective or state farm and some stated that this was

their only source of income. One individual stated that he was selling a truckload of potatoes that he and several other farmers produced on leased land.

7.45 While there is a clear need for more rapid progress in developing responsive economic units in the agricultural sector, it is equally important to clearly separate governmental from commercial functions. In the agriculture sector, this is particularly true because the collective and state farms are both governmental and commercial units. A number of options are available to privatize the agricultural sector by establishing true cooperative farms, joint stock companies, local/foreign joint ventures, or sole proprietorships with individual legal and tradeable property rights.

Agricultural Finance

7.46 Agroprombank, which provides the largest share of agricultural lending in Tajikistan, charges interest rates that are lower than those charged to other enterprises, particularly interest rates of commercial banks, which when compounded, are over 100 percent. The Government has set priority lending rates for agricultural production or processing at 5 percent while regular lending to agriculture is 15 percent. Agroprom currently pays 25 percent on individual and enterprise depository accounts that are from their own funds. Enterprises earn 5 percent for deposits on borrowed funds, but no interest is paid for direct budgetary transfers. Total deposits are around 116 billion rubles, of which 24 billion rubles is from lending from other banks (mostly the NBT), and 85 billion rubles from regular deposits from agricultural enterprises, district and rural governments and other enterprises and Ministries.

7.47 Agroprombank's lending has increased dramatically, reaching 243 billion rubles in September 1993. On the other hand, Agroprom's capital is currently only 1.3 billion rubles, though it is expected to be increased to 4 billion rubles in the near future. Agroprom is facing a number of difficulties due to loss of personnel and, reportedly, is unable to provide lending to newly formed leasehold farms for this reason. In addition, it has been running a negative balance on its correspondent account with the NBT, which has risen from 14 million rubles in September 1992 to 123 million rubles in September 1993. Of greater significance is the increase in overdrafts on interenterprise and overdue settlement accounts, from 1.8 billion rubles to 16.9 billion rubles during the same time period. Agricultural enterprises have been given virtually unlimited overdraft permission, which implies that a large buildup of debt is occurring.

7.48 The key issues for agricultural finance are to:

- Establish a sound agricultural banking system that uses established lending criteria;
- Establish real positive lending rates for all enterprise lending; and
- Stop the use of credit to prop up unprofitable operations; if unprofitable enterprises are to be maintained, explicit budget subsidies should be used.

7.49 As privatization occurs, means will have to be developed to provide credit to small producers. It appears that only limited financing is now available to farmers operating under the new leasing system. In the future, as the number of private farmers increase, the rural banking system will have to serve the needs of independent producers.

Trade

7.50 Prior to the breakup of the FSU, Tajikistan's trade was almost exclusively with the republics. In 1991, cotton accounted for one third of total exports of 3.9 billion rubles. In addition, Tajikistan supplied 29,000 tons of vegetables, 3,500 tons of potatoes, and 12,000 tons of fruits to the All Union Fund for use by the other republics. Tajikistan also exported tobacco, wine and silk. On the import side, wheat and sugar were the main food imports, representing 4 percent and 7 percent respectively, of the 3.7 billion rubles total. Some meat, dairy products, and processed foods were also imported. 1992 figures are not very reliable, due to lack of reporting during the civil war. The official figures for cotton show only 45,000 tons exported – about one third of the expected amount. Fruit and vegetable exports recovered to about 30,000 tons – still well below the 1990 figure of 85,000 tons. Cereal imports (including cereal products and feed) were around one million tons, but official sugar imports were only 4,000 tons – well short of the 110,000 ton requirement.

7.51 1993 data are not available but indications are that export figures will be less than in 1992. Because of the poor crop in 1992, cotton exports in 1993 will be down considerably. The available supply, including carry over stocks, is approximately 200,000 tons of lint (fiber) cotton. Domestic use and ending stocks of 50,000 tons will leave 150,000 tons, with a net value of approximately US\$150 to US\$175 million. Some 30,000 tons of cotton have been sold internationally, leaving the remainder for trade with the FSU. Because of the fuel shortage and other difficulties, fruit exports are not likely to be any larger than last year; tobacco, silk and wine exports will probably be about the same. Total agricultural exports for 1993 will probably be around US\$200 to US\$225 million. On the demand side, grain imports will be around 1.2 million tons with a value of approximately US\$150 million. About 360,000 tons of grain are hard currency imports from Hungary and the Czech Republic, along with 35,000 tons of corn from the U.S. under P.L. 480. The rest will come through barter with Kazakhstan and other FSU republics. Sugar is the other large import, usually from the Ukraine. Consumption requirements are approximately 110,000 tons of refined sugar, with an approximate value of US\$30 million. Estimates of other food and agricultural imports are not available, but would cover items such as tea and processed food items. Imports of seeds, fertilizer, agricultural chemicals and machinery which would have been through barter were much lower than in 1992. Finally, the agricultural sector has been hampered by the lack of fuel, which is all imported.

7.52 Agricultural trade is constrained by lack of domestic financing and a suitable banking and payments system. For cotton, the other main constraints are the need to develop cotton grading standards acceptable on the international market; good transportation facilities and linkages through Russia, Ukraine, Kazakhstan and Uzbekistan or neighboring countries; and international marketing experience. To regain market share for fresh fruits and vegetables, Tajikistan will need to develop new marketing channels to the other FSU republics, reduce shipping losses and improve marketing. Market development will require producing products that meet international standards at low cost and that are either easily transported or have high value. Imports are constrained by lack of access to foreign exchange, import and price controls, lack of information on the availability and cost of foreign goods and high transportation costs.

Strategy for Development of a Diversified Agriculture

7.53 Tajikistan will be dependent upon the agricultural sector to provide food, fiber and raw materials to the rest of the economy for at least the next five to ten years. Because Tajikistan's agricultural sector has reached a relatively high level of development, efforts should focus on rationalizing and improving the existing production system until more economical alternatives are proven. The long run goal for Tajikistan should be a market driven agricultural sector based on economically sustainable yields that are environmentally sound and provide broad income opportunities to all segments of the rural population. This means making the most efficient use of limited land, inputs and water resources. Agriculture could flourish if prices are liberalized and the trade system is not biased against profitability. Developing viable agribusinesses and transforming the agricultural sector requires a favorable environment that can ensure the long term viability of privatized enterprises and services.

Box 7.3 Technical Assistance in Agriculture

The objectives of the technical assistance program in the agricultural sector should be to:

- Improve the efficiency of water use, improve system management, review project planning and implementation and develop a long term water management plan.
- Review the efficiency of existing cropping systems and propose ways to improve the current system with the aim of increasing agricultural productivity and economic efficiency. Because of the importance of cotton as a major source of foreign exchange and Tajikistan's large dependency on grain imports, the primary focus will be on these two crops. The program will be in several phases.
- Develop the capacity to train specialists needed for a modern market-oriented agricultural economy. The program would provide assistance to assess the current training capacity and develop a plan for meeting the future needs of the agricultural sector for trained people in all specialties. The program would identify priority areas for training and research in agribusiness, marketing, agricultural economics and technology dissemination. The training programs should include modern accounting methods, business management and strategic planning, development of business plans, marketing, economics of plant and animal husbandry, trade policy, subsidies, contracting and the function of property rights in a market economy. The training programs would be expected to cover all regions, with emphasis on training of trainers in the beginning. A joint team of local and foreign experts in agricultural education, extension, farm management and agribusiness would carry out the study.
- Provide guidance to the Ministry of Agriculture for developing a modern administrative system capable of providing the services needed in a market-oriented agriculture. An analysis will be undertaken of the organizations now serving the agricultural sector, the current organizational structure, staffing numbers and quality and the positive and negative aspects of the existing structure. Options and proposals would be developed for a structure more conducive to serving a modern agricultural sector. These proposals would provide organizational charts, analysis of function and job descriptions for key areas and managerial positions. Particular attention would be paid to developing modern management information services, such as statistics, market news, commodity forecasting and economic policy analysis.

7.54 The commodity systems approach, which identifies viable market development opportunities and business links that need to be established among input suppliers, producers, processors, and distributors, will be most useful for developing a program to carry out this transformation. In order

to provide a guide for policy formation and related legislative, regulatory and administrative initiatives, an analysis should be carried out that will:

- a. Determine what basic policy reforms and investment incentives are needed to foster demand led private sector development, and what program can best implement these reforms;
- b. Analyze the total commodity system, beginning with international and domestic market requirements for agricultural products now produced in Tajikistan and follow with an analysis of commodity production, processing and marketing components to identify constraints and opportunities associated with the development of a viable private sector;
- c. For the commodity systems targeted, propose specific market driven policy, investment and agribusiness development interventions that will enable the viable growth of these systems.

7.55 The reform program should begin with cotton and grains, since these are the most critical subsectors. For cotton, the focus should be on identifying the total system requirements needed to produce, market, process and export high quality cotton or cotton based products and quantifying its comparative advantage with other crops. For grains, the focus should be on determining if there are feasible ways to increase domestic production, particularly for wheat. In the rainfed areas, which already are farmed using large scale mechanized methods, this means reviewing current production practices and adapting methods from similar agro-climatic areas, such as the United States, Canada, and Australia, that are both land conserving and productive.

7.56 In the medium-term, the reform program will need to consider rangeland and pastures on steep, hilly loose soil that is prone to wind and water erosion that leads to flooding damage in the valleys. Improved range management techniques, conservation dams, and other conservation practices are needed, along with ways to manage private and public use. For the high mountain areas of the Pamirs, which have only limited agricultural value, sustainable activities should be developed. Some of these activities can be related to plans for establishing an international nature park in a portion of the area.

CHAPTER 8

INDUSTRY AND MINING SECTOR

Industry Sector

8.1 Tajikistan accounted for only 0.5 percent of the industrial output of the FSU in 1990, the latest year of steady state industrial operations in most of the FSU republics. For perspective, the industrial sector of Tajikistan is less than half the size of those of Azerbaijan or Georgia, but larger than that of Turkmenistan. In spite of its small size with respect to the rest of the FSU, the sector plays a major role in Tajikistan's economy.

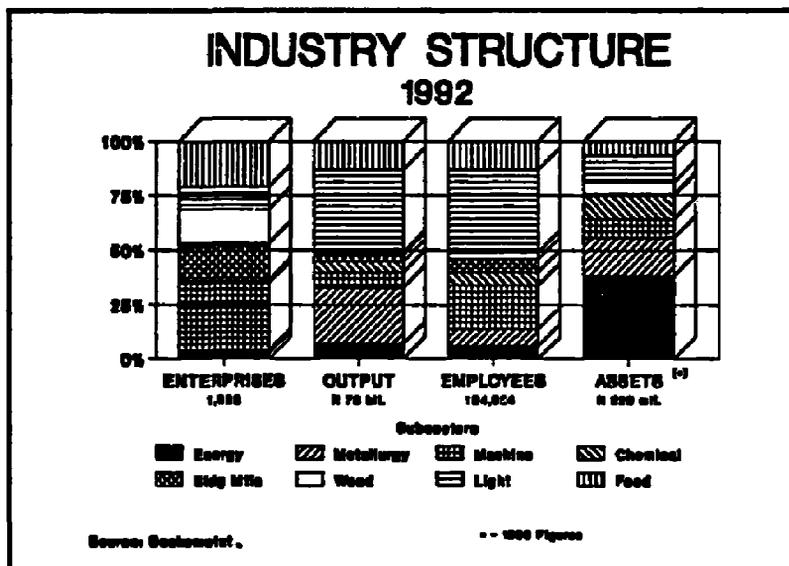
Structure and Performance

Output

8.2 In 1990, industry accounted for 27 percent of the net material product, 13.5 percent of employment, 92 percent of exports and 84 percent of imports. About 40 percent of industrial output was exported to the FSU, but about 70 percent of material inputs for industry were imported from the FSU. For most of the 1980s, this resulted in a negative resource balance for the sector of about 10 percent of output.

8.3 As can be seen from Figure 8.1, light industry was the largest subsector, both in terms of output and employment. Within light industry, textiles accounted for 92 percent of output and 65 percent of employment. Non ferrous metallurgy was second in terms of output while mechanical industry was second in terms of employment. Labor intensity, based on output measured in terms of existing transfer prices was the highest for mechanical industry, even though in general, this subsector is also very capital intensive. The average size of enterprises, measured in terms of numbers of employees, was about 133. This is relatively small compared to the other FSU Republics - e.g., Uzbekistan at 433, or the Baltics, at over 800. Within subsectors, non ferrous metallurgy has the largest single operation - an aluminum complex near Dushanbe. A brief description of the major industry subsectors is provided in Box 8.1.

Figure 8.1

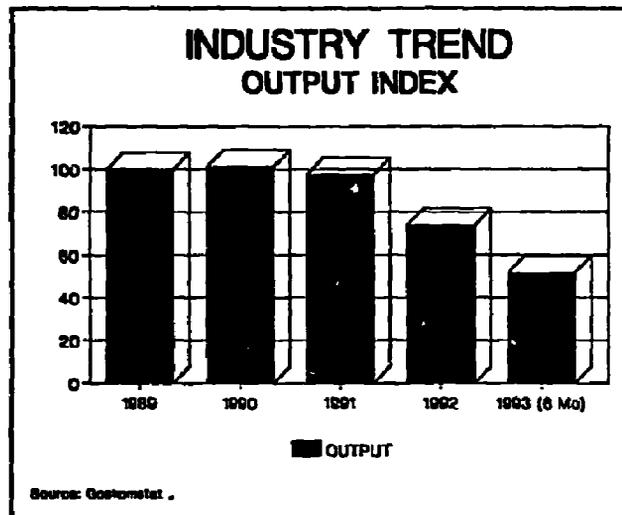


8.4 By June 1993, industrial output in real terms had declined by about 50 percent compared to 1990 output. The decline was as much as 70 percent in subsectors such as electrical energy, chemicals and building materials. The fall in output was steepest during 1991 and 1993 when the country suffered

significant turmoil and dislocations due to civil war and natural disasters. While these events contributed to the fall in output, the failure of the interrepublic payment system also played a significant role.

8.5 The interrepublican payment system is virtually paralyzed. Almost no transactions are completed through the banking system in a reasonable period of time. Delayed transactions generally are not easily traceable. In effect, enterprises cannot pay each other across republics through the banking system. Instead, payments are made through barter arrangements or by cash crossing borders. The problem has been exacerbated by the Russia's introduction of new rubles in 1993. As a result, even cash transactions within the ruble zone have ceased to be an available means for enterprises to pay each other. Cash transactions are also beginning to be impeded by new customs procedures instituted in many republics. Production in many enterprises has now come to a standstill.

Figure 8.2



Box 8.1: Major Industry Subsectors

There are 1628 industrial enterprises in Tajikistan distributed over 9 subsectors. The major subsectors are Metallurgy, Mechanical Industry, Durable Consumer Goods and Food Industry. These account for 75 percent of the sector's output and comprise 805 enterprises. The following is a brief review of these subsectors:

Metallurgy (10 enterprises): This subsector's major component is the Aluminum operation near Dushanbe (separately described in Box 8.3). The aluminum operation is presently also engaged in the production of profiles and other conversion. Also significant is the large Hydro Metallurgical operation in Isphara, in the north of the country, which formerly produced Strontium, Barium and various other rare metals. There is also a ferro-Vanadium combine with a 1500 ton capacity.

Mechanical Industry (398 enterprises): The machine building group and the electrotechnical group compose this subsector. The machine building products include industrial appliances, automotive, aviation, oil and gas equipment, textile and agricultural machinery and jewellery. The electrotechnical group manufactures various electrical and electronic equipment, including transformers, cables, light bulbs and various electronic components, some of which were used in the soviet space program.

Light Industry (130 enterprises): This subsector's primary output is textiles and textile products based on silk, cotton and some wool. It has spinning, weaving, and knitting mills, as well as plants for making garments, footwear, haberdashery and china.

Food Industry (267 enterprises): Under three separate groups, this subsector includes food and confectionery, meat and milk, and bread products. The Food and Confectionery Association, which is the largest group, produces canned products, oils and margarine, wine and spirits, tobacco products, beer, salt and biscuits. In addition, the Consumers Cooperative Union is also engaged in the manufacture of various food and kindred products.

8.6 Other causes for the contraction in industrial output are difficult to isolate from the collapse of the payment system, but include lack of supplies¹ and terms of trade shocks. It is difficult to ascertain if a particular product cannot be sold or procured because there is no further need or availability, or because it cannot be paid for through the banking system or otherwise, even though there might be financial ability to do so. The issue of costs or prices also becomes somewhat irrelevant, since interrepublic commercial transactions are no longer possible under the present banking and transaction system.

Viability

8.7 The same factors make it difficult at present to assess the intrinsic viability of industrial enterprises or to prescribe actions for restructuring their internal operations. Intrinsic viability based on value added remains significantly distorted, since the emergence of market based prices is inhibited in interrepublic transactions due to the payment system problem.

8.8 A strategic evaluation of industry viability thus needs to consider more than just data on current financial performance. One source of information bearing on the potential viability of the industry sector and its individual subsectors is the sector's historical investment profile. Table 8.1 shows a general decline in investment during the 1980's with investment levels markedly lower for the second half of the decade.

Table 8.1: Growth in Fixed Assets by Subsector (percentage)

	1980-85	1985-1990	1980-1990
Fuel & Energy Complex	16	13	31
Metallurgy Complex	59	33	112
Mechanical Industry	-20	20	-4
Chemicals	199	11	233
Building Materials	30	10	43
Light Industry	43	52	118
Food Industry	28	47	88
Industry Overall	35	22	65

Source: Statistical Yearbook.

8.9 Among subsectors, Chemicals had the highest investment rate for the decade, followed by Light Industry and Metallurgy. Machine Building suffered disinvestment during the decade, even though investment in fixed assets for the subsector stepped up in the second half of the decade. Industries with historically higher levels of investment are typically more likely to be viable, due to their newer plant and equipment and possibly more up to date technologies. By this reasoning, Chemicals, Metallurgy and Light Industry, and to some extent Food Industry, should have a better chance of adjusting to the present terms of trade changes. However, the capital intensity of these industries means that additional amounts of capital will clearly be needed before adequate adjustment is possible.

8.10 In addition to investment levels, the data on the overall age of plant and equipment in the industry sector also provides some indication of the sector's competitive ability. As of 1988, the average age of plant and equipment in Tajikistan's industries was around 10 years; over 40 percent of the equipment was under 5 years old (Figure 8.3). This reflects the possibility that various subsegments of the industry sector can be intrinsically efficient and, with proper management, have the potential to be

1. This is certainly a factor since in the past, many components and parts came from factories, that in many cases, are now either closed or no longer produce the same item. This is especially the case in Eastern Europe, where many of the Tajik machinery and supplies come from.

operationally competitive. However, intrinsic or operating efficiency is not always a guarantee of viability in the face of uncertain terms of trade shifts.

8.11 A strategic evaluation of industry viability also needs to account for the impact of terms of trade shifts and the eventual transition to world prices. The difference between historical data on profitability at transfer prices versus that based on shadow world prices can sometimes serve as a rough indication of the likely potential for each industry subsector to adjust to the altered terms of trade and exposure to world prices.²

Financial Condition

8.12 Enterprise financial performance in the FSU republics is generally very difficult to ascertain accurately. This is because even in normal times several factors tend to distort reported performance. These factors include transfer price mechanisms that do not reflect scarcity values (now further distorted under present price regulations); accounting standards that do not fully conform to generally accepted accounting principles; historic asset values that are not commensurate with present cost structures; and depreciation rates that historically have not been objective but were used to allocate resources. These normal distortions have been compounded by interrepublican payment problems and the ensuing low operating levels.

8.13 Because of these uncertainties, indicators other than profitability should also be inspected to assess financial condition and measure recent performance and future outlook. Balance sheet data is sometimes less misleading, since it tends to more fully represent the actual flow of funds. A summary of the key balance sheet data aggregated for the sector is provided in Table 8.2. This table shows the changes in financial position during 1992.

8.14 It can be seen from this table that the increase in key current assets in nominal terms has been financed by increases in bank credit and in accounts payable or trade

Figure 8.3

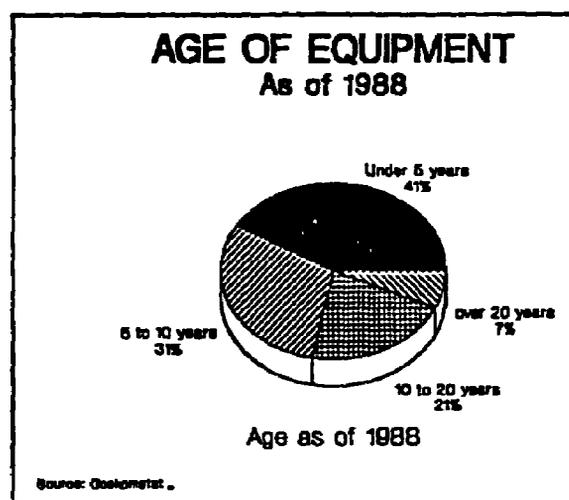


Table 8.2: Aggregate Financial Position of Sector (million rubles)

ACCOUNT	1992	1993	CHANGE
KEY CURRENT ASSETS			
Accounts Receivable	5,150	37,651	
Inventories	30,332	82,802	
TOTAL	35,482	120,453	84,971
KEY CURRENT LIABILITIES			
Accounts Payable	23,288	93,529	
Short Term Bank Loans	11,895	30,084	
TOTAL	35,183	123,613	88,430

Source: Goskomstat.

2. "Industrial Profitability and Trade among the Former Soviet Republics" Claudia Senik-Legoyne, Gordon Hughes, June 1992. The study relies on input-output tables on each republic; data on patterns of trade between republics; and a set of coefficients to convert domestic values to world prices for traded items. The coefficients are based on ratios of domestic to world prices for the year immediate to the collapse of the former Soviet economy and a weighted average constructed by Goskomstat (Moscow) to represent, as far as possible, the typical product mix of each subsector. Goskomstat was the major source for the input-output data.

credit. However, the ratio of trade credit to bank credit has gone up from 1.96 to 3.11. This could be the beginning of an interenterprise arrears problem similar to those that have plagued many of the other FSU countries and Eastern and Central Europe. Careful policy measures should thus be taken to prevent disintermediation in the banking sector, which has generally been one of the causes of the interenterprise arrears problem in similarly situated countries. It should also be noted that while there have been significant nominal increases in the key current assets, these assets have in fact been significantly reduced in real terms.

8.15 To prevent disintermediation, it is, among other things, necessary to better manage the banking system assets.³ A review of the allocation of bank credit within the industry sector shows significant imbalances, as is illustrated in Table 8.3. For example, Metallurgy (mostly non ferrous metallurgy and Aluminum in particular) and Light Industry (mostly textiles) provides 60 percent of industrial output but consumes 70 percent of the bank credit available to the industry sector. This might reflect directed credit policies, which often lead to inefficient allocation of resources, increase the risk of the banking sector's loan portfolio, and ultimately contribute to disintermediation.

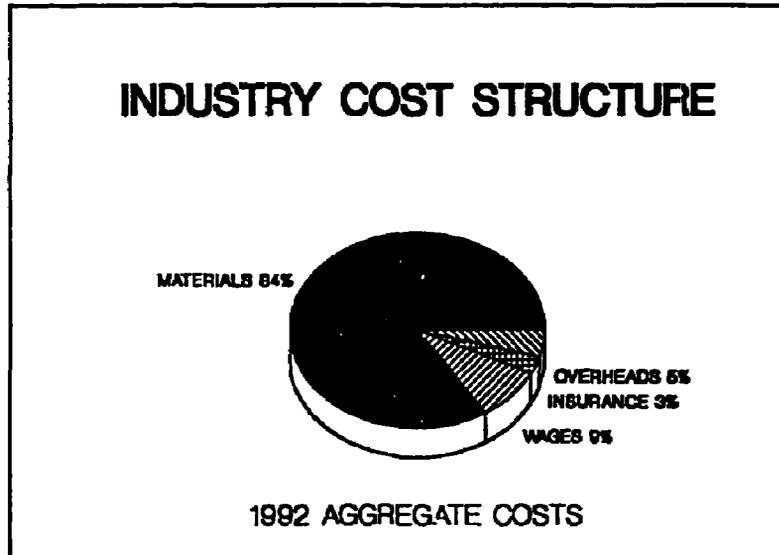
Table 8.3: Bank Credit by Industry Subsector (million rubles-June 1993)

SUBSECTOR	DEPOSITS	LOANS
Electricity	33,521	35,005
Metallurgy	8,004	123,359
Mechanical Industry	19,552	41,248
Chemicals	341	2,743
Building Materials	532	--
Wood & Paper	372	935
Light Industry	14,649	62,898
Total	78,235	267,254

Source: National Bank of Tajikistan.

8.16 Another financial issue that should be addressed early in the transition is the valuation of fixed assets for pricing and tax purposes. Undervaluing fixed assets helps to compensate for operating inefficiencies in meeting competition, but in the long run, this practice decapitalizes the enterprise, postpones necessary restructuring and ultimately threatens the enterprise's survival. Decapitalization occurs in several ways. For example, if prices do not reflect the true replacement cost of assets, the depreciation reserve is inadequate and the product can often be underpriced, depriving the enterprise of additional rents and the appropriate return on capital that it might have obtained. In times of high inflation, the enterprise also incurs excess taxes if assets are not appropriately revalued. Most importantly, undervalued assets

Figure 8.4



3. See also the section on financial intermediation, Chapter 4.

postpone the need for discipline in enterprise management and relieve the pressure to restructure and increase operating efficiencies.⁴

8.17 In Tajikistan, almost 80 percent of the cost of products is reported as material cost, as illustrated in Figure 8.4. This cost profile has several important implications for setting restructuring priorities for the sector. Even if assets were revalued, wages still would be only 9 percent or less of total cost and in all likelihood would not keep pace with material cost increases in the short term. Thus, operational restructuring must focus on material cost reduction via price and usage management. The costs and benefits of employment reduction strategies, commonly associated with restructuring in the West, should be re-examined in this context.

Box 8.2: Enterprise Sector Organization and Management

The enterprises are all still grouped under the previous branch ministries, some of which have been reorganized into associations, amalgamation, concerns and committees. The associations or amalgamation are agglomerations formed by individual enterprises to benefit from synergies that might be generated. Each enterprise pays a corporate fee to the Association and receives guidance and assistance on procurement and distribution, as well as on dealings with the state order system. A "concern" is more of a "top down" conglomeration of enterprises formed directly to replace the branch ministry, but otherwise similar to the association. Associations concerns are not generally joint stock companies; their legal status are somewhat nebulous. In some cases, the association guarantees the debt of individual enterprises. A committee is closer to a Ministry, but lower in the hierarchy. It generally is formed by a resolution of the Government, while a Ministry is formed by the decision of Parliament.

Associations and concerns are governed by Boards composed of the directors of member enterprises. Committees, like state owned enterprises, have administrative (or management) Boards. Governance at the individual enterprise level varies according to its legal entity status. Joint stock companies generally have supervisory Boards composed of 13 members, all of whom are company employees elected by the shareholders. The supervisory Board elects its chairman. The state owned enterprise has no supervisory Board of directors, but rather an administrative board composed of employees. There are no independent outside directors on any of the boards. The chairman of an association is accountable to the enterprises and the Council of Ministers.

Major Systemic Issues

8.18 In view of the civil war, natural disasters and payments systems problems, the Government has found it necessary to tighten control over the industry sector and the economy in general in the hope of securing minimum levels of essential goods for the populace. These increased controls, as discussed in Chapter 5, were manifested in some of the recent decrees and resolutions, which seek to centrally manage procurement and distribution and implement interstate agreements by a state order system that now appears to encompass over 70 percent of the country's output. This section reviews the issues of price control and enterprise reform.

4. While assets at some enterprises were revalued at the end of 1992, this is not yet reflected in prices (which, for all practical purposes, are controlled by the state) or in the depreciation tax shield.

Price Controls

8.19 Pricing is regulated under the present monopoly laws, which identify a list of items and enterprises deemed to be monopolies. The definition of monopolies is somewhat unclear and the government is allowed significant discretion in determining both the monopoly status and whether pricing has been improper. In such instances, the law provides the government with the tools to accomplish restitution through profit drawbacks, which accrue to the government but not affected customers.

8.20 Unlike some other FSU republics, the law does not set specific margin ceilings for industries or subsectors, but branch ministries seem to administer margins fairly uniformly across the board. The exact mechanism or the statutory basis for these margin ceilings remains unclear, though moral suasion clearly appears to be one means of enforcement applied by the Government.

Abeyance of Enterprise Reform

8.21 Enterprise reform has been in abeyance. While some conversions to joint stock companies and transfers of ownership to employees through collectives have taken place, the process of corporatization, commercialization and privatization has not progressed very far. The present ownership and organization of the sector includes a mix of state owned enterprises, collective owned enterprises (which are not joint stock or limited liability companies), joint stock companies (partly owned by employee collectives), and leased enterprises. There are almost no private non-employee owned manufacturing companies. A synopsis as of September 1993 is provided in Table 8.4.

Table 8.4: Non-State Owned Enterprises (January-September 1993)

Classification	No. of Enterprises	Output (Rub mln)	No. of Employees
Leased	46	7,544	16,429
Collective	20	5,186	7,161
Joint Stock	8	32,055	22,885

Source: Goskomstat.

8.22 Box 8.2 describes the structure of enterprise organization and management. Enterprise management does not have the autonomy required to function effectively, but instead is subject to moral suasion from the Government and pressure from employees, who constitute the majority on the boards. While employees naturally seek to use their power to maximize wages, workers are still Government employees and their pay scales are determined either by civil service norms or by statute. This removes critical work incentives. Moreover, as real salaries and wages decline, the absence of adequate accounting and auditing standards threatens the security of enterprise assets and increases the need to provide safeguards. Ultimately, however, many of these problems should be addressed via privatization.

8.23 Even if all the enterprises were corporatized or privatized, they would be unable to function as commercial entities without an adequate framework of commercial laws. Few of these laws exist at present. Furthermore, existing administrative and commercial practices, discretionary governmental powers and potential conflicts of interest – e.g., export licensing by exporting entities – do not help to ensure equal commercial treatment or opportunity for private or privatized enterprises.

Toward Reviving the Reform Effort

8.24 While Government measures adopted to centrally manage the industry sector and the economy in general might provide the necessary temporary stability and security of supplies, very soon they will begin to have the opposite effect. Such central control impedes critical supply responses and postpones the necessary adjustment process. The Government should reverse its control regime through a clearly defined program to reorient the industry sector and the economy to a market basis. The liberalization timetable could be phased in as the interrepublican payment system begins to operate more effectively and internal security levels return to normal.

8.25 First, the program should begin by gradually unravelling the *state order system* and remove quotas as discussed in Chapter 5. Procurements related to clearing agreements (in case these need to be continued for some time) should be based on price and bid mechanisms, rather than on obligatory administrative processes.

8.26 Second, *price regulation* under the present monopoly legislation should be strictly limited to true monopolies. Since over 70 percent of Tajikistan's industrial output serves external markets, competition will essentially be external and for many enterprises (e.g., aluminum), global. These enterprises need to be free from intervention in order to compete efficiently in global markets. Since domestic markets, where these enterprises might be monopolies, are only a small segment of the relevant overall market, monopoly pricing in domestic markets will offer only marginal benefits and might in fact jeopardize external markets because of anti-dumping laws. Liberalizing imports, rather than constricting prices and implementing anti-monopoly legislation, should be used to ensure domestic competition for these enterprises.

8.27 Finally, the role of the *Ministry of Trade and Material Resources* (MTMR) should be fundamentally altered to facilitate a transition to a market based industrial system and ensure adequate competition in procurement and distribution. The MTMR should be reorganized so that the business administration functions it performs are clearly separated from its public administration functions. Public administration functions should be retained within the Government, while the business administration functions, such as providing supply and market information to enterprises, should be continued on a commercial basis until the enterprises develop their own marketing and procurement skills. The additional value that these services bring to the enterprises should be determined by the enterprises' willingness to pay for them. At some point, it might be necessary to privatize or commercialize the business administration functions of the MTMR. The wholesale warehouse enterprises controlled by the MTMR should be corporatized⁵ and then privatized as soon as possible. These wholesale enterprises should also be allowed to change and choose their product lines, so that there can be competition in the procurement and distribution of individual products.

8.28 The liberalization of the procurement and distribution regime should be accompanied by key *enterprise reforms*. First, all enterprises in the sector should be corporatized immediately whether or not they are to remain in the state sector. Corporatization should result in autonomy, and with governance but independent board of directors (the majority of whom should not be employees of the enterprises or the respective branch ministries). This board would act as a buffer between the Government and enterprise operations and would function through such instruments as management

5. That is, converted into joint stock companies that initially the Government continues to wholly own.

contracts, related compensation plans, and internal and external audits to safeguard assets and measure performance. In this regard, it is essential to bring present enterprise accounting systems into conformity with internationally accepted accounting principles. Simultaneously, the privatization program, as discussed in Chapter 3, should be accelerated.

8.29 Second, a uniform commercial code should be promulgated to support the commercialization of enterprises and provide an adequate legal framework within which commercial activity can take place. Such a code would need to include provisions commonly found in commercial codes in market economies, such as those governing contract enforcement, security and collateral, fraudulent conveyance, bulk sale of assets, etc.

8.30 Thirdly, discrimination between state and private enterprises should end, and a "level playing field" should be provided for all enterprises – state owned, privatized, or private. Irrespective of whether an enterprise is private or state owned, it should have equal and equitable access to credit, be similarly treated for tax purposes, and be subject equally to the provisions of the commercial code and bankruptcy laws. The Government's privileges and liabilities in corporatized state owned companies should be no more or less than those of a shareholder in a joint stock company. Subsidies, if any, should be explicit budgetary transfers, so that a clear and acknowledged fiscal cost is associated with any relaxation of the hard budget constraints imposed by commercialization.

Subsector Level Issues

8.31 At the subsector level, particular attention should be paid to the aluminum industry (see Box 8.3). The opportunity cost of electricity consumed by the aluminum smelter far exceeds the value added by the unit. Unless these can be brought into balance, careful consideration would need to be given to the costs and benefits of continuing to operate the plant. Options to achieve viability could include finding a strategic investment partner to provide the necessary technology and capital. The related environmental benefits (in addition to pollution control measures necessary to continue operations), as well as the economic logic of these options based on current global aluminum industry data, seem to support their serious evaluation through technical assistance.

8.32 Attention also needs to be given to the food industry subsector, where *quality and safety standards* are in urgent need of improvement. Training and technology needs to be immediately provided for this purpose, and standards and protocols need to be established for the industry. This is especially critical in order to provide a "Good Manufacturing Practices" (GMP) framework within which a private and privatized food processing industry can emerge.

8.33 Inadequate *storage and transportation* facilities have lead to large losses of agricultural output throughout the FSU. In Tajikistan, this problem is compounded by the terrain and fuel shortage. Although losses generally occur at the farm level, and not so much during or after the processing stage, the accounting systems in the FSU have always included these losses on the books of the food processing industry, thereby introducing an additional distortion into the financial results of both the food and agricultural industries. Measures need to be taken to reduce losses wherever they occur. Privatization and financing offer options to help address this problem; further study is clearly needed and is likely to yield significant benefits.

8.34 There is also a need to accelerate the *privatization* process in textiles, the biggest industry subsector. While some disaggregation and privatization of the larger units has already started more needs to be done to support the growth of private initiative and fully realize the potential domestic and export benefits of the raw materials (cotton) advantage of the sector.

Mining Sector

8.35 While there is substantial potential for developing gold, silver, mercury, zinc, and other metals, existing mines are in part depleted and remaining deposits are undeveloped. In order to realize its potential, the mining sector must mobilize substantial amounts of capital in the near future. These and other issues are discussed below in further detail by examining the major minerals, their mining and the status and future of the sector. A regional minerals profile is presented in Box 8.4.

Box 8.3: The Aluminum Industry

Tajikistan's aluminum industry has one of the world's largest smelters (514,000 tons). It consumes nearly 40 percent of the nation's production of electrical power, employs over 12,000 people and supports an entire community of about 100,000 people. In addition to environmental concerns, the major issue facing the aluminum industry is that at present, the estimated value added by the aluminum smelter (\$50/t) is far less than the estimated opportunity cost (\$459/t) of the electrical power it consumes. Due to poor quality and location, the Tajik aluminum is being sold at a discount of over \$250/t to the present world price of \$1053/t. The smelter uses imported raw materials. It pays 7.7 rubles a Kwhr and uses 16,000 Kwhr/ton. At 2,500 rubles to the US\$, this amounts to \$49/ton, compared to the average \$350/ton for similar processes in the West, at an average consumption of 11,000 Kwhr/ton. If electricity rates are raised to international levels, the only way for the smelter to survive is through large government subsidies.

It is conceivable that with the provision of the necessary technology and capital improvements to carry out the required upgrading of operations and retrofitting the smelter can be made viable. The authorities maintain that the major quality, pollution and energy related problems can be traced back to anode manufacturing. Completion of the fourth anode line, together with certain minor improvements to the existing anode lines, is estimated to increase anode capacity from the 260,000 tons to 320,000 tons. The resulting anode supply would reportedly significantly alleviate the contamination problems in the electrolytic cells and result in major quality improvements. It would also reduce the amount of cryolite used, which would reduce fluoride emissions. A major overhaul of the 1,100 electrolytic cells is also overdue (500 of these are presently down due to parts problems). Refurbishing is expected to reduce power consumption, gas leakage caused by frequent interventions, and to improve metal quality. It is estimated that these and other retrofitting (generally believed to be required at most CIS plants) will cost around \$500/ton of capacity. This implies the need to find an investment partner prepared to invest upwards of US\$200 million to restructure the plant.

The future of the aluminum smelter should be decided by the end of 1994. If a strategic investment partner can not be found to provide the necessary technology and capital to carry out the required restructuring of this unit, the World Bank recommends that the authorities should consider the option of shutting down the smelter. The earning from net exports of electricity and the saving on import of raw materials could compensate for the loss of aluminum exports. In that case, the social cost of possibly closing down of the unit in terms of unemployment of workers and hardship on the families need to be adequately addressed.

Major Minerals and Mining Activities

8.36 The country's major deposits and mining activities presently center around silver, coal and gold. Tungsten, antimony, bismuth and mercury are also mined. While many of the existing deposits of silver, gold and, to some extent, coal are in part depleted, there are large additional undeveloped deposits.

Box 8.4: Regional Minerals Profile

Tajikistan can be broadly divided into four regions: (i) The Pamir region, in the southeast; (ii) the Southwest region; (iii) the Central region; and (iv) the Northern region.

i. Pamir Region

This region is mountainous, with an average elevation of about 1200 feet above MSL, a severe climate, winter isolation and generally poor accessibility. The main geological deposits include large boron deposits, precious and semi precious stones (including rubies) which have been recently discovered but not developed, and marble in rich and virtually unlimited quantities.

ii. The Southwest Region

This region is warm, hilly and mainly agricultural. It has very large deposits of salt, estimated to be between 30 to 50 billion tons. However, about 80 kilometers of railway lines will be needed before these deposits can be mined. The region also has some oil and gas deposits. The more easily accessible have already been developed and depleted. There are reportedly large deposits of oil and gas, concentrated at depths of 7 to 8 kilometers, which have not been properly investigated. Feasibility reports have been prepared and steps taken to exploit large deposits of Strontium. In addition, the region has large amounts of construction materials, in the form of limestone, clay, dolomite, gypsum, gravity, gravel, etc.

iii. The Central Region

This region, too, is mountainous, with an average elevation about 6,000 feet above MSL. Except for the valley, where the capital, Dushanbe, is located, the area is fairly isolated, with access from most of the country only by road and air. The Central region has one of the largest coal deposits in Central Asia, as well as another large deposit that might prove to be of great potential. Three large gold deposits are also found in this region. However, some of the gold deposits contain high amounts of arsenic that will require environmentally benign technology for proper recovery. The area also has deposits of tungsten, bismuth certain rare earths and mercury; the last is shipped as concentrate to Kyrgyz Republic for refining.

iv. The Northern Region

This region has large deposits of silver estimated to be world scale in size and grade. The silver ore also contains large quantities of lead. There are several tungsten deposits in the area, but these have been mostly depleted. There are some deposits of iron ore with high concentrations of bismuth.

Silver, Lead, and Zinc

8.37 The total estimated deposits of silver in Tajikistan, could be as high as 60,000 tons. The largest is Bolshoi Kanemansur, with an estimated reserve of over 38,000 tons. Many of the existing mines, however, are nearly depleted and have been running at levels well below capacity. Most of the silver is mined at the Eastern Kanemansur Lead and Zinc enterprise in the Eastern Kanemansur region. This enterprise used to produce 35 tons of silver, 3,200 tons of lead and zinc, and 31.2 tons of bismuth annually. Due a number of technical reasons, annual production levels have come down to 18 tons of silver and 2,400 tons of lead.

Table 8.5: Silver Mine: & Deposits

	Proven Reserves (in Tons)	Inferred (in Tons)	Concentration of Metal	Remarks
EASTERN KANEMANSUR				
Lead	292,000	-	1.17%	3Th.T/Yr Mine
Silver	2,522	-	100g/T	18 T/Yr Mines
BOLSHOI KANEMANSUR				
Silver	1,700	58,000	59.2%	O/P Undeveloped
Lead	1.2 Mill.	3.2 Mill.	0.27%	O/P Undeveloped
Zinc	1.2 Mill.	2.7 Mill.	0.31%	O/P Undeveloped

Source: Ministry of Industry.

Table 8.6: Coal Deposits

	Shurab	Faniagnob	Nazarailok	Others
Proven Reserves (Mil T)	23	290	30	30
Expected Reserves (Mil T)	23	2,000	212	300
Ash %	25-30	15 -25%	1.5-4%	15-25%
Heat Value	27MJ/Kg	28MJ/Kg	8000KCal/Kg	8000KCal/Kg
Sulphur %	0.71	0.3-0.5	0.2-0.8	
Mine Capacity (Th.T/Yr)	600	50	25	10-15
Present Output (Th.T/Yr)	200	40	25	N/A
Mining Method	U/G	10% O/P	100% O/P	O/?

Source: Ministry of Industry.

8.38 There is great potential to improve mining methods. The in situ grade of the silver at Adresoman is 100 gms/ton, with a delivered grade at the minehead of 60 gms/ton. The ore is concentrated at a conversion ratio of about 40, resulting in a concentrate grade of about 2,400 gms/ton. In the past, the concentrate was generally delivered to Kazakhstan, where it was refined. In the last year, however, only 20 percent of the concentrate has been shipped to the FSU. Some concentrate had been exported to Switzerland, but the rest is now stockpiled.⁶

8.39 An additional 1.4 tons/yr of silver is obtained at the Kairakum plant, in the northern region, from tailings left over from processing gold ore. The content of silver in these tailings is 40-70 gms/ton, which is almost as rich as the available silver ores.

Coal

8.40 There are 12 deposits of coal in Tajikistan, with proven reserves of over 400 million tons. These deposits represent coal of all known grades and sorts (Table 8.7). Only the Shurab deposit has been developed for industrial mining in significant amounts. Some limited industrial scale mining is undertaken at the large Faniagnob site. The rest of the production is small scale, mostly manual, mining by the local population. As a result, the annual requirements for coal in the republic, estimated at 1.2 million tons a year, are satisfied primarily through imports from neighboring Uzbekistan and Kazakhstan, which amount to around 700 thousand tons a year.

8.41 It is more economical to import coal than to increase the production at the Shurab mines, which have been in operation for over 90 years. There are two operating mines at Shurab. One has been almost entirely shut down due to depletion and flooding. The other has only about 23 million tons left. The mine pits are deep and dangerous. Frequent flooding, collapses, and explosive coal dust result in high operating costs. The high incremental costs of increasing production at Shurab renders it uncompetitive when compared with low cost coal extracted by open pit methods from deposits in Uzbekistan and Kazakhstan.

8.42 Limited underground mining is taking place at Faniagnob. Large scale exploitation of this deposit is not presently viable due to lack of adequate railway and roads through 3,400 meter high

6. During the mission's visit, the mine and the concentrator were both found to be closed due to lack of fuel.

mountains. The area is inaccessible in winter. The 2 billion ton deposit is the largest in Central Asia. It has low ash, low sulphur and a very high carbon content – high grade coal that lends itself to being used directly with coke for the production of steel, electrolytic aluminum, phenols and other chemicals. However, the terrain and requirements for most underground mining impose high costs. Large amounts of foreign technology and capital will be needed to evaluate and develop this deposit.

8.43 The deposit at Nazarailok is exceptionally low in ash and high in carbon, making it very suitable for the production of a variety of industrial products. It is also a very large deposit. There is only one other deposit of its kind in the world. That deposit is in Vietnam. However, like Faniagnob, this deposit is virtually inaccessible due to its mountainous location. Any development would require large investments in infrastructure.

Gold

8.44 There are more than thirty known deposits of gold in Tajikistan. Of these, about 150 tons have been prospected. Around 25 tons of the prospected reserve is easily processable alluvial gold found in Darwaz. Previously, all extracted gold was processed in refining plants in Russia and then returned to Tajikistan. Up to 1992, annual mining output was about 2 tons of gold equivalent, including small amounts (0.3-0.5 tons) extracted in certain other mines in the Northern regions including the Kairakum mines. The Kairakum mines are small fields, some of which are almost depleted. The Jalal mine, with a capacity of 1.2 tons of gold equivalent, is in its first year of operation (see Table 8.8). The Taror mine, with a design capacity of 2 to 2.5 tons of gold equivalent, is in the process of being developed. The Choreduob deposit is as yet undeveloped. Since 1993, the Tajik Gold processing plant has been operational.

Table 8.7: Gold Mines and Deposits

	Taror	Choreduob	Jalal	Darwaz	Others
Proven Reserves (T)	56	40	24	25	5
Inferred (T)	76	44	43	30	55
Grade (gm/T)	5.7	4.3	2.84	0.6-2.2 (Sand)	4.3
Mining Capacity (T/Yr)	2-2.5	U/D	1.2*	3	1
Present Output (Kg/Yr)	300	U/D	U/D	3000	200

* Design capacity for Jalal.

Source: Ministry of Industry.

8.45 The mineral resources at Choreduob, Taror, and Khojand, which have the largest and richest deposits, contain high amounts of arsenic. Since there is no economic and environmentally benign extraction and refining technology, these large deposits cannot presently be extracted.⁷ Research related to this problem is presently underway in cooperation with Russian counterparts at the mining research institute in the northern region of Khojand. However, external technical assistance could be beneficial in this process.

7. Some of this ore has already been mined and stockpiled until the appropriate technology becomes available.

8.46 The present mining operations are running below capacity due to lack of fuel, spare parts and essential reagents. Payment problems and the introduction of Russian rubles currently prevent these items from being procured from its original source, Russia. Some access to hard currency is needed to update the mining technologies and improve output at Darwaz and Kairakum.

8.47 A new gold refining plant is being set up at the Hydrometallurgical plant in Leninabad. This plant was previously engaged in processing uranium; it now is being converted to gold refining and other uses. Since the new gold refinery was previously used for uranium processing, there is likely uranium contamination of the ground and therefore remediation would be necessary. The gold refinery, said to be 90 percent complete, will be able to produce 10 tons of gold a year (3 tons at Darwaz; 1 ton Kairakum and other small deposits in the north; 3-4 tons in Jalal). The refinery will also produce silver, tungsten, and certain rare metals.

Other Deposits and Mines

8.48 There are some deposits of antimony and mercury in the central region. The ore is processed at the Anzob dressing facility, which has a capacity to handle 4,500 t/yr of antimony and 40 t/yr of mercury from the Jijicrude deposit. The concentrate then is shipped to Kyrgyz Republic for processing. The Jijicrude deposit has approximately 5.7 million tons of ore left containing 3 percent antimony and 0.04 percent mercury. Another deposit at Skalnaya has approximately 35,000 tons of proven antimony and an estimated 108,500 tons of unproven antimony at 3.07 percent grade of ore. The ore also contains gold (1.2gm/t), silver (10.3gm/t), mercury (0.006 percent), sulphur (10.27 percent) and arsenic (0.27 percent).

8.49 The Maikhurin mineral deposit contains 23,200 tons of tungsten in the form of tungsten trioxide. This deposit also contains 21,500 tons of zinc, plus copper, silver, cadmium and bismuth. There is a deposit of an estimated 18,700 tons of Wolfram, as well as some tungsten in the Mihoury region. This deposit also contains 21,000 tons of zinc. The ore also contains Cobalt, silver, cadmium, Bismuth, etc. Deposits, such as Flourspar, at the Takob processing plant (capacity 6,400 tons/yr), are practically exhausted.

8.50 Aluminum deposits exist in the form of nepheline siemites. Although there are an estimated 400 million tons of nepheline siemites, with 21.58 percent aluminum content, it is not a very common source of aluminum and due to technical reasons, it is difficult to develop this deposit.

8.51 Strontium is concentrated mainly in the Chaltash deposit in the central region near Kulyab. Proven deposits of strontium oxide total about 300,000 tons with an average grade of 6.9 to 8.13 percent. This ore can be processed at the hydrometallurgical plant in Isfara.

8.52 There also are large deposits of boric ores in the Pamir region. Proven reserves are 8 million tons of boric trioxide, with an average grade of 7.89 percent to 9.02 percent trioxide. Unproven reserves are over 25 million tons. Poor access and high energy processing requirements make the immediate viability of this deposit questionable.

Industry Organization

8.53 Tajikistan's mining industry is organized into 7 major enterprises: Adresoman in the north, processes lead, zinc, silver, and bismuth. The Anzob ore dressing company, about 60 km from

Dushanbe, processes mercury and antimony ore. Leninabad Coal operates the major developed deposits. Tajik Gold enterprise, in Dushanbe, operates the gold mining operations. The Tacob flourspar combine, also near Dushanbe processes imported ore and ships it to Russia, where it is converted to cryolite and returned for use in the aluminum industry. Pamir Quartz works produces precious and semi precious stones; and the Adersoman mining machinery and construction company handles production of machinery.

8.54 The enterprises report to the mining section of the Ministry of Industry; many are being converted to joint stock companies with employee ownership. The enterprises in the north are fairly autonomous and report to the local branch of the Ministry of Industry. Even so, they appear to be continuing under the subordination of the branch ministry and subject to the state order quotas system. As in the industry sector, there are no outside boards of directors, and the existing boards are composed primarily of the enterprise employees.

Status and Future of the Sector

8.55 In spite of Tajikistan's rich diversity of deposits, some of the existing mines are depleted and production rates are far below previous levels. But production is low due to other factors, such as lack of maintenance, war damage, flooding and shortages of material supplies, including spare parts and fuel. Also a steady reduction in investment over the past three years has reduced the sector's ability to maintain capacity and operating levels.

8.56 Remaining deposits, particularly of gold, silver, coal and other materials described above, are as yet undeveloped. Many of these deposits are reportedly large, rich, and possibly suitable for open pit mining, which makes them potentially very attractive for low cost production. However, this attractiveness is offset by poor accessibility. The majority of undeveloped deposits are in mountainous areas where access is extremely difficult due to the lack of roads and other infrastructure and to extreme weather conditions, which close large portions of the region during certain winter months. Development of these deposits would therefore require relatively larger amounts of capital.

8.57 The mining sector's future contribution to the Tajik economy will be determined in large measure by the amount of investment that can be mobilized for this sector. Investment will be required, not only to reconstruct and rehabilitate war damaged and run-down mining operations, but also to develop some of the potentially valuable but extremely difficult-to-exploit deposits. Certain fundamental issues must be addressed, however, before Tajikistan can attract this investment for the sector. First, the country needs to have an attractive policy framework for mineral development. Secondly, there must be adequate internationally acceptable evidence of the economic attractiveness of the deposits. Finally, for investments in existing mining operations, issues of viability, ownership and the environmental impact of existing mining and related metallurgical operations must be resolved.

Policy Framework for Mineral Development

8.58 Tajikistan faces significant competition from neighboring and other resource-rich developing countries for what is likely to be a limited global pool of mining investment funds. Given the significant size of investment requirements in the mining industry, a large portion of aggregate funds will have to come from private or corporate sources. To attract even a small share of these funds, Tajikistan must have a sound policy framework for mineral development, including an adequate mining law, a clear tax and royalty regime and an enabling overall foreign investment climate.

8.59 While the *mining law* presently being drafted is a step in the right direction, several aspects of the draft law need careful reconsideration. First, the law should aim more to serve as a competitive tool with which to attract investment. Second, the law should be more objective and less open to Government or Ministerial discretion. Transparency and predictability are needed not only to satisfy constituencies within the country but also to satisfy foreign investors – particularly those whose domestic statutes providing for such transparency. Third, the *tax and royalty* regime must be clear and objective – not subject to case by case negotiation and frequent changes. Surveys of potential foreign investors have shown that clarity and stability in the tax and royalty regime is more important than a good regime per se. Technical assistance in these areas will be of great help to the country. The issues pertaining to *foreign investment*, dealt with elsewhere in this report, also are applicable to the mining sector.

Attractiveness of New Deposits

8.60 Prior to the dissolution of the FSU, the geological surveys and studies were conducted by all union subordinated organizations. With independence, the geological activities were relegated to the Tajik Geological Enterprise. However, many of the important records and the senior professional staff of the region remained with the regional office in Tashkent. While many of the records pertaining to regions in Tajikistan are said to have been transferred to Dushanbe, it is not clear how much of this data is actually available in the formats and with the technical detail required by foreign investors.

8.61 To attract potential investors, additional information on the size, grade and viability of the deposits might be needed. While the geological methodology and the information presently available is likely to be comprehensive,⁸ existing geological information may need to be recalibrated and reinterpreted using internationally acceptable economic parameters. This would allow foreign investors to more easily assess the viability of the deposits.

8.62 Related development strategies for the sector also need to be formulated. These should include a least cost development strategy that takes into account size, mining methods, access, ease of recovery, end use and markets. A case in point is the relatively large but remote anthracite deposits, which reportedly are the richest (less than 5 percent ash and over 8,000 kCal/kg) in the world, after Vietnam. Development of this deposit must address accessibility, end use, and, since this coal lends itself better to industrial uses than as fuel, the selection of products and markets.

8.63 External technical assistance will probably be needed to formulate development strategies. This assistance should be provided on promotional activities and on preparation of pre-feasibility studies and prospectuses for presentation to international investors. Most investors do their own feasibility studies in the exercise of due diligence. However, to initially attract them and induce them to invest time and resources in a serious initial appraisal, a certain level of detailed minimum data is required. This can often be finished by a pre-feasibility study, supported by technical assistance to the country or the enterprise.

8. A summary of the major deposits and reserves is provided in the Statistical Appendix.

Existing Operations

8.64 Even though many of the existing mining operations are significantly depleted, there is an urgent need to increase utilization. However, any investment for the reconstruction or rehabilitation of existing mining operations to optimize operating levels must be fully justified in terms of viability, ownership limitations and the environmental status of these enterprises.

8.65 The decision to invest in existing operations should not only take into account the *viability* of continuing these operations, but also the rates of return on such investments. If the viability of the enterprise is in question because of its cost structure, market situation or level of depletion, alternate courses of action should be assessed and appropriate action taken. If the mine can be viably restructured, this should be done. If the present cost structure does not justify continued operations under present market prices and conditions, the option of temporary closure and of putting the mine under care and maintenance should be given serious consideration. If the mine is not viable, the option of permanent closure should not be ruled out. It should be recognized, however, that the present distortions caused by problems in the interrepublican payment systems and other disruptions (e.g. of supplies from the FSU) might render an accurate assessment of current viability difficult.

8.66 *Ownership structure* often becomes an important issue in attracting foreign investment. Equity and control are often included in the criteria upon which major corporate investment decisions are based. Thus, the Government should formulate clear policies and make them known to potential foreign investors to encourage adequate interest. Ownership issues, such as privatization through divestiture, minority versus majority foreign ownership in the mining sector, etc, should be resolved in order to provide the appropriate basis for attracting investment.

8.67 The *environmental status* of the existing mining operations, including the potential environmental liability, are critical issues in the foreign investment decision-making process. Surveys have shown that corporations generally are not averse to supporting some clean up or other environmental-related costs in potential foreign acquisition or investment situations. What they will not accept is an open-ended situation. Statutory limits and clear policies on indemnification by the state for environmental liability are often prerequisites for investments in mining and metallurgical sectors. Thus, a clear and unambiguous law on environmental liability would be of great benefit in attracting investments to the mining sector. Detailed investigations of environmental issues will be needed before any further investment in these enterprises can be mobilized. External technical assistance will likely be needed to complete most of these studies.

8.68 Potential partners for the mining projects must be looked for. This will require matchmaking activities, as well as assistance in the form of financial advisory services to help Government and local enterprises formulate clear rules-of-the-game and sectoral frames of reference with which to negotiate specific transactions with potential partners.

Summary of Recommendations

Industry

8.69 Due to severe trade shock, payment system paralysis and other adversities, industrial output fell by over 50 percent (85 percent in certain subsectors) between 1990 and June, 1993. Controls

over the industry sector and the economy in general have been tightened to promote stability and secure minimum levels of supplies. While, initially, these measures will provide temporary stability and security of supplies, they will very soon have the opposite effect by postponing necessary adjustment to the new terms of trade realities faced by the country. This will delay the direct foreign investment needed to close resource gaps.

Box 8.5: Technical Assistance Requirements in the Industrial Sector

The objectives of the technical assistance program in the industry and mining sectors should be to:

- Prepare a study of the environmental problems caused by the operation of the Aluminum plant and evaluate options to reduce ongoing environmental impact.
 - Assist the Committee of Food Industry and Enterprises to provide training and technology to upgrade quality health and safety standards at food processing enterprises and to establish institutions, standards and protocols for a "Good Manufacturing Practices" framework within which private and privatized food processing can emerge.
 - Assist the Ministry of Light Industry to assess comparative advantage under open market conditions and devise a sector strategy for restructuring the existing textile industry through privatization, foreign direct investment and private sector development with high export orientation.
 - Provide assistance to the Ministry of Industry and the State Gold Mining Committee on environmentally benign process technologies for refining gold from ore that contains arsenic and prepare and provide pre-feasibility studies for any process investments required to accomplish this goal.
 - Prepare environmental standards specific to mining and industry, compliance requirements and penalties with a timetable for implementation.
 - Assist the Ministry of Industry to prepare a mining code in coordination with the Ministry of Justice, Department of Geology, Parliamentary committees and other government agencies. In coordination with Ministries of Industry, Finance, Parliamentary committees, and other Government bodies, design a fiscal regime (royalties and other levies and allowances) for the mining sector, to be incorporated in the mining law.
 - Assess the investment needs for the reconstruction and rehabilitation of existing mining operations.
 - Train staff to generate internationally acceptable evidence on the attractiveness of deposits in terms of size, grade and viability.
-

8.70 There is an urgent need to reverse this control regime and reorient the industry sector to a market basis. Such a program should include:

- a. Elimination of the *state order system*.
- b. Procurement for clearing agreements through price and bids rather than administrative means.
- c. Discontinuation of export licensing.
- d. Commercialization of wholesale enterprises that allows them to change and choose their product lines.

8.71 The liberalization of the procurement and distribution regime should be accompanied by certain *key enterprise reforms*. These should include:

- a. Corporatizing all enterprises irrespective of ownership plans.
- b. Providing the required autonomy and governance through:
 - independent boards of directors
 - management contracts and related compensation plans
- c. Using independent audits to safeguard assets.
- d. Transforming accounting systems to internationally accepted methods.
- e. Accelerating the privatization program.
- f. Eliminating discrimination between state and private enterprises.
- g. Making subsidies explicit, and acknowledging fiscal costs for relaxing the hard budget constraints of commercialization.

8.72 At the subsector level, particular attention should be given to certain industries. Specifically:

- *Aluminum*: It is urgent that the Government should decide on the options available to the aluminum smelter by the end of 1994. If a partner can not be found for its restructuring, the authorities should consider closing down the unit.
- *Food Industry*: There is an urgent need to set product and process quality and safety standards and protocols to allow for privatization.
- *Light Industry*: This subsector is best helped by accelerating the privatization of textiles.

Mining

8.73 Existing mines are depleted in some cases. The remaining deposits are in difficult terrain and undeveloped. New investment is key to this sector's contribution to the economy. To get this investment, the country needs:

- a. A mining law, taxation and royalty regime and an attractive overall foreign investment climate. Mining law must balance preservation of patrimony with competitiveness.
- b. Internationally acceptable evidence of the attractiveness of the mining sector in terms of the size, grade and viability of the deposits should be developed.

- c. **Reconstruction and rehabilitation of existing mines, with the choice of mines based on viability, available ownership options and the environmental status of existing operations.**

CHAPTER 9

THE ENERGY SECTOR

9.1 Tajikistan's energy sector has a number of features that distinguish it from other FSU countries. First, Tajikistan has a low per capita energy use and its energy consumption is among the lowest of the FSU. Second, the energy sector is dominated by hydro-electricity, with little production of other fuels. As do many other FSU countries, however, Tajikistan relies on imports for nearly all of its oil and gas needs.

9.2 Under the Soviet Union, Tajikistan received substantial net resource transfers through subsidized imports of oil and gas. The transition to economic pricing for these fuels will be difficult. This problem is compounded by the effects of the recent civil conflict, which damaged much of the energy infrastructure and caused the loss of skilled personnel through emigration. Finally, Tajikistan's relative poverty will make the burden of unsubsidized, market-priced energy imports particularly hard to bear.

Energy Supply-Demand Balance

9.3 Tajikistan's energy balance is dominated by hydro-electricity, which supplied 36 percent of total primary energy in 1990, compared with an average of 4 percent in the FSU as a whole. The aluminum smelter is a key energy consumer, taking 40 percent of total power output in 1990. Apart from hydro-electricity, Tajikistan consumes significant quantities of oil, natural gas and coal. Since domestic production of these fuels falls well short of demand, overall energy self-sufficiency was only 47 percent in 1990, with self-sufficiency in oil and gas only 6 percent.

9.4 To some extent, energy supply and demand in Tajikistan reflects its position as the least economically developed of the FSU countries. The growth of energy demand in Tajikistan was relatively rapid over the two decades to 1990, as the country caught up with other Soviet republics in its pattern of energy use. Primary energy demand grew by 5.4 percent per year between 1970 and 1990, compared with 3.4 percent in Russia. Tajikistan's fuel supply and use pattern is also influenced by the highly rural character of its population and by its mountainous terrain. These factors make coal the fuel of choice for domestic heating and LPG for domestic cooking. As in many low income developing countries, fuel shortages have driven the rural population to use firewood for heating and cooking. Agriculture uses substantial diesel fuel and electricity (for irrigation).

9.5 Another important feature of Tajikistan's energy sector is the almost complete separation of energy systems in the North (Khojand region) from those in the South (Dushanbe, Kulyab, etc.). Both

Table 9.1: Energy Balance
(thousand tons standard fuel equivalent)

	1975	1980	1985	1990
Fuel Production	1,388	1,289	1,190	602
Hydro Generation	1,100	4,105	4,681	5,488
Imports	4,688	5,971	7,550	8,604
Total Supplies	7,504	11,756	13,690	15,170
Power & Heat Use	2,665	4,180	6,316	8,033
Direct Use & Losses	3,208	3,657	4,193	4,515
Exports	1,308	3,542	2,823	2,169
Stock Change	-3	-13	94	4
Self Sufficiency (%)	42.4	63.8	55.9	48.5

Source: Statistics Committee.

regions are substantial energy consumers, with the North accounting for about 30 percent of national energy demand. There are no direct power or pipeline connections between the two regions through Tajikistan. Road and rail links take a long route through Uzbekistan. Power can also be "wheeled" through the Central Asian grid from South to North. In practice, the trading relationships and supply patterns of the two parts of the country are largely separate. This complicates energy investment and trading policy decisions for the country as a whole, since it is difficult to develop an integrated national investment strategy.

Energy Trade

9.6 Tajikistan is a large net importer of all forms of energy, particularly oil and natural gas. The country's only significant energy export is electricity to Uzbekistan. Historically, all energy imports have come from the nearby major energy producing Republics: Uzbekistan, Kazakhstan, Turkmenistan and Russia. Since 1990, energy trade has been greatly disrupted by the combined effects of the break up of the Soviet Union and Tajikistan's internal turmoil. Trade statistics during this period show a very large fall in total energy imports, amounting to around 46 percent between 1990 and 1992, due largely to a 75 percent fall in oil imports. These statistics may not be reliable, however, since much of the oil trade has been conducted by individual importing enterprises and organizations and is probably unrecorded.

Table 9.2: Energy Trade

	1985	1990	1992
Imports			
Oil (tons)	2688	2613	609
Natural Gas (mcm)	1389	1729	1154
Coal (T. Tons)	657	927	422
Electricity (mkwh)	5500	6906	6428
Exports			
Oil (tons)	356	141	64
Natural Gas (mcm)	214	0	0
Coal (T. Tons)	256	230	186
Electricity (mkwh)	5922	5322	5596

Source: Statistics Committee.

Energy Sector Institutions

9.7 Supreme authority on Tajikistan's energy policy matters lies with the Council of Ministers. Three Deputy Chairmen of the Council of Ministers are directly responsible for different branches of the energy sector. No single Ministry or Department is responsible for coordinating overall energy policy.

9.8 The Department of Fuel and Energy, reporting to one of the three Deputy Chairmen, covers all matters relating to power, heat and gas distribution. While this department maintains some strategic overview of the energy sector, it has no executive powers outside its defined areas of responsibility. Matters relating to oil and gas production and coal mining are formally handled under the Department of Heavy industry, which reports to a different Deputy Chairman. Responsibility for imports and distribution of oil products is under the Department of Trade and Material Resources, which reports to a third Deputy Chairman.

9.9 Tajikistan's energy sector consists of different institutional structures that evolved from the Soviet system:

- The Power sub-sector is conducted by Barghi-Tajik, a single enterprise that controls all power generation, transmission and distribution; and also provides heat in Dushanbe and Yavan.
- Oil and Gas Production and Exploration is under Tajiknaft, which evolved from the local Soviet Production Association, which had previously incorporated the Tajik branch of the Ministry of Geology, which had been responsible for all oil and gas exploration in the Republic.
- Gas transmission along the main pipelines is handled by Uztransgaz, the Uzbekistan gas transmission company. The arrangement that existed under the Soviet Union has been continued because the main lines are transit portions of Uzbek gas lines. Natural gas and LPG distribution along branch lines throughout Tajikistan is handled by Tajikgas, a nationwide gas distribution company.
- Imports and distribution of oil products is undertaken by Naftresan, the state oil distribution company, which is a direct successor of the Committee for Fuel Distribution that existed under the Soviet system. In the last two years, however, a large proportion of the oil trade has been informally liberalized and now takes place through individual enterprises (although these still make use of Naftresan's infrastructure on a fee basis).
- The coal sector is relatively fragmented. It consists of three larger state-owned mines, that operate independently of each other under the Department of Industry, and a number of smaller mines locally owned by public and private sector bodies and loosely grouped under an association, Tajikangisht.

9.10 In general, the energy sector's governance is weak, because the Council of Ministers does not provide a single forum and focus for making energy policy. The various Departments dealing with energy are lightly staffed and unable to take on the necessary policy and supervisory duties. Given the need for Tajikistan to develop an integrated energy supply strategy that addresses the growing import deficit and the pattern of fuel use within the country, it would be more appropriate to centralize energy decision making in the Government within a single Department, probably the existing Department of Fuel and Energy, which has the broadest jurisdiction at present.

9.11 Tajikistan's energy enterprises have only just begun to evolve from their format under the FSU toward structures more compatible with the needs of an independent country moving towards a market economy. The legal status of the different enterprises, their precise spheres of responsibility and their internal management structures and operational capabilities leave much to be desired. All the enterprises suffer from a lack of corporate direction and management and a drain of skilled manpower due to staff emigration. These problems are compounded by a severe shortage of funds necessary to finance repairs, replace essential infrastructure damaged in the civil conflict and address even the most basic maintenance needs.

Energy Pricing

9.12 Most energy prices in Tajikistan continue to be highly subsidized. Certain prices have effectively been liberalized, however, and most oil products are freely imported. Coal has only limited

price controls, with most local production freely marketed and imports (which largely ceased in 1993) also liberalized. It is not clear to what extent reduced state control over oil and coal prices stemmed from deliberate Government policy, as opposed to the difficulty of controlling fuel markets. In any case, estimated prices for oil products in Tajikistan reflect the international pricing policies adopted by the FSU countries that supply Tajikistan. These prices are close to international levels. In contrast, coal prices are only some 50 percent of international levels, which nonetheless represents a substantial reduction in implicit subsidies provided under the Soviet system.

9.13 In the case of natural gas, LPG and power prices remain state controlled and are substantially below economic levels. For example, prices for gas to industry and heat and power plants were only about 30 percent of the import parity for Uzbekistan gas in October 1993, while household prices were about 10 percent of this level. LPG prices, which are an important item in household fuel costs, are only a fraction of international bulk costs, with no contribution for the large fixed and operating costs involved in LPG cylinder distribution. It is difficult to estimate the long run marginal economic cost of power in Tajikistan, given the uncertainties over future supply sources and costs. However, Uzbekistan's internal prices are also well below the price at which electricity is traded in Central Asia, including the price at which Tajikistan imports electricity from Uzbekistan (US\$0.03/kwh).

9.14 The prices Tajiknaft receives for oil and gas production remain very low compared to both world prices and those in most other FSU oil producing countries. These price levels do not cover the cost of Tajiknaft's continuing operations or support new exploration and production. In general, Tajikistan's energy pricing gives highly distorted signals to producers and consumers. It also places a significant subsidy burden on the Government's budget. To address these problems, there should be energy price reform in Tajikistan, based on two major principles: First, since the country is highly dependent on oil, gas and coal imports, domestic price targets should be based on international import costs. Second, prices should be carefully set to reflect the full long run marginal economic costs of hydro-electric supply, as well as the opportunity costs of power traded in the region.

Table 9.3: Energy Prices (October, 1993)

	Price (Rbl.)	World Price (Rbl.)	% of World Price
Oil			
Producer Price (ton)	30,190	343,200	8.8
Gasoline (liter)	1,000	936	106.8
Diesel (liter)	1,000	837	119.4
Fuel Oil (ton)	na		
Natural Gas			
Producer Price (mcm)	5,000	249,600	2.0
Ind./Agr. (mcm)	50,200		
Households (mcm)	20,000		
LPG			
Cylinders (kg)	75	468	16.0
Communal (kg)	54		
Coal			
All users (ton)	65,000	124,300	52.1
Electricity			
Industry (kwh)	5.33-7.00	93.60	5.7-7.5
Agriculture (kwh)	2.90		3.1
Households (kwh)	1.00		1.1

* Exchange Rate: R3,120/US\$1

Source: Department of Fuel and Energy.

9.15 Transition to economic pricing levels will impose a large economic burden on the population, as well as on certain energy intensive industries. These shocks should be mitigated by phasing price increases for certain key products (e.g., domestic natural gas and LPG), as well as by direct financial transfers as part of the social safety net. Appropriate economic signals from the price mechanism, together with the results of energy conversion and infrastructure investments, will eventually lead to a more rational pattern of energy use within the country. This will include a measure of interfuel substitution (e.g., replacing LPG cooking with electric cooking in certain cases) and improved efficiency of energy use.

Table 9.4: Imports of Oil Products (T. Tons)

	1985	1990	1992
Petroleum Coke	270	210	na
Fuel Oil	774	652	168
Diesel	614	708	204
Gasoline	761	726	228
Kerosine	145	181	na
Other	82	104	69

*Note: "Other" includes LPG.

Source: Statistics Committee.

Subsector Structures and Issues

Oil Products

9.16 Naftresan, which is responsible for oil product distribution in Tajikistan, has four main divisions, corresponding to its major depots in the North and South of the country. These divisions have a significant degree of independence. The company has 160,000 tons of product storage capacity (mainly for gasoline, diesel and fuel oil). All products arrive by rail through Uzbekistan and are internally transported, mainly by road tankers. Naftresan also operates the retail gasoline and diesel stations in the country.

9.17 While Naftresan controls the distribution infrastructure, in 1993 (when petroleum product imports were liberalized) its share of product imports was only around 50 percent. Local government entities, and state and private enterprises and traders import significant amounts of petroleum products. Unfortunately, these imports have not been properly recorded over the past two years and there are thus no comprehensive statistics for fuel imports. Recent moves to require registration of all imports may improve this situation.

9.18 Most of Tajikistan's oil product requirements are for transport fuels, gasoline and diesel. There is also significant demand for fuel oil to complement the use of gas in dual-fired heat and power boilers. In 1990 (the last year for which reliable statistics are available), imports of oil products totalled 2.6 million tons (excluding LPG). Imports showed little growth between 1985 and 1990, due to the slow down of economic activity in the late 1980's and the resulting drop in fuel use. In addition to gasoline, diesel and fuel oil, Tajikistan imported significant quantities of petroleum coke (for aluminum smelting) and jet kerosene. These imports came in about equal proportion (25 percent each) from Uzbekistan, Turkmenistan, Kazakhstan and Russia.

9.19 Official statistics show about a 75 percent decline in oil imports between 1990 and 1992. However, while there was doubtless a large fall in demand due to the economic decline and the civil

conflict, a large proportion of imports by agencies other than Naftresan were not recorded during this period. While still major, the actual decline in imports may have been considerably less than 50 percent.

9.20 The break up of the Soviet Union trading system, difficulties with the inter-country payments systems and a lack of policy direction led to a critical fuel shortage during the second half of 1993. Naftresan was able to contract only 30 percent of estimated national requirements through inter-governmental trade and barter agreements. Although the balance of demand could theoretically have been met by other agencies under the liberalized import regime, this did not occur, partly because of difficulties with the payment systems and a shortage of funds within the economy.

9.21 The Government was slow to respond to the fuel shortage. No early moves were made to secure emergency imports or effectively allocate available supplies to priority sectors, such as essential industry, transport and agricultural activities. In the future, it is vital that the Government take prompt steps to secure the minimum resources necessary to prevent economic collapse and ensure distribution of these resources to essential users. Fuel shortage remains the most severe short term problem facing Tajikistan's energy sector. Tajikistan imports all of its oil products from surrounding countries. Liberalized trading should be retained to supplement an essential supply base, which the Government must continue to guarantee until the economic situation stabilizes.

Table 9.5: Generation Facilities in Tajikistan (as of January 1, 1993)

Plant	Installed capacity (MW)	Available capacity (MW)	Actual capacity (MW)	Energy generated in 1992 (GWh)
Hydro				
Nurek	3,000	2,330	2,146	11,541
Other hydro	1,053	578	609	4,207
Thermal				
Dushanbe	198	112	116	680
Yavan	120	30	43.4	193
Diesel	27.6	22.4	17.3	87
Total	4398.0	3071.0	2932.0	16,708

Source: Goscomstat.

Power

9.22 As indicated in para 9.5 above, the Tajik power system consists of two separate networks, the northern system and the southern system, connected only through Uzbekistan and several isolated systems in the Pamir region. The state-owned joint-stock power company, Barghi Tajik, is responsible for the electricity system throughout the Tajik territory. It also supplies heat, in the form of steam and hot water, to households and industries in the cities of Dushanbe and Yavan. As of January 1, 1993, Barghi Tajik's installed capacity was about 4,400 MW, of which 4,052 MW was hydro, 321 MW thermal, and 27 MW in diesel units (in the Pamirs). In 1992, Tajikistan generated 16.9 Terawatt-hours (TWh), while consumption was 17.7 TWh. Trade with Uzbekistan consisted of 5.6 TWh exports, and 6.4 TWh imports, giving a deficit of about 800 million kWh. The aluminum smelter accounts for about 40 percent of total consumption (8 Twh), and has a major effect on system operation.

9.23 High voltage transmission is provided through an extensive network of 226 km of 500 kilovolt (kV) lines; 4,042 km of 220 kV and 110 kV lines, 23,550 km of 35, 10, and 6 kV lines; and 28,821 km of low voltage (0.4 kV) lines all over the Tajik territory. Total installed transformer capacity

is 12,466 MVA in 10,085 substations. The Tajik power system is part of the regional system of Central Asia and South Kazakhstan, which is connected at 500 kV and coordinated by a dispatching center in Tashkent. Tajikistan's system is instrumental in providing peak capacity hydro and spinning reserve to regulate frequency for the regional system. The system also regulates water flow for irrigation use in downstream countries.

9.24 After the collapse of the Soviet Union, Tajikistan was left with the large, uncompleted Rogun and Sangtudin hydroelectric projects, which were started in the mid-1980s. Since funding from Moscow was cut off (see Box 9.1) construction progress has been slow. Although Rogun is a multipurpose project that provides irrigation benefits for downstream countries, only Tajikistan is funding the project. The World Bank recommends that construction on all this project should be deferred, pending completion of a least-cost analysis and arrangement of financing.

9.25 The breakdown of the payment system within the FSU has made it difficult for Barghi Tajik to obtain fuel and spare parts to operate the power system. The problem has been exacerbated by a cash flow crisis caused by rising accounts receivable, increasing theft, and tariffs that do not cover the cost of imports. Further, since 1991 more than 2,000 of the original staff of 9,000 have left Barghi Tajik, most of whom were highly skilled. Shortage of skilled staff, combined with a lack of spare parts, is the main cause of equipment unavailability. Out of 4,400 MW installed capacity, only 3,071 MW were available in 1992. Losses in the transmission and distribution networks, due mainly to overloaded components in the distribution system, are also high by western standards. While the quality of the power supply is currently satisfactory because of adequate reserve capacity, this may not be the case in the future as more electricity is substituted for imported fossil fuels.

9.26 The power sector's problems have been compounded by the destruction of assets by the civil war and recent floods. Most parts of the system in the south of the country were damaged, including the Dushanbe thermal station and the Rogun and Sangtudin construction sites. Large parts of the transmission and distribution system, including many substations and several hundred km of medium and low voltage lines, were destroyed. Barghi Tajik also suffered damage to its support equipment — including communications systems (radios, etc) and transport (trucks and vehicles) — due to looting or other damage arising out of the civil conflict.

9.27 Most of the time, Barghi Tajik has managed to restore supply on a temporary basis. However, implementation of these temporary measures has been hampered by the lack of basic equipment and tools, and more recently by shortages of diesel and gasoline. Barghi Tajik will also have to train newly recruited staff to partially compensate for the huge loss of skilled staff.

Box 9.1: Tajikistan Energy

1. Tajikistan is well endowed with abundant water resources flowing from the Tian Shan and Pamir mountains, with peaks above 7,000 m. Five major rivers (Panj, Vakhsh, Amu Darya, Zhetysay and Kafirnigan) flow in the southern part of the country. One major river, the Syr Darya flows in the northern part. The longest river, the Panj, is 921 km long and flows along the border with Afghanistan. The largest river, the Vakhsh, is 525 km long and surpasses not only the large rivers in Central Asia, but many rivers in the FSU, such as the Volga, Enisei and Angara. In its upstream course near the Tashkent pass in the eastern part of Alai-Kaya Valley, the Vakhsh is known as the Kyzylsu river and flows at an altitude of 3,600 m.

2. Hydro-electric energy is the most important indigenous energy resource in Tajikistan. Tajikistan's hydro-electric potential is about 32,000 MW and 300 billion kW, of which 19,000 MW and 144 billion kW are considered technically feasible. Exploitation of this important resource had been a high priority in the FSU since the early 1960's, when construction began on several dams on the lower Vakhsh river, including the Nurek dam. The first 300 MW unit was commissioned at the Nurek dam in 1972; the 9th unit, in 1979. In 1988, the units were redesigned and their capacity upgraded from 300 to 335 MW. In spite of its respectable size (10.5 billion m³), the Nurek reservoir does not provide adequate flow regulation, since its capacity is only about half the annual inflow. To provide multi-year and seasonal storage for irrigation demand in Uzbekistan, Turkmenistan and Kazakhstan, it was decided in the early 1980's to construct the even bigger Rogun dam upstream of the Nurek site.

Development of the Vakhsh river - Nurek and Rogun dams

3. The Nurek hydro-plant (3,000 MW) is the largest power development in Central Asia. It is part of a cascade of hydro-plants constructed on the Vakhsh river, that also includes Baipazin (600 MW), Golovna (210 MW) and Prepadnaya (29.6 MW) which were already in operation. Construction of the hydro-plants at Rogun (3,600 MW), Sangtudinsk-1 (670 MW), and Sangtudinsk-2 (220 MW) were started under the FSU, but slowed after the collapse of the FSU due to a lack of funds and as a result none of these projects have been completed.

4. The Vakhsh river is formed by the confluence of the Surkhob and Obi-Khingou rivers and discharges into the Amu Darya. The catchment area is 30,700 km² and the average runoff at the Nurek site is 20.5 billion m³. The site of the Nurek dam is a narrow canyon 300 m deep with a channel width of about 40 m. The canyon bottom and sides are composed of hard sedimentary rock, siltstone and sandstone. Quaternary deposits of pebble beds and drift beds are 25 m thick. The damsite is located in an earthquake-prone zone, with an expected magnitude of 8 on the Richter scale.

5. The Nurek dam is a rockfill dam with a central earth core founded on a massive concrete saddle. With a height of 300 m and a total volume of 56 million m³, it is the world's largest man-made rockfill dam. A grout curtain, varying in depth from 40 to 130 m, has been arranged in the heavily jointed rock of the dam foundation. The power house at the downstream face of the dam is equipped with nine vertical-shaft Francis turbines of 335 MW each, and nine generators of 390 MVA capacity. The plant connects to the regional grid at 500 kV and 220 kV.

6. The main characteristics of the Nurek hydro plant are:

Installed capacity (9 units):	3,000 MW
Average annual energy:	11.2 billion kWh
Maximum head:	275 m
Average observed flow:	645 m ³ /s
Maximum flow:	3,730 m ³ /s
Minimum flow:	120 m ³ /s
Average sediment carryover:	108 million tons/year

7. The Rogun dam is located about 70 km upstream of the Nurek dam. If and when the Rogun dam is completed, it would hold the record for the world's highest man-made rockfill dam at 335 meters, and have a reservoir with a capacity of 13.5 billion m³. The power house is designed for 3,600 MW (6 units of 600 MW). Construction of the Rogun dam started in 1988 and was scheduled for completion in 1997-2002. However, progress has been slow because Tajikistan could not finance this huge project on its own. Furthermore, in May 1993 flood waters overtopped the coffer dam and wiped out most of the two million m³ of rockfill already in place, destroying much of the infrastructure.

8. The main characteristics of the Rogun dam are given below:

Installed capacity:	3,600 MW
Average annual energy:	13.3 billion kWh
Maximum head:	320 m
Probable Maximum flow (10,000 year):	5,710 m ³ /s
Volume of rockfill for the dam:	71.1 million m ³

9. Because of its size and cost, the Rogun dam could be justified only by irrigation benefits (provided by the Amu Darya river) and power exports. The economic justification and its financing sources should be established after a study of its economic benefits as a multi purpose power plant and source of possible power export for the region.

Natural Gas and LPG

9.28 Tajikistan imports about 95 percent of its natural gas requirements from Uzbekistan. All imported gas originates at Uzbekistan's large Mubarak processing plant, which serves the giant Shurtan gas field. Imports to the North and South of Tajikistan are delivered separately through different branches of the main Uzbek pipeline. There is no national Tajik gas grid. Imported gas is transported to all major towns in Tajikistan, with the exception of Kulyab, which is served by associated gas from a local oil field. Although most major industries in Tajikistan, as well as the heat and power boilers, have dual firing capacity, they rely mainly on natural gas for fuel. Sixty-seven percent of total natural gas use (1.83 bcm in 1990) was used in power and heat; 17 percent in industry; and 16 percent in local distribution. As in the rest of the FSU, only larger power/heat and industrial users are metered. Lack of meters for most commercial/municipal and all residential users constrains measures to reduce cost and promote efficient gas use. A meter installation program is a clear priority.

9.29 Despite substantial gas use in industry and heat and power, only about 10 to 15 percent of households receive natural gas, compared with up to 80 percent in other Republics. This reflects Tajikistan's remoteness from the main Soviet gas system and the overwhelmingly rural character of the population. Distribution of natural gas to rural areas is usually uneconomical, most households rely on LPG for cooking. Of 670,000 households using gas, only 190,000 (28 percent) use natural gas, with the remainder (i.e. 72 percent) dependent on LPG. Being concentrated in the rural areas, LPG users tend to represent the less well-off segments of the population. For rural households, LPG generally represents the best option for cooking fuel. Households in urban areas generally rely on natural gas for cooking. There are, however, a significant number of "collective" LPG users in the towns, and in apartment blocks and complexes.

9.30 Distribution of both LPG and natural gas in Tajikistan is carried out by Tajikgas, the state gas utility. All LPG supplies are imported, mostly from Russia. In 1990, imports reached 104,000 tons, having risen by 6 percent per year in the previous 20 years. In 1992, imports fell to 69,000 tons due to the civil conflict and the breakdown of inter-republican trade. Imports in 1993 were even lower due to the shortage of finance in Tajikistan and problems with inter-republican payments. There were almost no imports between August and October 1993. In the absence of LPG, many households have been using electric hot-plates for cooking. In rural areas, firewood is also used. The substitution of electricity for LPG in cooking would strain the power system, since the peak nature of the usage would require investment to reinforce transmission and distribution networks. Costly replacement of consumer equipment would also create difficulties. In the long run, however, construction of additional high cost peak generation capacity may be required. It should be noted that the use of firewood is generally detrimental to the environment, and is not desirable in the long run as it contributes to deforestation which leads to erosion and loss of biodiversity.

9.31 After oil products, natural gas is Tajikistan's most costly energy import. Total gas imports were 1.9 bcm in 1992, and were scheduled to reach around 1.5 bcm in 1993. The price Tajikistan pays Uzbekistan is based on the gas price set by Turkmenistan, which is the main Central Asian exporter and producer of natural gas. In 1993, Turkmenistan announced that it intended to move prices to a "world level" of US\$80/mcm. During 1993, Tajikistan was able to purchase gas at a "transitional" price of 60 percent of the "world" price, i.e. \$48/mcm. However, even at this price, Tajikistan built up substantial arrears with Uzbekistan, which resulted in curtailed gas supplies during the latter part of 1993.

Table 9.6: Energy Supply-Demand and Trade Outlook

	1990	1993	1995	1998
Production				
Oil (T.tons)	143	42	75	100
Gas (mcm)	111	49	80	100
Coal (T.tons)	475	927	300	400
Electr. (mkwh)	18,146	17,741	16,000	16,000
Imports				
Oil (T.tons)	2,613	439	1,815	1,815
Gas (mcm)	1,729	1,374	1,250	1,250
Coal (T.tons)	927	33	800	800
Electr. (mkwh)	6,906	5,4210	6,400	
Exports				
Oil (T.tons)	141	41	75	100
Gas (mcm)	0	0	0	0
Coal (T.tons)	230	80	150	200
Electr. (mkwh)	5,663	6,387	6,400	6,400
Apparent Use				
Oil (T.tons)	2,425	9,99	1,815	1,815
Gas (mcm)	1,834	1,550	1,330	1,250
Coal (T.tons)	1,1845	190	950	1,000
Electr. (mkwh)	19388	16,6568	16,000	16,000
Net Trade (US\$ Million)				
Oil	-378	-162	-240	-300
Gas	-138	-120	-110	-120
Coal	-22	0	-20	-18
Electr.	-48	-25	0	-25
Total	-585	-307	-370	-463

Source: World Bank estimates.

9.32 Afghanistan offers an alternative potential source of natural gas for Tajikistan. A pipeline constructed during the period of close economic relations between the Soviet Union and Afghanistan links large gas fields in Northern Afghanistan to the Uzbek pipeline that serves Tajikistan. In 1988, Afghanistan sold 1.6 bcm of gas to the Soviet Union. Afghani supplies were halted in 1990 due to the break up of the Soviet Union and the civil war in Afghanistan.

Coal

9.33 Tajikistan has significant coal resources. Most coal production is concentrated in the North, where soft brown coal is produced at the Shurab mine. In the center, South and East of the country, smaller mines produce higher quality hard coal. Shurab's production has been falling due to depletion of shallow reserves, while production generally has been held back by lack of financing, the difficulty of developing reserves in remote mountain locations, and the effects of the civil conflict. In 1990, total production was 475,000 tons, but dropped in 1992 to only 214,000 tons. Tajikistan trades various grades of coal with its neighbors to meet a supply deficit and to balance regional output (see Table 9.6). Net imports in 1990 were 550,000 tons. In Tajikistan, coal is mostly used for space heating

by households and municipal/communal entities and is therefore a vital commodity for a large part of the population, especially in rural areas. In 1993, coal imports fell sharply, leading to shortages and to the use of electricity for heating.

9.34 Tajikistan's two largest mines, Shurab and Faniagnob, report directly to the Ministry of Heavy Industry. About ten small open pit mines operate independently with mixed public/private investor participation. Tajik Angisht, a commercial organization with mixed public/private participation, has been set up by the Government as a coordinating agency for the smaller mines. The smaller mines play an important role in meeting the energy demands of their surrounding populations, especially in the isolated mountain regions of the south and east. Further development of such mines would be possible by expanding existing mines and developing new fields.

9.35 Two of Tajikistan's coal mines have significant potential, but have not been fully developed due to their remoteness and lack of finance. The Faniagnob field, located in the mountains about 50 km north of Dushanbe, has over 400 million tons of reserves and the potential to produce several hundred thousand tons of coal. However, it is currently producing less than 50,000 tons for the local area. The main problem is transport links from the mine, since there are no usable road or rail links in the area. The Nazarailok field in the Garm region in the Northwestern Pamirs is one of the largest deposits of very high quality anthracite in the world, with reserves of about 300 million tons. Although the mine lies some 70 km from the nearest main road, transportation links could in principle be developed. The anthracite could be used both for thermal purposes and as a high quality source of carbon (e.g. for electrodes). Development of this mine has been held back by political unrest in the region as well as lack of finance.

9.36 Tajikistan probably has sufficient coal resources to become self-sufficient in this fuel. However, the remoteness of its mines means that development and transport costs will tend to be high. A careful economic evaluation of coal supply options will be required, including an analysis of competitiveness of locally mined coal compared to imports, and of coal use compared to other fuel (LPG, natural gas, oil products, etc.).

Oil and Gas Production

9.37 Tajikistan is part of two oil and gas provinces – the Fergana Basin and the Afghan-Tajik Depression. Since the 1960s, a number of relatively small oil and gas fields have been activated. Oil production peaked in 1979 at around 420,000 tons, while gas production reached its annual maximum of about 300 million cubic meters (mcm) in 1982. As noted in para 9.9, oil and gas exploration and production activities are carried out by

"Tajiknaft", a state enterprise under the Ministry of Industry. Proven recoverable reserves are estimated at 4.2 million tons of oil and 5.5 bcm of gas. Most crude oil is exported for refining in Uzbekistan, although previously a small amount was processed into bitumen in Southern Tajikistan.

Table 9.7: Oil, Gas and Coal Production

	1975	1980	1985	1990	1992
Oil (T.Tons)	274	391	387	144	61
Gas (mcm)	419	222	303	111	72
Coal (T.Tons)	875	832	516	475	214

Source: Statistics Committee.

9.38 In 1985, oil and gas production started a rapid decline; since 1987, production has practically collapsed. Output fell from the 1985 level of 387,000 tons of oil and 268 mmcm of gas to 61,000 tons and 72 mmcm, respectively, in 1992, accounting for only around 5 percent of Tajikistan's requirements. This drop is due to the combined effect of: (i) the natural production decline of mature fields; (ii) a dramatic drop in investment since 1986; (iii) likely damage to reservoirs due to poor reservoir management; (iv) frequent interruptions of operations as a result of political instability in the southern regions and associated weakening of technical and labor discipline; and, (v) the dismantling of the established system of equipment procurement during the last years of the Soviet Union's existence and after its breakup.

9.39 The civil conflict of 1992-1993 caused further production losses, destroyed facilities, and damaged equipment. Production on the Beshtentyak Field, the largest producing field in the Republic (25,600 tons of oil and 17 mmcm of gas in 1991) fell sharply as operations halted and equipment and materials were looted. A similar impact was felt by the Kichikbel and Akbashadyr fields, located in a border region where intensive fighting took place. Heavy crude produced there was used as feedstock for a bitumen plant of regional importance. The extensive damage to this industry put an additional burden on the country's economy by increasing oil and gas import requirements.

9.40 The geological features that give rise to Tajikistan's present oil and gas output have been relatively well explored, and probably have limited remaining potential. However deeper and more complex deposits in several parts of the country are believed to have significant potential. In the north, discoveries in the deep horizons of Uzbekistan's Fergana basin (in particular, the large Mingbulak oil discovery) suggest that similar potential may exist in the same geological formation in Tajikistan. In the southwest, there is believed to be considerable gas and liquids potential in deeper horizons, although this has not yet been tested by drilling. If either of these geological formations fulfills its hypothetical potential, it could eliminate Tajikistan's oil and gas deficit. The key issue for Tajikistan is to attract interest and financing from foreign petroleum companies to undertake the necessary exploration work. This will require greater political stability, as well as a legal, contractual and fiscal framework that is acceptable to the international oil industry.

Outlook for the Energy Sector

9.41 The outlook for Tajikistan's energy sector while dependent upon economic and political stabilization, is also closely linked to the increased cost of energy imports as prices rise to world levels. Price rises began to have an impact during 1993. Given the current structure of production and demand, Tajikistan will experience a large systemic energy deficit, which can only be changed in the long run through development of substantial additional domestic fuel production. Such production, however, must be cost competitive with imports if it is to provide the country with real economic benefits.

9.42 Energy demand has been greatly depressed by the economic collapse and the civil conflict. Statistics suggest that total energy demand fell by around 36 percent between 1990 and 1992. In practice, because the decline in oil imports is probably not as great as suggested by the official statistics, the actual decline may have been in the range 25 to 30 percent. Future energy demand is likely to reflect the overall trend in economic activity. Oil demand is likely to recover, though transport fuel demand is not expected to exceed 1990 levels before 1998. This is due to projected improvements in vehicle efficiency as the old vehicle stock is replaced, to the response to higher prices, and to the delay in reaching previous levels of economic activity. Fuel oil demand is unlikely to ever reach previous levels, since it is unlikely to be competitive with gas supplies at international price levels. Demand for

natural gas is also likely to remain below the 1990 level, due to a likely decline in use in energy intensive industries as prices rise to economic levels, as well as to the general response to higher prices among other industrial, commercial and residential users.

Box 9.2: Technical Assistance in the Energy Sector

The objectives of technical assistance program in the energy sector should be to :

- Assess the current condition of the Dushanbe Combined Heat and Power System, in terms of the generating plant and the distribution system. The role of the plant in the overall power supply system should be considered. Losses of heat and hot water from the pipeline system will be assessed, as will options for the system's future, including investments to improve both power efficiency (e.g. conversion to combined cycle operation) and heat efficiency (e.g. improvements in pipe insulation). The long term competitiveness of heat versus expanded use of natural gas and electricity for space and water heating must also be examined.
 - Establish a small energy efficiency center in Tajikistan to introduce energy consumers to methods of improving energy efficiency. The program will fund a number of energy efficiency surveys of industries and public sector institutions (e.g. schools, hospitals etc.), to demonstrate how to economize on energy. Courses for managers of energy using enterprises and institutions will be organized. Publicity materials on energy saving for the general public will be prepared and distributed.
 - Organize training courses for staff from energy sector enterprises in all aspects of energy sector operations in a market-based environment, including: basic energy economics, energy pricing principles, project evaluation techniques, energy market analysis, international energy markets, corporate planning in energy companies and financial aspects of energy company operations.
 - Assess current data from the state oil company and related sources on Tajikistan's petroleum exploration prospects. Data will be interpreted according to international standards, and information packages for foreign companies will be prepared in English. Seminars to attract industry interest will be developed. A legal and contractual framework for foreign investment in oil and gas exploration and production will be prepared and presented to the Government for consideration and approval. Local staff will be trained in international practices in exploration data presentation and commercial agreements.
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9.43 The outlook for electricity demand depends critically upon the future of the large aluminum smelter, which accounts for 40 percent of demand. Demand in other industries or from the population at large is unlikely to recover to previous peaks in the medium term, due to the combined effects of higher prices and the failure of economic activity to revive to its former levels. The Government will decide on the future of the aluminum sector by the end of 1994. If a partner is not found to assist the Government in the restructuring plan, the unit should be closed down. Assuming that the aluminum smelter continues to operate at around 60 percent of capacity (as in 1993), power demand is unlikely to rise above the 1992 level before 1998. Demand for LPG and coal, which is largely determined by the basic cooking and heating needs of non-urban households, is likely to recover to close to its former level, though some reduction in demand in response to higher prices can be expected.

9.44 Domestic production of energy is unlikely to recover substantially within the next five years. It should be possible to partially revive oil and gas production in existing fields by rehabilitating and replacing damaged equipment, and by improving recovery mechanisms in new wells. However, Tajikistan's existing oil fields are mature, and declines in the production of natural gas will prevent a substantial increase in total production. Natural gas production could be sustained by developing the Khodzha-Sartis gas field near Kulyab. Coal output is also unlikely to increase in the medium term, since the decline of production in the mature Shurab field can at best be arrested, while development of major

new mines will take many years of preparation and investment. Electricity output is likely to stay at 1993 levels, since none of the new hydro schemes is likely to be completed before 1998 and output from thermal stations may well be reduced as the cost of gas and fuel oil rises.

9.45 As oil and gas demand recover from the depressed level of the early 1990's, the cost of energy imports is likely to increase. At international prices, the cost of oil imports would be around US\$280 million in the mid-1990's, while natural gas imports would cost around US\$100 million. Some offset is likely to come from eliminating the deficit on electricity trade, due to an expected lower level of domestic demand and a slightly lower net cost with respect to coal imports. Nonetheless, the outlook is for an overall energy trade deficit of around US\$400 million per year from 1994 to 1998. This will place a very large burden on the economy as the country seeks to recover from the setbacks of the last few years.

Key Issues and Recommendations

9.46 Improving energy efficiency and ensuring the economic use and exploitation of all resources will be essential parts of the economic recovery process in Tajikistan. A number of key energy policy issues must be addressed in the context of economic reform and the move towards a market economy. Key short term energy issues are described below.

9.47 Ensuring adequate imported fuel supplies, particularly oil products and natural gas, is essential if further economic damage is to be averted. While in principle the liberalization of oil imports is a move in the right direction, state and private enterprises clearly do not have the means to import all their requirements in the short term, nor is there any guarantee that supplies will be available to critical economic sectors at critical times. The Government must develop a coherent strategy for ensuring adequate imports of oil during a transitional period (which will last at least until 1995) using Naftresan as its agent to carry out this policy. The strategy should ensure that key sectors, such as agriculture and essential industries and services, are not further disrupted through fuel shortages. It is important, however, that Naftresan's activities be made more transparent so as to allow full oversight of this key economic activity.

9.48 To ensure that energy use is as efficient as possible, a rapid transition to economic pricing of energy should be planned. Substantial progress has been made: prices of transport fuels and oil and gas for industry are already close to economic levels. However, prices for electricity and fuels to households will also have to be raised. While it may not be practical to ask households to pay the full economic cost of fuels immediately, prices should be raised substantially and some compensation through the social safety net mechanism should be considered. Where subsidies persist, it is important that they be made explicit in the government's budget, and not be carried by enterprises as losses or funded through ad-hoc credits to energy enterprises. A study of energy pricing to determine target levels of economic pricing for the various fuels is recommended.

9.49 With respect to oil and gas production, it is important that the sector be able to continue to maintain and improve its current modest fields. At present, Tajiknaft is close to collapse in terms of its infrastructural and manpower base, and urgently requires additional funding and staffing.

9.50 The energy sector's institutional framework must evolve further in order to better develop and implement energy policy and strengthen energy enterprises. At the government level, responsibility for energy policy and oversight of energy enterprises should be centralized within a single Ministry or

Department. This entity need not be large, but should be staffed by an adequate number of high quality personnel, reflecting the sector's importance to the economy.

9.51 In the medium-term, once the fuel supply situation has been stabilized, the policy focus should be on strategic investment planning and restructuring. An assessment of fuel use priorities will be important. A key consideration will be the best use of Tajikistan's large installed hydro-power base. At present, about 40 percent of output goes to the aluminum smelter. As part of a review of both the energy situation and the smelter's future, it will be important to take full account of the economic cost of this enterprise's large use of fuel. Reduced demand from the smelter could allow greater use of electricity in domestic heating and cooking, for example, which would save high cost imports of LPG and natural gas. It also is possible that power saved by reducing the aluminum smelter's use could be exported to neighboring countries to help offset the costs of oil and gas imports. The Government should decide on the future of this unit by 1994 and if a strategic partner can not be found to assist the Government in the restructuring, the unit should be closed down. A review of the price Tajikistan receives for the electricity it exports will be important, though this will have to take into account Tajikistan's role in regional power trade and balancing.

9.52 The future development of Tajikistan's large hydro potential is a key issue. In view of the high costs involved in constructing the Rogun and Sangtudin projects, and given the uncertainty of demand from both domestic and export markets, it is recommended that further work on these projects await the outcome of the following special studies: (i) an analysis of the export demand for power from the Rogun project (from such countries as Pakistan, Afghanistan and other Central Asian countries); (ii) development of a least cost power expansion plan for Tajikistan, using input from the regional demand analysis. It also will be important to analyze the role of Rogun and the other projects in regional water management for irrigation. Since the Rogun project in particular will serve the electricity and water needs of other countries in the region, it is recommended that these countries participate in financing this project. Environmental and social impact of the construction of these projects should be evaluated before further work on these projects.

9.53 In the coal sub-sector, there is a need to assess investment needs. Tajikistan's coal resources could probably make a significant contribution to reducing fuel import costs, but various projects need to be ranked according to their economic attractiveness, which will require a detailed technical and economical analysis of all actual and potential mines.

9.54 Once Tajikistan's situation has been stabilized, attention should turn to attracting international investors to explore promising new geological formations in the country. For this purpose, it is important that an exploration promotion program be developed, along with a legal and contractual framework that will attract foreign investment. Increased political stability will probably be required before foreign oil companies make a significant commitment to the country.

9.55 As the economy moves towards a market oriented one, the various energy enterprises will have to continue to restructure. This will involve spinning off and privatizing many non-core activities, as well as progressive corporatization and commercialization of enterprises and their various subsidiaries. Early privatization of specific areas of activity, particularly of retail distribution (gasoline/diesel stations, LPG distribution, and coal sales), should be considered. A comprehensive program of staff training in all enterprises should be a priority to compensate for the large loss of skilled manpower in recent years.

CHAPTER 10

INFRASTRUCTURE

Transport Sector

10.1 Tajikistan's transport system is relatively well developed for its level of income. However, there are serious issues in the transport sector. First, the needs for rehabilitation and replacement of assets are large. Second, transport demand is likely to change substantially in the near future, which will require a deep restructuring of the sector if it is to meet new demands efficiently. Third, considerable inefficiencies in the sector presently result from inadequate incentives and regulations, as well as problems in sector organization. Addressing these issues will require Government action in the following areas: (i) improving the incentive structure for transport operations and for the provision of infrastructure; (ii) developing institutions involved in the sector; and (iii) focusing public expenditures on maintenance and high priority rehabilitation or replacement of assets. After a brief presentation of the sector these key reforms are discussed below.

Main Features of the Transport Sector

Transport Demand

10.2 Tajikistan's economy is unusually transport intensive. There were approximately 1.2 tons x km of freight transport for each US\$ of GNP in 1991, about 1.5 times more than in Eastern Europe and five times more than in Western Europe. This is mostly the result of low transport prices and extreme specialization of the economy, both of which are features inherited from the FSU. However, Tajikistan's economy is less transport intensive than most other FSU countries, mainly because its unusual geography promotes the concentration of population and economic activities into two relatively small areas close to the borders in the north and southwest of the country, with a vast expanse of sparsely inhabited mountainous areas in between. In 1991, there were about 30 percent and 100 percent more freight transport per US dollar of GNP in Kyrgyz Republic and Uzbekistan, respectively, than in Tajikistan.

10.3 The traffic shares of the various transport modes are also quite different from those in most FSU countries. Road transport is by far the most important mode. In 1991 within Tajikistan, it carried about 4.9 billion ton x km of freight and 3.6 billion passenger x km (including urban public transport but excluding private cars), compared to about 1.2 billion ton x km and 120 million passenger x km for the railway.¹ Considering the per capita income, air transport of passengers (mostly to and from other parts of the FSU) was extremely important with about 4.9 billion passenger x km in 1991 (including the international trip component).

10.4 Transport traffic, however, has decreased drastically in the past two years. Road freight and passenger transport decreased about 60 percent in 1992, and a further decline of 50 percent in 1993, so that traffic in 1993 would likely be only 20 percent of that in 1991. Similarly, rail freight traffic in 1993 would likely be 33 percent of that in 1991, and air passenger traffic in 1993 only 16 percent of that

1. These statistics do not include traffic corresponding to the small northern railway line, which is an integral part of the Fergana branch of the Central Asian railways.

in 1991. Only rail passenger traffic has remained stable, but at a very low level. The decline in NMP and in external trade are the main reasons for this drastic change. The reduction in investment and construction activities that followed the decline in NMP has led, in particular, to a considerable decrease in the transport of construction materials. These effects have been compounded, especially in 1993, by the critical shortages of petroleum products and the impossibility, at times, of operating part of the transport fleet.

10.5 Even if current economic decline is arrested, in the medium to long-term, transport demand is likely to change substantially, both in total quantity and in modal shares. Total demand will probably remain well below the peak registered in 1989-1990 because transport prices (which are dependent on the prices of oil products and imported equipment and spare parts) are likely to increase substantially in relative terms, and because the economy will restructure, becoming less specialized and monopolistic, and based more on local resources which will make for shorter distances between suppliers and purchasers. In addition, the types of demands placed on the transport sector should be expected to change considerably. For example, increased local grain production will lead to substantial changes in transport demand, reducing grain import (by rail), increasing fertilizer import (by rail and truck), and creating a completely different pattern of domestic grain distribution (by truck). Another case is that of subsidized goods (especially oil products). As subsidies are removed, their consumption will decrease and the demand for transport of these goods also will decrease which is likely to result in increased demand for other goods (coal and fuelwood, for example). Changes of this nature have occurred in Eastern Europe, where the fall in transport demand has been faster than that of output and the railway, once the dominant transport mode, has lost on average about 50 percent of its traffic. In Tajikistan, the transport system will need to adapt quickly to changes in demand. In general, a more efficient economy will require transport operators to change their operational practices. Long term plans will no longer be possible. Operators will need to be more flexible and respond rapidly to specific customer demands. Operators will also have to offer more specialized services. These changes can best be achieved by a market based transport sector. In general, and on the basis of the experience of Eastern Europe, it is likely that international and domestic road transport and use of containers will greatly increase. Conversely, the modal share of rail transport may be expected to decrease. Air transport is also likely to remain at much lower levels than in the past.

Transport Supply

10.6 Given its level of per capita income, Tajikistan has well developed facilities and equipment for road, rail and air transport. These do not need to be extended in the foreseeable future. However, as explained below, most of the sector's capital stock is poor quality. There are about 9,500 km of paved roads and about 16,000 km of urban and "private" roads (servicing mostly cities, villages, state farms and industries). The road network reaches most inhabited parts of the country and is dense in the populated areas. Overall, there are about 0.2 km of road per square kilometers and 5.3 km per thousand people, which is about the same as in Kyrgyz Republic and Uzbekistan and in general compares well with market economies with similar per capita income. Tajikistan has somewhat fewer roads than Turkey, but many more than Pakistan and Indonesia. The railway network, on the other hand, is of very limited size. It includes mostly two single-track main lines totalling 418 km that connect Dushanbe and the rich agricultural Southwest corner of Tajikistan with the south of Uzbekistan and further, via Turkmenistan, with the FSU railway network. There are also two small narrow gauge rail lines, which today are rarely used. The highly trafficked rail line between Tashkent and the Fergana valley crosses the northern part of Tajikistan and serves the Khojand area. Tajikistan's southern railway has about 47 locomotives, 1400 freight wagons and 215 passenger cars -- sufficient to handle foreseeable rail transport

demand. Finally, air transport is also relatively well developed. The country has four main airports. The two largest, Dushanbe and Khojand, have runways of 3,100 m and 2,600 m, respectively, and can accommodate most international traffic, except large jumbo jets, under appropriate safety conditions. Tajik Airline has inherited a relatively extensive fleet of aircraft from the former Aeroflot, including 14 TU 154 (comparable in size to a B727).

10.7 The poor condition and relative inefficiency of many of Tajikistan's transport assets is a major problem. For example, 25 percent of the paved roads are in poor condition and require reconstruction. An additional 50 percent of paved roads are only in fair condition and require some rehabilitation. Mountain roads are cut into landslide-prone slopes and are under permanent risk of destruction during the rain and flood season. This even applies to such major highway as the Khorog-Kulyab, Dushanbe-Garm, and Dushanbe-Aini. The high seismicity of the region provokes rockfalls, landslides and mudflws that impact the transportation system. Due to the rapid population growth and the return-migration to mountain areas, a network of secondary unpaved roads connecting kishlaks and rural production facilities is developing spontaneously to meet local demands. The mountain slopes undercut by networks of rural roads are subject to intensive erosion. There is absolutely no protection of slopes by engineering techniques or by afforestation, and is undermining rangeland and cropland.

10.8 At international prices, it would cost about US\$500 million to bring the entire paved road network up to satisfactory condition. About 50 percent of the trucks of the Ministry of Road Transport and over 60 percent of its buses are seven or more years old and will soon have exceeded their service life. Similarly, it is estimated that about 40 percent of the locomotives and the freight cars should be retired. Most transport equipment uses technologies dating back to the 1950s and 1960s, generally resulting in high fuel consumption and poor performance. In particular, large diesel trucks, necessary for modern road transport operations, are in very short supply. Furthermore, the equipment is used with varying degrees of efficiency. Railway operations, for example, appear to have been performed satisfactorily when transport demand was high. The use of trucks and buses, on the other hand, was poor. Trucks and buses covered only about 38,000 km and 48,000 km, respectively, per year, due to the predominance of short hauls and the reduced numbers of hours worked per day. In many parts of the world, a truck fleet is used more than twice as much as in Tajikistan.

General Sector Organization

10.9 Several large, relatively autonomous public organizations have operational responsibilities for the various transport modes and for public roads. Road freight and inter city passenger transport services are the responsibility of the Ministry of Road Transport (MORT). However, other ministries, agencies and enterprises also have vast truck and bus fleets to satisfy most of their own transport needs. Air transport services (domestic and international) and airports, as well as air transport regulations, are the responsibility of Tajik Airline, an offspring of the former Soviet Aeroflot. Railway services are the responsibility of the Central Asian Railways (CAR), one of thirty-two autonomous units of the former Soviet Railway. The CAR is a transnational enterprise based in Tashkent that serves Uzbekistan, Kyrgyz Republic, Kazakhstan and Tajikistan. The General Director of the CAR reports to the Councils of Ministers of all four countries, although his reporting relationship to the Uzbek Council is apparently more authoritative than his relationship to the other three. One of CAR's branches, which controls the railway in the south of Tajikistan, is based in Dushanbe. Finally, the administration of the public inter-urban road network and the carrying out of all road maintenance and construction activities are the responsibility of the Ministry of Highways (MOH). Municipalities are responsible for city streets and

urban public transport in the main cities. Some other organizations play roles in the sector, such as road safety (the police) and environmental controls (the Ministry of Environment).

10.10 General coordination of these organizations, as well as formulation and follow up of Government policies, is the responsibility of the Department of Transport and Communal Services (DTCS) of the Council of Ministers. Unfortunately, though DTCS has obvious authority over the operating organizations, it is understaffed and its scope of activities includes much more than the transport sector. In addition, the operating organizations report to different Deputy Prime Ministers (three in total) all of whom have transport as only a minor part of their responsibilities. As a result, it is almost impossible for the Government to have a well coordinated sector strategy.

International Transport

10.11 Its landlocked and remote location is a major problem for Tajikistan, especially because its economy is integrated with that of the FSU and foreign trade is crucial for its economic recovery. Distances to many current and potential export/import markets are very long (e.g., about 3,700 km from Dushanbe to the Black Sea; 4,200 km to Moscow; and over 6,000 km to the main populated parts of China). Thus, transport adds substantially to the cost of traded goods (about US\$175, for example, to the cost of one ton of cotton received in Western Europe, where its value is about US\$1,100 CIF). Because all international land transport routes include transit through several countries, Tajikistan's economy is also highly dependent on the political situation and performance of the transport systems of these countries. In addition, temporary or permanent bottlenecks, like those that currently exist at the junction between the Kazakhstan and Chinese railways, may affect the availability of certain routes. The Government therefore is rightly concerned with international transport and should be interested in participating in various international initiatives such as the European Community sponsored "Transport Corridor Europe Central Asia" (TRACECA) conference and study program.

10.12 Currently, however, international transport appears to be fulfilled satisfactorily and at a reasonable cost by the existing rail (and in a few cases, road) systems of other FSU countries. This is likely to remain the case in the short to medium term. However, FSU railways provide only a limited range and quality of services to their customers, which is likely to constrain the development of Tajikistan's exports. For example, exports of perishable products, such as fruits and vegetables, to FSU markets and further will be hampered by the unavailability of refrigerated containers. Lack of consistency between the custom regulations and the documentary requirements of the various transit countries could also be a major limiting factor. These issues need to be addressed in an international context, as indeed, they have begun to be. In the meantime, Tajikistan should formally adopt the main existing international agreements on road and rail transport.

Main Issues and Recommendations

Improving the Incentive Structure

10.13 *Competitive Environment.* One of the transport sector's current major weaknesses is the lack of competition, particularly for road transport and for executing road works. Although there do not appear to be any regulations preventing competition, the MORT road transport enterprises do not compete among themselves, and instead share the market mostly on a territorial or product basis. This appears to be a strategic choice of MORT, based on its desire to have consistency between regional transport

capabilities and regional transport demand, and to maintain permanent ties between the transport enterprises and their clients. The road transport branches of other Ministries (Agriculture, in particular), which have extensive truck and, to a lesser extent, bus fleets, do not compete with the MORT enterprises. This is an unsatisfactory situation, and probably the main reason why trucks and buses are poorly used in Tajikistan (as they were even before the recent economic decline). Lack of competition could also seriously constrain developing many economic activities in the future, since road transport enterprises lack incentive to reduce costs and, most importantly, to adjust the type of service provided (including speed, regularity and safety) to customers' needs.

10.14 Most of the countries that once regulated the trucking industry, including the USA, have now opened up it to competition with very successful results in terms of reduced costs and improved service quality. Many countries also have competition to provide inter-city and city road transport with good results. Tajikistan should create the same competitive environment. A pro-competition policy should be made explicit. The many quasi-independent enterprises that already exist in MORT should compete freely among themselves. All regulations or practices that impede competition (such as the need for MORT to approve contracts signed by its enterprises and for MORT's monopoly freight bureau to issue licenses for freight movements and control back hauls) should be removed. Instead, the Government should adopt general commercial and labor regulations that are suitable for road freight and passenger transport, as well as appropriate rules regulating road traffic and technical and environmental standards for vehicles. To this end, regulations on emission standards and vehicle safety, held over from the FSU, should be reviewed and adapted for Tajikistan. Regulations on vehicle weight and dimensions, which are critical to safety and avoid excessive deterioration of the road pavement, need to be introduced. The Government should also establish some simple rules regarding passenger transport to ensure proper business practices and safeguard the interest of passengers. In addition, terminal operations should be organized so as not to discriminate between enterprises.² As shown by international experience, simple and well focussed rules and regulations are usually sufficient for an orderly and efficient development of a competitive road transport system.

10.15 Currently, there is no competition in the execution of roadworks. Road maintenance and rehabilitation is carried out by force account brigades that have assigned territories. Road and bridge improvement and construction are carried out by specialized national and regional road enterprises. This organization does not provide any incentive to reduce cost, improve quality or introduce new technologies. The World Bank's experience with its many borrowers has been that force account operations are not generally efficient, even for simple road maintenance activities. As most countries are now doing, the Government should transform its force account brigades and road enterprises into independent construction companies and promote competition among them. To do this, the Government would need to put in place: (i) adequate procedures for selecting the best company for each particular piece of roadwork in the budget; (ii) standard bidding and contract documents for civil works, including detailed technical specifications; and (iii) adequate quality control and contract administration procedures. MOH would need to be reorganized to fulfill its duties on a contract basis, and its staff, as well as the staff of the construction companies, would need to be trained. The Russian Federation currently is beginning to transform its road operations along these lines, which could provide a model for Tajikistan to follow.

2. For urban public transport, the Government could also adopt procedures, such as the competitive tendering of bus routes, which have proven successful in other countries.

10.16 Pricing Policies. In practice, the price of all transport services is controlled. There appears to be great pressure to keep prices at the lowest possible level which, in most cases, does not allow for proper maintenance of assets nor take into account the depreciation on the basis of replacement cost. These pricing policies have a fundamentally negative effect on the transport sector. First, because enterprises have a minimum, or even negative cash flow, a rapid decapitalization of the transport sector is now taking place, which eventually will create acute problems of capacity. In most transport enterprises, in particular, there has been very little replacement of assets in the past three to four years, and, because of lack of funds, much of the damage due to the civil war has been only very partially repaired. Second, since sound management cannot happen without financial independence and a predictable income stream, most transport enterprises have become inefficient. Third, during a period of rapid structural change in transport demand, higher profits are the best way to encourage innovation, and investment in innovation is the best possible use of existing assets.

10.17 In principle, the price of services that can be competitive should not be controlled. This policy should be introduced gradually for road freight, passenger transport and air transport. As these services become competitive, market pressure will maintain the prices at an efficient level. On the other hand, the price of monopoly services (railway, airports, and, until competition develops, aviation and urban public transport) should be controlled. Monopoly prices should be based on actual costs (including all social costs, depreciation tied to asset replacement value, and a reasonable return on assets) and adjusted to account for expected productivity improvements. Enterprises should be encouraged to improve their cost accounting systems to help establish the actual costs of specific services. The Government should make frequent price changes possible, so that enterprises are not penalized during the economic adjustment period by the large variations that will continue to occur in the prices of transport inputs (especially labor, fuel, and imported spare parts) in absolute, as well as relative terms. Indeed, the effects of poor cash flow on transport enterprises may be more severe in the short term than the economic distortions that may result from some transport prices being temporarily too high. The Government should also ensure that when subsidies remain (possibly for urban passenger transport), they continue to come from the budget through arrangements that are transparent and provide an incentive for efficient management and sound investment decisions. For example, subsidies could be based on soundly prepared operating and capital budgets and agreed productivity gains.

10.18 Road User Taxation. A modern system of road user taxation should be introduced in Tajikistan. For the road infrastructure to be used efficiently, road users (truck and bus companies and individual car users) must be charged for the marginal costs that they impose on society (road deterioration and environmental costs) when they use the road. Most countries use an annual vehicle registration tax and a diesel and gasoline tax for this purpose. The diesel and gasoline tax is the most efficient, because it directly relates to the extent of road use. No such taxes exist in Tajikistan; the only current road tax is a tax on company turnover, which is said to generate very little revenue. Moreover, though diesel and gasoline prices have increased, they do not yet fully reflect opportunity costs. This is equivalent to a negative tax and is another reason road users do not compensate society adequately for road use. A new regulation is apparently being prepared to revise road user taxation and introduce a road fund, as most FSU countries have already done. This regulation should establish an annual vehicle registration tax and a fuel tax. The latter should establish a percentage (at least 30 to 40 percent) of the price of diesel fuel and gasoline. This will improve efficiency in the transport sector, and generate funds badly needed for road maintenance.

10.19 Privatization. As in other FSU countries, there are strong reasons in Tajikistan for privatization and private sector development in the transport sector, particularly in road transport and in

the road maintenance and construction industry. First, privatization would help make the best possible use of existing assets which, given the scarcity of foreign resources, has become more essential than ever. Indeed, to achieve efficiency in road transport and roadworks, the sector must adapt to many different market demands and special circumstances, react rapidly to change, and be highly flexible in organization and personnel. In most cases, private companies foster these characteristics much more than state-owned enterprises. Second, as discussed above, a competitive business environment, appropriate for private sector operations, could be developed relatively rapidly for road transport and roadworks. Third, these two subsectors already have many operational units that function quasi-independently and do not need to be linked to any association or concern; these units could be privatized easily. The Government should thus give priority to privatizing the road transport and roadworks subsectors. The successful trucking privatization program in Russia (which includes auctioning off part of state-owned truck fleets to private individuals), Kazakhstan, and the East European countries, such as Hungary and Poland, could be models for privatizing their road maintenance and construction industries.

10.20 Privatization of Tajik Airline should also be an objective – though a long-term one. Before the airline goes private, competition and efficiency in the air transport subsector should be encouraged by minimizing regulatory constraints to the airlines of other countries and the private sector.

Developing Sector Institutions

10.21 *Organization and Performance of Government Functions.* In Tajikistan, as in other FSU countries, there is some confusion between the policy making and regulatory functions of government; the provision of infrastructure; and the operation of transport services. Until the recent creation of the Civil Aviation Committee, Tajik Airline was responsible for regulating air transport (which it shared with DTCS), providing airports, and operating air transport services. Similarly, MORT responsibilities include issuing road transport permits, controlling vehicle safety, providing terminals for road passengers, and operating road freight and passenger services. This organization is not sound. The Government's interest as a provider of transport services and owner of enterprises is likely to have a detrimental influence on setting and administering regulations and developing and operating the infrastructure. These different functions should be unequivocally separated and given to different Government departments or agencies.

10.22 Currently, the Government has limited capability to formulate and monitor sector strategies and policies. The main reasons for this are: (i) the understaffing of DTCS (where less than two people's time is devoted to Transport); (ii) the fragmentation of responsibilities at the Deputy Prime Minister level; and (iii) the inadequacy of information systems and the lack of systematic in-depth analyses of sector issues, making it very difficult for DTCS to follow up trends and identify emerging problems in the sector. In addition, the Government has not yet fully grasped the role of regulator that it eventually will play in a market based transport sector. For example, there is no transport law yet, and no regulations or enforcement procedures regarding vehicle weight and dimensions. Such regulations are necessary in a market environment, where truck overloading may be in the private interest, but have considerable negative impact on road conditions and road safety.

10.23 All these deficiencies in organization and the performance of Government functions need to be remedied. The short-term priority should be to strengthen DTCS and focus its role on formulating and monitoring policies and regulations. Responsibility for the transport sector should also be concentrated as soon as possible under a single Deputy Prime Minister. In addition, Tajik Airlines and MORT should no longer be involved in regulating transport. To promote efficient competition in air and

road passenger transport, the responsibility for airports and bus terminals should be given to separate companies that have no responsibilities for providing transport services. Furthermore, the Government should consider creating a single Ministry of Transport, as Kazakhstan and the Russian Federation have done, that would not have any operational responsibility and would concentrate its activities on sector policies, regulations, institutional development, and possibly, the administration of the road network.

10.24 *Corporatization and Supervision of State-Owned Enterprises.* Relations between the Government and its transport enterprises must be rationalized. Government control of enterprises is either too strict (for example, tariffs are maintained at unrealistic levels, and the Government may interfere in detailed operational and private matters pertaining to individual workers) or too loose (no clear mechanisms hold the enterprises' management accountable for their results). As a consequence, there are no incentives for the enterprises to perform as efficiently as they should, and controls are arbitrary and unsystematic. The system needs to be improved in the following ways: first, all transport enterprises that can perform on a self financing basis (i.e., practically all of them except MOH) should be transformed into autonomous corporations with private enterprise status even if the State remains sole owner. Second, the Government should establish special supervision mechanisms for enterprises that will remain monopolies. Clear operational and financial objectives should be defined, and agreements reached on the means to achieve them (e.g., tariff increases, personnel adjustments and explicit subsidies for loss making activities that the Government wants to maintain, if any). The means should be well justified and encourage enterprise managers to improve productivity. Progress should be reviewed in detail at specific time intervals, possibly with the managers' salary system tied to their degree of success. Such mechanisms are used with varying levels of complexity and transparency in many countries and have proven essential to setting correct incentives and fostering the efficiency of state-owned transport enterprises.

10.25 *Development of MOH's Capabilities.* Although MOH has achieved relatively good results in the past with its force account operations, it will need to undergo considerable changes. Since available resources for road maintenance and construction are likely to remain much below those of the past, due mainly to the elimination of budget transfers from the rest of the FSU, resources will need to be used much more efficiently. It is also likely that the current system of force account, which appears to have performed better in Tajikistan than in other Central Asian countries of the FSU, will not remain efficient as the business and social environment undergoes major transformations. Following the example of East European countries, the Government should contract out road works to independent construction companies through competitive bidding.

10.26 The organizational implications for MOH will be major. In particular, MOH will need to concentrate its activities on planning and budgeting, setting norms and standards, promoting new technologies, controlling the execution of roadworks, and monitoring the implementation of annual road expenditure programs. The execution of road works (except possibly for some routine maintenance activities) should be left entirely to the construction companies. Road design and field supervision should also be left to independent road consulting firms. This implies not only a change in organization, but also a change of philosophy, as MOH's primary responsibility would become that of a manager of the road network, conceiving programs and controlling their execution. The experience of other countries shows that a change of this magnitude takes time and effort. Much staff training will be required and many detailed organizational issues will need to be addressed, including the level of decentralization, the controls the central department should exercise over the regional and local units, the possible organization of a central equipment pool and the creation of regional laboratories.

10.27 Since the collapse of the FSU, MOH has been left with inadequate planning capacity, both in terms of qualified personnel and modern methods and technologies, to satisfactorily carry out its previously highly centralized function. Modern management information systems for monitoring the performance of road pavements, maintenance operations, stores, and equipment do not exist. Traffic statistics are scarce and road safety aspects are not given due consideration. No proper technical and economic feasibility studies are carried out in advance of new projects. There are no mechanisms to assess priorities among competing demands for Government funding or to prepare optimum budgets. These are important deficiencies to be remedied by training staff and transferring to Tajikistan the systems and procedures used in many countries for proper road planning.

Telecommunications Sector

Background and Summary

10.28 Tajikistan's telecommunications system is the least developed among the FSU republics, and it is at the verge of collapse. This condition results from a long decline, compounded by recent calamities. Technology dates mainly from the 1940s and 1950s. With the breakdown of trade arrangements within the FSU and with Eastern Europe, Tajikistan was cut off from its former suppliers of spare parts and materials. Civil unrest has led to numerous skilled staff leaving Tajikistan beginning in 1989. A succession of natural disasters (earthquakes, storms and floods) caused destruction of some plants and damaged much of the cable network beyond repair. The 1992 war resulted in further damage to telecommunications plants, theft of vehicles and office equipment, loss of skilled staff and loss of operating revenues.

10.29 Major overhaul of the telecommunications system, including replacement of at least one-half of all plants at a cost of about US\$120 million, will be needed to support the Government's economic reform program. Despite the relatively low present level of economic activity, poor telecommunications services are causing serious damage to business and Government. The Government's economic reforms will require information processing and transmission capabilities far in excess of what prevailed under central planning. The existing telecommunications system is unable to provide the necessary infrastructure for these much larger information flows. Scarce investment capital, lack of convertible currencies, an acute and growing shortage of skilled personnel and long isolation from technological advances severely limit the Government's capability to address these problems.

10.30 A three-pronged telecommunications development strategy is recommended: i) urgent reconstruction in Dushanbe and the southern region to restore functional capability to the level before the war and floods, at a cost of about US\$4 million; ii) medium-term rehabilitation by stages, the first of which would target business and government users in Dushanbe, with limited extensions to Khojand and Kurgan-Tyube, at a cost of US\$15 million; and iii) policy and institutional adjustments in line with the economic reform program.

10.31 Opening the telecommunications sector to private capital and management, as well as facilitating new entry, would go a long way toward overcoming sector development constraints. Tajikistan, however, currently lacks the general legal and institutional framework needed to attract substantial private participation. A phased plan which includes: (i) initial stages of rehabilitation; and (ii) setting up a legal and institutional framework would be appropriate. The first stage of rehabilitation would depend on improving the operating entity's self-financing capability and on securing international

financial support. Tariff reform and the beginnings of a core communications policy and regulatory capability would be the next steps to create an environment for private participation in the telecommunications business.

Sector Organization

10.32 The Ministry of Communications (MOC) is responsible for providing all public telecommunications,³ postal, and TV and line broadcasting services.⁴ The Minister of Communications is accountable to a Vice-Chairman of the Council of Ministers. MOC is authorized to adjust tariffs without Government approval, subject to guidelines and certain limitations favoring social services and state enterprises. MOC is comprised of: i) a small headquarters organization in Dushanbe; ii) three regional branches responsible for all local telecommunications services in the oblasts of Leninabad, Khatlon, and Badakhshan, respectively; and another branch of similar rank coordinating the 15 independent administrative regions in central Tajikistan; iii) five enterprises directly accountable to headquarters and responsible for the Dushanbe telephone exchanges, the domestic/FSU trunk exchange, long distance transmission systems, computer services (including billing) and posts; and iv) one enterprise responsible for TV and line broadcasting.⁵

Human Resources

10.33 A shortage of skilled telecommunications personnel is likely to be the main constraint on telecommunication development. Since 1989, the number of telecommunications staff has been dwindling rapidly. In 1992 alone, MOC lost 751 telecommunications staff, including 280 engineers and 152 technicians – about 20 percent of all technical personnel. During the first half of 1993, 313 more departed, including 70 engineers and 43 technicians, with still more expected to leave. MOC estimates that in the period 1993-2000, it should aim to annually recruit about 100 highly qualified telecommunications staff, most engineers and technicians. These skills are not available outside MOC, however. Moreover, any telecommunications development program will be based on electronics and computer technologies in which MOC, and Tajikistan generally, have scant education and training capabilities.

10.34 MOC's acute shortages of specialized staff coexist with general overstaffing. As of September 1, 1993, MOC had 9,977 employees, about half of whom worked on telecommunications

3. This includes local, domestic long distance, FSU and international telephone service; telegrams; and some telex.

4. MOC operates all television broadcasting stations and a microwave network that links these to the studios in Dushanbe. At present, there are four TV channels, two from Moscow in Russian language, one from Tashkent in Uzbek, and one from Dushanbe in Tajik. Line broadcasting, by which users attach their own speakers to open wire lines, distributes up to three programs (voice, music, and public announcements) to homes and offices throughout a city, town, cooperative or state farm. Many homes reportedly are connected to this system, whereas only a small fraction have receivers for radio broadcasting.

5. "Enterprises" are organizational units of MOC, each of which operates a relatively homogeneous set of facilities. Reportedly, they are separate "legal entities", that are responsible for their financial results, maintain separate accounts and produce their own financial statements. However, these enterprises are interdependent to a large degree. In particular, the long distance enterprise carries traffic to and from the trunk switching enterprise and, in turn, is connected to telephone customers in Dushanbe through the Dushanbe exchanges enterprise and to customers elsewhere through the regional MOC branches. The computer center does billing for all operations. A system is in place whereby the MOC allocates profits among the enterprises.

(including TV and radio broadcasting).⁶ The ratio of about 20 telecommunications staff per 1,000 telephone lines is better than in many Asian developing countries, but compares poorly with the better Latin American countries, where the ratio is 10 staff per 1000 lines, and the US and Sweden, which have a ratio of 5 staff per 1000 lines.

10.35 MOC's own training facilities and programs seek to bring the level of skills of individual employees up to the best available within MOC. A national training center in Dushanbe has class rooms and laboratories with equipment in common use throughout Tajikistan, and offers residential accommodation for up to 40 students from outside Dushanbe, but has no permanent instructors or ongoing development of courses and course material. Instead, experienced MOC staff are asked to teach courses in their areas of competence from time to time. There are no workshops for skilled labor, such as cable splicing; such training is found mainly in the cities and rayon centers. Courses to upgrade skills are occasionally offered in the Dushanbe center, but instructors must bring their own materials, tools and test equipment for trainees to use.

10.36 Despite the acute and growing shortage of experienced personnel, the Dushanbe training center provided only 640 hours of instruction to 156 telecommunications and postal staff in 1992. This low level of utilization is reportedly due to the high cost of bringing staff in from other cities, especially given fuel shortages and poor roads. Relying on MOC staff as instructors, this leaves the center without means to train personnel in new technology or lead the way to improved operation, maintenance, accounting, or management.

10.37 It is true that the Telecommunications Training Institute in Tashkent (Uzbekistan) offers specialization in telecommunications engineering for all Central Asian republics. At present, however, only a handful of MOC staff are at present being trained there, however, reportedly due to the cost of the course (equivalent to only about US\$200 per annum, but payable in scarce convertible currency) and other expenses. It should not be difficult for MOC to attract and retain Tajik engineers and technicians for training in new technologies. Though telecommunications salaries are reportedly only about half of those prevailing in the power, transport, and industry sectors, MOC appears to have some flexibility to increase the pay.

Procurement

10.38 With the breakdown of trade following the demise of the USSR and of the Economic Council for Eastern Europe, MOC has been cut off from all its former suppliers, which were located mainly in Russia, Uzbekistan, Yugoslavia and Czechoslovakia. Lack of convertible currency prevents MOC from importing even the most urgently needed goods. No telecommunications equipment or cables are manufactured in Tajikistan. The meager stocks of spare parts, cables, hardware and other goods required for routine maintenance have been depleted. Damage from civil war and natural disasters have made things worse. The situation is especially serious in the step-by-step exchanges, which are very maintenance intensive.

6. The balance are mainly employed in the postal sector.

Service Access and Quality

10.39 As in other CIS republics, Tajikistan has a substantial telecommunications system relative to population size. However, much of the system has been allocated to customers that barely use it, while major capacity shortages constrain business and government customers. Service quality overall is very poor.

Access to Service

10.40 MOC has about 276,000 main telephone lines in service, all connected to automatic exchanges. Domestic long distance calls can be dialed directly among the cities of Dushanbe, Khojand, Kurgan-Tyube, Kulyab, and Khorog, accounting for 52 percent of all customers. Dushanbe customers have direct-dial access to other FSU republics. Operator assistance is required for other customers to place domestic and FSU long distance calls.

10.41 There is no international direct distance dialing to countries outside the FSU. Nor are there facilities for data transmission, electronic mail or other modern business services. Some telephone customers have recently installed facsimile machines, but the number is unknown. A minimal telex service is available in Dushanbe and Khojand. It has only 60 customers, who are expected to purchase terminal equipment⁷ in the local marketplace. Very few telephones and no facsimile machines, data modems, or private automatic branch exchanges (PABXs) are available in the market. Although in the past, MOC provided basic telephone sets and PABXs, they have none to offer at present.

Unmet Demand

10.42 It is unclear whether there would be substantial unmet demand for telephone connections if prices reflected the full cost of providing service. MOC's demand figures are very uncertain, since key determinants, especially incomes, tariffs, and the level and structure of economic activity are fluctuating widely. Notwithstanding the poor quality of domestic and international services, the average density of about 5 telephone lines per 100 inhabitants is relatively high for developing countries and well above the average for those in Asia. It is, however, the lowest among FSU republics. Also, there is a large imbalance between urban areas, which average 14 lines per hundred inhabitants, and the rest of the country, which average only one line per hundred.

Table 10.1: Telephone Service Quality -- Selected Indicators

	Present	Benchmark
Faults per month per 100 customers	10-25	< 2
Faults cleared in 24 hours, %	< 50	> 80
Local call completion rate, %	< 50	> 70
Completed subscriber-dialed calls to CIS gateway, %	< 20	> 60
International calls, % subscriber-dialed	0	> 80

Source: Present service quality figures are based on data obtained from a limited number of exchanges visited in Dushanbe and other cities. MOC does not currently maintain service quality statistics. Benchmark figures are drawn from World Bank experience and are typical of good networks in developing countries such as Chile or Malaysia.

7. This includes telephone sets, private automatic branch exchanges to connect internal business users to the public network through smaller trunk lines, facsimile machines, telex machines, and modems to transmit data through the public telephone network (e.g., between computers).

10.43 Residential customers account for about two-thirds of all connected lines, but only a small fraction of revenues. A considerable part of the investment and maintenance effort is therefore directed to customers that make little use of the services. There are about 77,000 outstanding applications for new telephone connections. Many of these, however, are residential and may vanish in the wake of price reforms. Nonetheless, MOC estimates a total unmet demand of some 300,000 lines. Some 3,000 rural localities have no service at all.

10.44 Given uncertainties as to the size of the gap between supply and demand, the rest of this chapter assumes that the mix between categories of customers is likely to vary considerably in the future, but that the total number of customers will remain roughly at the current level.

Quality of Service

10.45 Tajikistan's telephone service is of very poor quality, ranking at the low end among FSU republics and developing Asian countries. Table 10.1 compares selected indicators of service quality in Tajikistan with benchmark of well-run systems in developing countries. For Tajikistan, telephone system faults occur about 10 times more frequently than in a good system, and they take up to several months to be cleared. Many calls cannot be completed due to capacity shortages and malfunctioning or damaged equipment. It is almost impossible to place direct-dial calls to other CIS republics from the capital city. All calls to international destinations outside the FSU are booked through the operator, with long delays, usually of several hours. Substandard noise and signal levels result in poor voice communication, and would make it virtually impossible to use the telephone network for facsimile or data transmission.

Tariffs and Financial Performance

10.46 Telecommunications tariffs are below those in Western and developing countries. As illustrated in Table 10.2, domestic and FSU long distance call charges to business and government customers are about one-tenth of comparable charges elsewhere, connection fees and monthly rentals are about one-third, and international calls about one-half. Except for international calls, residential customers are charged even lower tariffs, typically about one-third to one-half the respective business rates.

Table 10.2: Summary of Telephone Tariffs

	US\$		
	Tajikistan		Reference ^c
	Business ^a	Residential	
Connection fee	15	5	50
Monthly rental ^b	5	0.7	15
Local calls	0	0	0.05
Long distance calls/min			
domestic (200 Km)	0.015	0.007	0.10
intra-FSU (2,000 Km)	0.04	0.02	0.40
int'l. (4,000 Km)	0.60	0.60	1.00

a/ Includes government offices and state enterprises, but state enterprises pay one-half the monthly rental.

b/ Includes unlimited number of local calls.

c/ Tariffs are typical of those prevailing in countries where tariffs are relatively close to costs, such as the US. No difference was made between residential and other customers.

Note: As of October 1, 1993, Tajikistan tariffs are converted at the rate of US\$1 = 2,000 rubles.

Source: MOC tariff schedule and World Bank data.

10.47 MOC prepares quarterly and annual accounting reports. These reports follow standard practice in the FSU and are designed to keep track of actual incomes and expenditures in relation to budgetary allocations. They do not include asset and long term liability revaluation, despite very high inflation and currency devaluation. They also do not separate telecommunications from posts and other services, and cannot be readily interpreted in terms of internationally accepted accounting standards.

10.48 Table 10.3 summarizes tentative conclusions from an initial examination of MOC reports for 1992 and the second quarter of 1993. Operating revenues suffice to cover operating expenses. The operating ratio⁸ of 70 to 80 percent is at the high range for developing countries, and much worse than typical for a well established utility (about 50 to 60 percent). Although receivables are growing, at about three months' revenue, they still are within an acceptable range.⁹ Transfers to the Ministry of Finance,¹⁰ however, exceed gross operating profit, so overall MOC makes a net loss. As a proportion of gross revenue, this loss is rising quickly, as tariff increases (300 percent) lag behind general price inflation.

**Table 10.3: Summary of Financial Results
MOC - All Services (in millions of rubles)**

	1992	1993 (2nd qtr)
Operating revenue	674	1,596
Operating expenses	534	1,165
Gross profit <i>a</i>	140	431
Transfers to treasury <i>b</i>	165	644
Net profit (loss) <i>c</i>	(25)	(213)
Operating ratio (%) <i>d</i>	79	73
Receivables (months) <i>e</i>	2.2	3.3

a/ Operating revenue less operating expense.

b/ Sales tax, profit tax, contributions to various funds, other.

c/ Gross profit less transfers.

d/ Operating expenses as percent of operating revenues.

e/ Receivables as number of months of operating revenue.

Source: MOC, annual report for 1992 and report for second quarter of 1993.

The Telecommunications System

10.49 The telecommunications system uses mainly obsolete technology from the 1940s and 1950s that requires continuous, labor-intensive maintenance, is unable to support new services and modern network management and call charging practices, and functions poorly because of inadequate maintenance and spare parts — especially in recent years.

Local Telephone Network

10.50 The total installed local telephone exchange capacity is 315,400 lines, distributed in 81 urban exchanges (265,000 lines) and many small rural exchanges (51,000 lines). Step-by-step electromechanical technology from the 1940's installed in the 1960's and 1970's accounts for 105,000 lines (40 percent of urban and 33 percent of total local exchange capacity). Since the step-by-step exchanges were installed first, they generally serve the most important centers of the cities, including

8. Operating expenses as a proportion of operating revenue.

9. Reportedly, MOC is having increasing difficulty collecting telephone bills from government offices and state enterprises.

10. Various taxes and contributions.

downtown Dushanbe, where most customers are businesses and Government offices. There is an urgent need to replace these exchanges. Crossbar electromechanical exchanges of 1950's design installed in the 1970's and 1980's account for some 160,000 lines (60 percent of urban and 66 percent of total local exchange capacity). Although this technology is obsolete, it can be kept working for another 10 years or so with appropriate maintenance.

10.51 The local telephone cable network utilizes mainly polyethylene-insulated cables. There is also a small percentage of older, lead-sheath paper-insulated cables. Most cable is faulty due to many open joints and lack of pressurization. A large part of the pressurization equipment does not work, and cables installed before 1980 do not have pressurization systems. As a result, water has entered many cables during rainy seasons and floods, especially in recent years, when maintenance slipped further due to staffing and materials shortages. Based on samples, it is assumed that 50 percent of all cable is damaged beyond repair.

Long Distance Telephone Network

10.52 The only automatic long distance exchange in Dushanbe is a semi-electronic Metaconta 1140 of 1960's design installed in 1982. It has 4,000 trunks, 1,920 of which are used for domestic and FSU routes, with the rest connecting the Dushanbe exchanges. In 1992, a team from the manufacturing factory, Iskra, in Yugoslavia, had begun to expand the processors and install a new software release, they left because of the war without completing the work. As a result, the exchange malfunctions and is very congested. It is obsolete and should be replaced, not repaired or expanded. The new exchange will have to be significantly larger (at least to 6,000 trunks initially) to handle even the existing traffic.

10.53 The long distance transmission network consists mainly of cables, microwave radio relay links, and satellite links. Sixty-channel analog carrier systems use symmetrical pair cables to transport the signals. Analog frequency division multiplex systems over microwave radio relay systems are used mainly for back up, since their main purpose is to carry television signals. Satellite links (using the Intersputnik system) connect Dushanbe to Moscow and to Khorog. The rural areas use mainly analog carrier systems of small capacity over open wire lines. These systems are unreliable and frequently damaged, especially by winter weather. The war and floods of 1992 destroyed many of these cables and lines, cutting off small towns from the main network. Air conditioning systems for the central offices where the transmissions system is installed were either destroyed during the war or do not work properly so that, the equipment fails due to excessive heat in the summer.

10.54 A 60-channel satellite earth station and state-of-the-art digital exchange to connect 2,500 local customers are being installed in Dushanbe, financed by a grant from the Turkish Government. Similar stations have already been built by Turkey in several other FSU republics. A master station in Ankara allows the stations to communicate among themselves and worldwide. To the extent that MOC is able to connect local users through quality lines or radio links, this facility will provide urgently needed direct access to international destinations. At a price of about US\$3 per minute, service would cost more than similar calls using conventional networks in Western Europe or the US (about US\$1 per minute), but less than is currently paid (about US\$7 per minute) to independent international operators by users of portable VSAT stations in the region. Tariff and revenue-sharing arrangements are being worked out between MOC and the Turkish state telecommunications company on the basis of prevailing international practice and norms.

Dedicated Networks

10.55 The armed forces, electric power utility, railways, and air transport ministries operate their own telecommunications networks to meet their specialized needs. These networks have a total of about 22,400 telephone lines, and are partly interconnected with the MOC's public network. A Government exchange in Dushanbe connects about 1,000 offices. A planned mobile radio system for Government use has not been completed.

Sector Development Strategy

10.56 The existing telecommunications infrastructure cannot effectively support Tajikistan's transition to a market economy. A three-pronged sector strategy is recommended: (i) emergency reconstruction (in Dushanbe and the southern part of the country) to recover productive capacity to levels that prevailed before the recent war and natural disasters; (ii) medium-term rehabilitation of the telecommunications infrastructure to achieve service standards that are about average for well-run systems in developing countries; and (iii) policy and institutional adjustments that are in line with market-oriented reform and emphasize tariffs and private participation.

Emergency Reconstruction

10.57 To restore the telecommunications network to pre-war conditions, it is necessary to: (i) replace exchange and ancillary equipment and cables damaged or looted during the war; (ii) complete works interrupted by the war that affect overall service performance; (iii) replace or repair cables damaged by water and malfunctioning pressurization systems; (iv) restore a minimum level of spare parts, materials, and vehicles needed to maintain existing facilities; and (v) train skilled workers, technicians, engineers, and accountants to fill key vacancies in maintenance and operation.

Medium-Term Rehabilitation

10.58 Since reconstruction will still leave Tajikistan with antiquated and run-down telecommunications facilities, it is essential to prepare a medium-term program to rehabilitate the system to modern standards. This should aim at substantially improving domestic, FSU, and international telephone service, as well as introducing new services (e.g., facsimile and low-speed data transmission) likely to be increasingly needed for business purposes. The reference standards shown in Table 10.1 illustrate service quality targets for the rehabilitation program.

10.59 To reach these service objectives for the 276,000 existing customers, most existing facilities will need to be replaced with a new system using modern electronic digital technology at a cost of about US\$300 million. For full cost recovery, real tariffs should be increased to international levels - on average about 15 times present tariffs. A large number of technicians and engineers need to be hired and trained in technologies with which the country has no expertise, and several thousand less skilled workers should be retired. None of these conditions are likely to be met in Tajikistan in the foreseeable future.

10.60 A scaled-down solution would involve replacing only the worst parts of the system -- about 40 percent of local switching capacity,¹¹ about 50 percent of the local cable network, the domestic/FSU trunk exchange, and selected transmission facilities. This option would achieve the suggested service standards for about 100,000 customers, and a more modest but useable standard for the rest. The cost would be around US\$120 million; the average tariff and human resource development requirements could be scaled down more or less proportionally. However, even these reduced requirements are deemed not feasible in the immediate future.

10.61 The preferred practical option is to rehabilitate service countrywide by steps that focus first on pockets of high-value customers prepared to pay international-level prices for quality telephone service among themselves and with the FSU and international destinations. The new facilities would also be used for facsimile and data transmission up to 9,600 bauds. Customers not willing to pay for the new services would continue to receive service from the existing facilities at lower prices.¹²

First Stage of Rehabilitation

10.62 Rehabilitation would start in downtown Dushanbe, where some 20,000 customers (mainly business and government offices) are connected to some of the country's most run-down facilities. Subject to further technical analysis, the solution would be roughly as follows. A single 20,000-line electronic digital exchange would be installed to: (i) serve up to about 10,000 downtown customers connected to the old step-by-step local telephone exchanges, ATS-23 and ATS-27, which cannot be repaired cost-effectively; (ii) serve some 10,000 customers and public telephones in selected other locations in Dushanbe, Khojand, and Kurgan-Tyube; (iii) replace the malfunctioning single domestic/FSU trunk exchange and provide substantially higher traffic-handling capacity; and (iv) give all 20,000 customers direct-dial access to international destinations through a new medium-size satellite earth station.

10.63 Downtown customers would be connected to the new facility by replacing or repairing all primary and distribution cables now feeding ATS-23 and ATS-24. A limited number of other Dushanbe customers would be connected to remote line units tied into the digital exchange using optical fiber cables.¹³ Customers in the other cities would be connected to remote line units or concentrators linked to the new Dushanbe exchange through upgraded dedicated trunk lines. All customers connected to the two old Dushanbe exchanges would be given the option to move over to the new facility at the new prices. Those preferring to remain on the less expensive old system would be regrouped for continued service using part of the old exchange capacity. The rest of the old equipment would be scrapped for spare parts use elsewhere.

10.64 The estimated cost of this first stage of rehabilitation would be about US\$15 million. Given the limited prospects for private investment in the near future, initial rehabilitation would depend on finding sources of multilateral and bilateral financing, and on the MOC being able to generate significant operating surpluses. The cost of the switching component could be reduced by expanding and

11. All the step-by-step exchanges and associated equipment.

12. Service performance between the new and old parts of the system would be largely determined by the condition of the old system and would remain generally poor.

13. Further technical analysis will indicate whether radio technologies (e.g., fixed versions of cellular radio systems) are cost effective alternatives to wired urban connections.

complementing the international satellite facility currently being installed in Dushanbe on a grant basis by the Turkish government. Initial discussions with specialists in the field suggest that it would be cost-effective to expand to 20,000 local lines and 6,000 trunks, taking over the local and trunk switching functions of the proposed new Dushanbe exchange. Further analysis and cost estimates by the supplier would be needed before a more definitive conclusion can be reached.

Box 10.1 Technical Assistance Needs in the Infrastructure Sector

The objectives of the technical assistance in the Telecommunication sector will be to:

- Prepare a detailed feasibility study of the rehabilitation of Tajikistan's telecommunications network.
- Improve the policy making capacity of the Ministry of Communications, by creating a policy cell in the Ministry, responsible for formulating sector policies, including the design of a tariff policy and monitoring sector performance.
- Increase private sector participation in the provision of telecommunications services in Tajikistan, preparing sector regulations for basic telecommunication services and by liberalizing value added services, providing terminal equipment and private branch exchanges, cellular telephones and data transmission, and other business services through appropriate interconnection arrangements.
- Train the Ministry of Communications staff in digital technology, fiber-optic cables, and commercialization, including billing and accounting, customer service improvement, and marketing.

In the Transport Sector, the technical assistance program should:

- Formulate and implement study tours and seminars abroad for key transport staff, focusing on subjects such as prices, subsidies, competition, government organization, and enterprise management.
 - Assist in developing the legal and regulatory framework for the transport sector, as well as the Government's capability to enforce and monitor regulations.
 - Develop a basic information system on sector performance.
 - Establish methods and procedures within the Ministry of Highways to better plan, design, supervise and monitor roadwork and better manage equipment.
 - Formulate recommendations for developing the road construction industry in Tajikistan, including: (i) creating standard bidding documents and contracting procedures; and (ii) reorganization of force account units.
-

Later Stages of Rehabilitation

10.65 Similar islands of rehabilitated plants would be developed later in other cities, beginning with Khojand and Kurgan-Tyube, with extensions to important rayon centers. All islands would be connected among themselves using digital trunks, as well as to the old system at selected points to enable interworking. Gradually, the new facilities would become dominant, and eventually the old network would vanish. Subject to progress at the national level in developing legal and institutional conditions for private investment, these later stages of rehabilitation could create opportunities to attract foreign investment. By that time, the first stage of rehabilitation could be generating significant operating surpluses for reinvestment.

Sector Policy and Institutional Development

10.66 The proposed rehabilitation strategy must be accompanied by developing a policy and institutional framework suited to a modern, market-oriented telecommunications business. Tariff policy and the role of the private sector are two areas that require early consideration.

Tariff Policy

10.67 Changes in telecommunications tariffs are necessary to ensure the sustained financial viability of the sector, as well as to increase economic efficiency in the use of facilities. Although MOC makes a gross operating profit, very low tariff levels and substantial transfers to the Ministry of Finance result in only minimal amounts being left for maintenance and investment. Moreover, important tariff distortions are likely to result in economic efficiency losses.

Basic Principles

10.68 The telecommunications sector should become financially self-sustaining. Use of all *new facilities* should be priced for full cost recovery, including the cost of capital valued at applicable commercial rates, irrespective of whether investments are partly financed from grants. Use of the *old facilities* should be priced to meet all operating and maintenance expenses. Additionally, the telecommunications sector as a whole should generate cash to finance at least 30 percent -- preferably over 50 percent -- of future investments. A simple mechanism, such as indexation or denomination in a foreign currency, is needed to help MOC maintain the real value of tariffs in a context of high inflation. Financial transfers from telecommunications to the posts should be phased out; any subsidies required to offset postal losses should come from direct government budget allocations.

Pricing the Use of New Facilities

10.69 Since most costs associated with the facilities will be comparable to those in countries outside the FSU, tariff levels for use of these facilities are likely to be in the range of those prevailing abroad. This means very large increases with respect to present tariffs, as illustrated in Table 10.2. The bulk of revenues, however, is likely to come from calls, not connection fees and monthly rentals,¹⁴ so emphasis should be on correctly pricing calls. Local calls, currently free, should be charged on a per-minute basis. Domestic and FSU long-distance tariffs should be increased very substantially; international calls more moderately. Peak and off-peak rates should be introduced for all calls. In contrast, monthly rentals could be increased more gradually. Public sensitivity to telecommunications tariff increases is likely to relate mainly to fixed charges (rental and connection fees for new customers), not variable (call) charges. Increasing rentals slowly may go a long way toward making the pricing package politically more acceptable, and will have only limited impact on revenues and economic efficiency. Even so, it may be necessary to increase real call charges by steps over a few years.

14. This is already the case for the existing system, where about 90 percent of operating revenue comes from calls.

Pricing of Existing Services

10.70 From a policy development perspective, it is not particularly important to overhaul tariffs to use the old facilities, except to keep them running. Telecommunications tariff reform will be driven by charging the right prices for new facilities, which will gradually dominate and eventually take over entirely. Moreover, since existing service is so dismal, increases over and above the bare minimum necessary to keep the old systems running can only be justified in terms of major service improvements. There is little opportunity for improved services to customers who remain connected to the old facilities. A few meaningful improvements are possible with existing equipment, and would modestly contribute to both improved service and revenues. For example, a priority operator-assisted call service to the FSU and international destinations could be offered at a premium price, either on a per-call basis or by paying a higher rental.¹⁵ To help reduce congestion, higher rates could be charged for domestic as well as FSU and international operator-assisted calls during peak traffic hours. Conversely, charging for local calls is not cost effective with the old equipment, because it would require adding meters to exchange that will themselves have to be scrapped during rehabilitation.

Differentiation Among Customer Categories

10.71 Raising tariffs to international levels for users of new facilities would be justified by providing clearly superior service. Within technical limits, existing users would be offered the choice of being connected to the new system or remaining in the old one, which would allocate new capacity efficiently and protect users who cannot afford the new prices.¹⁶ This two-tier approach is likely to be politically more acceptable than large across-the-board increases, yet it effectively initiates a process of tariff reform that eventually would encompass the whole sector. In contrast, the current differentiation of tariffs between residential and non-residential customers has no cost-based justification and should be abolished. As the telecommunications sector becomes self-financing, lower rental and call charges for residences (about 66 percent of current subscribers) would result in businesses being charged higher prices than would otherwise be necessary. These would be passed on to the rest of the economy as higher production costs. When new facilities are offered, all customers in a given area should be treated equally. The main factor in allocating new facilities should be customer willingness to pay much higher prices, irrespective of whether the customers are classified as residential or non-residential.¹⁷ The emphasis on serious business and Government users can be achieved by first modernizing those areas where these types of customers predominate.

15. This is already established practice in some parts of the country. For example, in exchange for immediate operator service, a small number of customers in the town of Vakhsh pay a monthly rental of 12,000 rubles (instead of the regular 900 rubles per month for a business or government customer) plus long distance charges that are five times higher than normal.

16. An alternative approach would be to connect *all* current customers of the covered area to the new facilities irrespective of their willingness to pay higher prices. Rentals would be the same for all customers, and would include a small number of local call minutes (e.g., 50 per month). Customers using the new facilities would pay high charges for all excess local calls and all long distance calls. Thus, customers connected to the new facilities, but not willing to pay the new call charges, would still be connected to the network at a comparably low price but would refrain from making calls in excess of the allowance. This option has the merit of technical simplicity: all current customers from downtown Dushanbe exchanges, for instance, would move over to the new exchange. It has the important drawback, however, of allocating scarce high-quality connections to customers that will use them very little. This is not appropriate in terms of revenue generation as well as economic efficiency.

17. In a changing economy, a considerable volume of economic activity may well originate in households rather than businesses set up under the previous economic regime.

Prospects for Private Participation

10.72 Given the acute shortage of capital and skilled labor in Tajikistan, it is important to open opportunities for private sector participation in telecommunications as soon as possible. The "island" approach to rehabilitation suggested above, coupled with tariffs that yield a competitive return on capital, could be used to create such opportunities. For example, foreign investors (possibly consortia including equipment suppliers and medium-size operating companies) could be invited to bid for a franchise to rehabilitate and operate a particular part of the system. Bidding documents would specify service objectives and end-user tariffs (possibly foreign-currency-denominated), and the franchise would be awarded to the bidder that offers MOC the highest percentage of operating revenues.

10.73 This would be a medium-term objective however. At present, the minimum legal and institutional framework needed to attract foreign investors is not in place. For example, property rights are not well defined, there is no foreign investment law, and the judiciary lacks the independence necessary to enforce contractual obligations of Government agencies. Under these conditions, it may only be possible to attract small investments (e.g., less than US\$1 million) with very short capital recovery time (probably one year or less) and offering a high risk premium (i.e., very high prices for services). Offers of this nature should be examined in terms of: i) potential for overcoming urgent service shortages; ii) effects on the sector's capability to generate and retain surplus funds for reinvestment; and iii) any restrictions the agreements may impose on future sector development options, such as market entry and traffic routing. For example, under appropriate terms and conditions, a small private cellular operation could be considered.

Toward a New Sectoral Framework -- Initial Steps

10.74 Initial efforts to develop an appropriate sectoral framework should: i) set in motion a process of tariff reform to improve service as proposed above; and ii) develop MOC's capability to formulate policy and monitor sector performance. Once good progress has been made in developing the country's overall legal and institutional framework, a telecommunications law and basic telecommunications regulations should be prepared, accompanied by a simple regulatory arrangement sufficient to attract private investors. For example, with the help of international auditors, a unit within MOC could monitor the private operator's compliance with service objectives and tariffs, mediate customer complaints not resolved by the operator, negotiate with the operator any changes in the agreed tariffs and other terms of the franchise, and represent the Government in any arbitration needed to resolve conflicts involving the operator, the Government, and/or customers. MOC's initial policy and monitoring capabilities would provide a starting point for building up its regulatory skills.

CHAPTER 11

INVESTMENT IN HUMAN CAPITAL

11.1 Government decisions regarding investments in human capital (i.e., in health, education, and training) take place in a context of reduced revenues and political instability. Issues of access, quality, efficiency, planning, and management should be paramount in any discussion of investments in human capital. In addition, existing human capital should be preserved.

11.2 *Access:* Under the Soviet system, the expansion of both education and health services networks assured virtually every citizen access to at least nine years of education and health care which yielded welfare indicators that compared favorably with those of middle income countries. The physical infrastructure in both the education and health sectors in Tajikistan is quite extensive and remains in relatively good shape.

11.3 *Quality:* In spite of near universal access, indicators in health and education have been declining since 1989. In health, both maternal and infant mortality rates have been increasing over the last two years. In education, there have been declines in enrollment and in the number of textbooks available for distribution. The declines can be linked to expenditure reductions, increased inefficiencies in the system and the growing share of expenditures going to salaries and benefits to mitigate high rates of inflation (see Table 11.7). Non-salary recurrent expenditures in both education and health show a marked decrease. Expenditures in inputs, such as drugs, pharmaceutical supplies, textbooks, and teacher skill-upgrading are falling. In spite of nominal increases, salaries of skilled workers in these sectors have declined in real terms, resulting in low morale, a continuing brain drain from the country, and a decline in the quality of health care and education services.

11.4 *Efficiency:* Efficiency gains are one of the few tools that the Government has at its disposal to halt the erosion in the quality of health and education services without increasing outlays to either sector. Efficiency would be increased by: reducing the work force and instituting incentives to provide good health care and education; ensuring that inputs are not disproportionately affected by budget cuts; and reducing the cost of health care and education in ways that have minimal impact on quality. Although these are difficult changes to implement, not introducing them will result in further -- and more drastic -- declines.

11.5 *Planning and Management Capacity:* Both the Ministry of Education (MOE) and the Ministry of Health (MOH) clearly lack planning and management capacity. The current budgets of both Ministries are not linked to targets or to objectives in either sector, and appear to be primarily updates of budgets and expenditures from the previous year. There is little indication that the ministries are taking into account Tajikistan's changed circumstances to set new priorities. Nor does it appear that Government decision-makers, particularly in the Ministry of Economy and the Ministry of Finance, are promoting and strengthening policy-making capacity within their ministries or in Government in general. This problem has far reaching implications, not only at the Ministries of Health and Education, but at all levels of Government. Moreover, since most policy implementation is done at the local level (i.e. by executive committee in municipalities and Rayon), it is important to strengthen the management and planning capacities of these entities.

11.6 Data collection and analysis are important tools for effective planning and management. MOH, MOE, and the State Committee for Statistics (Goskomstat) have impressive capacities to analyze

data, but the data is flawed for a variety of reasons. First, it is collected according to procedures that may have been relevant under the Soviet system but are obsolete now. Second, data collection is seriously hampered by the lack of computers; high level statisticians often use desk calculators and abacuses. Third, personnel are not sufficiently trained in data analysis as a tool for policy-making.

Health Care

11.7 Tajikistan's Government inherited a health system put into place under the Soviet Union, that has had little improvement or modification over the last five years. The physical infrastructure has remained largely intact, and provides a widespread regional network of health facilities, that deliver a quality of care often above that in middle-income countries but below Western standards. Many health indicators have stagnated, and some have even declined in recent years, as will be discussed below. In large part, this is due to the use of old fashioned procedures, therapies and drugs. Inappropriate drug use is common (polypharmacy, injections, drugs for self-limiting diseases, etc.). Heavy emphasis is placed on examinations and repeat visits, and many hospital admissions are for minor illnesses. The system is biased in favor of curative and institutional care, with much less attention paid to health education, preventative care, and disease control. Tajikistan is rich in plant species used for medicinal purposes. It possesses about 400 medicinal plants. Tajik Pharmacia enterprise produces medicines almost entirely from local herbs. However, out-dated equipment is being used and there are shortages of raw materials and packaging.

11.8 The population's health profile is a mixture of developed and developing countries. Infant and child mortality and morbidity are caused mostly by infectious diseases, while chronic disease is responsible for most adult mortality. High incidence of diarrheal diseases, hepatitis A, and other gastrointestinal diseases especially among children, indicates poor-quality drinking water and sanitation, and/or deficiencies in personal hygiene. According to the Ministry of Health, up to 33 percent of the population has no access to running water. The health system is not suited to handle the primary health care needs of its predominantly young population, and can no longer afford the care required to treat the adult diseases.

11.9 *Infant and Child Health:* In the past, immunization coverage has been excellent and childhood and epidemic diseases had been under good control. Nevertheless, infant and child mortality figures, though lower than many middle-income countries, remain higher than those in other countries in Central Asia. Recent outbreaks of measles, polio, diphtheria, and cholera should be viewed as early warning signs of a breakdown in health care delivery. In fact, the figures given for 1992 (Table 11.1) are believed to be under-estimated because of reporting problems during the civil war.

11.10 UNICEF/Medicines Sans Frontiers (MSF) figures in August/September 1993 show child malnutrition at approximately 8 percent, of which 6 percent is moderate and 2 percent is severe. These numbers, which are not by themselves necessarily alarming, are expected to grow over the near future,

Table 11.1: Infant Mortality Rates (per 1,000 live births)

YEAR	RATE
1985	46.8
1988	48.9
1989	43.2
Urban	39.4
Rural	44.4
1990	40.7
Urban	38.5
Rural	41.4
1991	40.6
Urban	37.9
Rural	41.5
1992	45.0
Urban	50.4
Rural	44.5

Source: Goskomstat.

since there are large numbers of children among the country's refugees and internally displaced persons, and inflation and local food scarcity are beginning to compromise household food intake. Infant milk kitchens have been closed, and this, together with the absence of a program to promote breastfeeding, puts infants at increased risk during the transition period.

11.11 Maternal and Reproductive Health: Tajikistan's maternal mortality and morbidity rates are higher than those of other Central Asian countries. The maternal mortality rate (MMR) has been increasing since 1990 (see Table 11.3).¹ The Ministry of Health expects the 1993 MMR to be even higher, due to: i)

increased malnutrition as a result of economic hardships; ii) scarcity of drugs and pharmaceutical supplies; and iii) the large number of women currently living in temporary or inadequate shelters in the wake of the civil war and floods. Increased mortality among high-risk women has been caused by a lack of adequate resources, including inadequate blood supplies, limited drugs to handle conditions such as eclampsia, and lack of transportation to transfer patients to referral facilities. Considerable difference exists between the MMR data supplied by the MOH and that provided by Goskomstat, the two major sources of such data. The Goskomstat data, which are more accurate, are lower than MOH numbers, but show more dramatic increases since 1990 (see Table 11.3); both measures show that mortality rates are increasing.

11.12 Tajik women, especially pregnant women, have a high prevalence of nutritional anaemia. High inflation and the removal of many food subsidies make it difficult for many families to have balanced diets.

11.13 Fertility is very high in Tajikistan, with an annual population growth rate of approximately 3 percent, and a total fertility rate of 5.2.² The contraceptive prevalence rate is low – at 12 percent of women of reproductive age – with some reports indicating that only 3 percent use modern contraceptives.³ Tajik women have basically two choices of contraceptives: oral contraceptives and IUDs, the latter being more popular. There are no legal barriers to using other forms of contraception, but few or no information-education-communication services are provided to women of reproductive age, and there is little access to other contraceptive methods. Indeed, Tajik women do not have access to most major types of oral contraceptives available on the world market, but must use the few kinds that can be had in Tajikistan.

Table 11.2: Causes of Infant Mortality (Per 10,000 Live Births)

	1985	1988	1989	1990
Causes:	467.6	489.4	432.1	407.3
Infections	148.7	126.7	130.3	119.2
Respiratory	177.3	178.1	156.2	152.6
Perinatal				
Complications	63.3	73.8	73.5	75.3
Congenital	13.1	12.8	10.4	16.1
Accidents/ Traumas	7.3	7.0	7.8	5.2

Source: Goskomstat.

1. Later conversations with MOH officials revealed a discrepancy in the MMR numbers (see also Table). The MOH numbers appear to include all maternal deaths and are not confined to deaths during or within 42 days after termination of pregnancy. The latter methodology is used by Goskomstat.

2. Weinstein, Judith, "Women's Reproductive Health in the Central Asian Republics," August 1993, p. 3.

3. Weinstein, Judith et al., p. 11.

11.14 Statistics show a high incidence of diseases related to frequent pregnancies and deliveries, including abortions, which are often used as the sole method of fertility regulation. MOH professionals indicate that many women who have sought family planning services have not been able to find them, primarily due to the limited and inconsistent supplies available. What few contraceptives existed in the past were supplied by Moscow, and those supplies have dried up. Currently, the only supplies are brought in by donors. User fees have been imposed on a limited number of services, and relatively high rates are being charged to provide contraceptives, treat venereal diseases, and for other reproductive services, including infertility counseling and abortions. Most of these services should be provided at little or no cost to the patient, both to encourage more people to take advantage of them and to ensure that poor people will have unrestricted access. The social costs of leaving sexually transmitted diseases untreated, for example, are much higher than the cost of antibiotics.

Table 11.3: 1990-93 Maternal Mortality Rates

MOH FIGURES:		
YEAR	MMR	% INCREASE
1990	97.0	
1991	100.7	3.8
1992	119.8	19.0
GOSKOMSTAT FIGURES:		
YEAR	MMR	% INCREASE
1990	41.8	
1991	53.2	27.3
1992	69.6	30.8

11.15 *Budget and Financing:* In general, it is clear that the health sector is deteriorating rapidly and health indicators are getting worse when over the last three years the share of health in the overall budget has been declining. Between 1990 and 1991, health sector spending fell in real terms by 34 percent and an additional 52 percent between 1991 and 1992.

11.16 More than 60 percent of the approved budget will go to salaries and various benefits (see Table 11.7). This crowds out expenditures for (re)training staff and for drugs and pharmaceutical supplies, both of which are important in providing health care. Aid agencies and bilateral donors are furnishing some assistance to the country, but by October 1993, only about 35 percent of the annual vaccine, and 10 percent of drug needs had been met. As mentioned above, fees for some services have been introduced, but have generated minimal revenue — 35 million rubles, approximately 0.15 percent of the MOH budget. Although a law proposing a health insurance scheme has been drafted, it is unlikely that to be implemented in the near future. The Government has indicated that the country's needs could be met if it can mobilize further external assistance. However, unless comprehensive reforms are introduced in the health sector, external assistance will most likely be limited to emergency relief.

11.17 *Drugs and Pharmaceutical Supplies:* Drug expenditures and pharmaceutical supplies have been declining over the past three years. In 1991, planned drug and pharmaceutical expenditures were 10.3 percent of the health budget; actual expenditures were only 7.3 percent. In 1992, the equivalent values were 8.4 and 5.9, respectively. In 1993, the plan is to spend 11.6 percent of the budget on these items, but if past trends continue this will also be reduced — this at a time when the demand for health care services is growing. 1993 drug expenditure allocations indicate a bias towards tertiary care institutions. In 1991 and 1992 budgets, more than 77 percent of the pharmaceutical allocation was made to the local budget, which supplies health centers, and polyclinics. In contrast, in 1993, the allocation to the local budget was only 40 percent, with the rest going to the republican budget, which provides for the central hospitals. This most likely reflects the haphazard nature of setting priorities in the health sector, where shifts in expenditures from one year to the next seem to be due to arbitrary decisions,

rather than policy changes. MOH's strategic planning capacity needs to be strengthened.

11.18 Once the local budget allocation for drugs or pharmaceuticals is increased, the efficient use of those drugs will need to be addressed. Administering inappropriate dosages, especially of vaccines, is a serious problem, since most medicines are kept well beyond their recommended shelf-lives, medical personnel have become accustomed to over-prescribing dosages to ensure effectiveness.

Education and Training

11.19 *The Education System:* Grades 1-4 constitute the equivalent of primary education; Grades 5-9 incomplete secondary; and Grades 5-11 complete secondary (Grade 12 has been introduced selectively in some schools). Approximately 82 percent of the students who complete Grade 9 go on to Grade 10. In 1992, there were 3,320 primary and secondary schools in the country, with a total of 1,272,700 pupils. There were 9 tertiary level institutions, and 13 schools for the mentally and physically disabled. Correspondence and evening courses exist, the former growing in popularity with the imposition of curfews and the lack of adequate evening transportation. Although education is compulsory for all children aged 6-18, many leave school to join the labor force at age 16, and it is not uncommon to drop-out after Grade 4. There was little information about the dramatic drop in Grade 4 enrollments this year, but from anecdotal evidence, it appears that most of the unenrolled are girls, especially from rural areas, whose parents need them to work at home and are reluctant to send them to distant schools.

11.20 Tajikistan has at least 56 higher educational and secondary technical vocational schools. The Ministry of Labor, which is responsible for technical education and vocational training indicated that there is a clear gender distribution by subject: women are involved only in the domestic sciences courses (home economics, hygiene, and sometimes baking), not in any of the technical disciplines. There are 55 extra-curricular facilities (such as Pioneer Palaces) and six retraining institutes for teachers. The education system has a total of 125,000 employees from pre-school staffs to university professors. Most primary and secondary school teachers in urban areas are women, while most in rural areas are men.

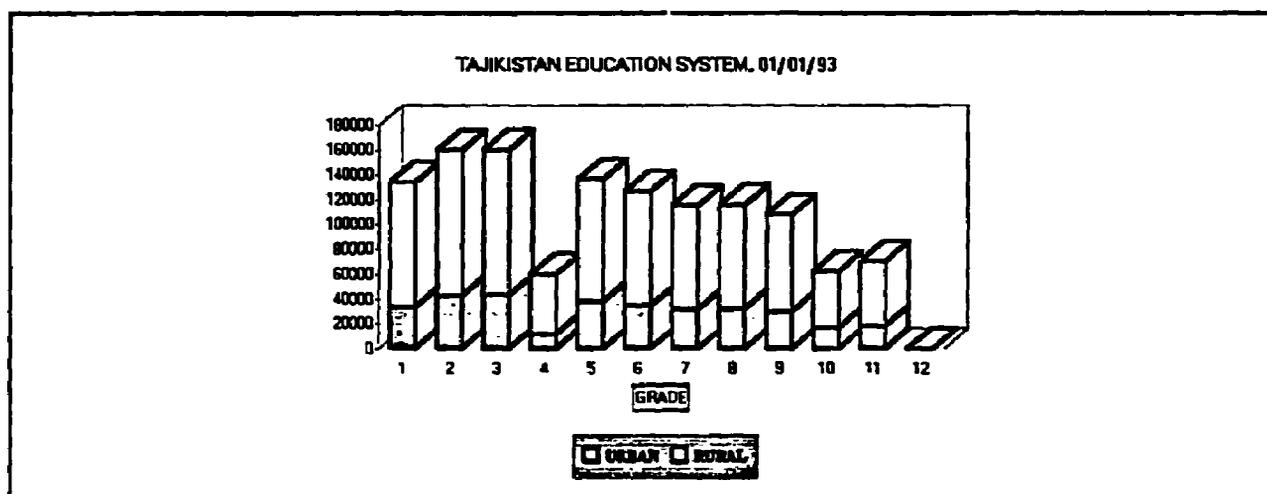
Table 11.4: Social Sector Spending as Percent of Budget

YEAR/ SECTOR ACTUAL	PLAN	
1991		
Education	19.8	24.4
Health	10.8	12.1
1992		
Education	14.4	20.7
Health	7.8	9.7
1993*		
Education	36.5	19.3
Health	16.1	11.8

* Actual for 1993 are for period Jan-Sept.

Source: MOF.

Figure 11.1.



Quality of Education

11.21 In Tajikistan, indicators such as enrollment, number of instructional hours, student-to-textbook ratio, class size, teacher training, and unit expenditures indicate that education quality has declined considerably.

11.22 School enrollment data is collected each year. Reports are sent from the school, through the rayon and oblast education committees, to the Ministry of Education, which in turn passes the information on to the State Committee for Statistics (Goskomstat). Private education or cost-recovery efforts do not exist in any substantive way, but initial steps are being taken. Families now must pay a nominal fee for children to attend pre-school, but the fee is reduced or waived altogether for large families. A Tajik/Turkish lycee that would charge student fees was scheduled to open in late October 1993, and similar offers from other countries are under consideration.

11.23 *Enrollment:* The gross enrollment ratio for primary and secondary schools is approximately 89 percent. Since 1991, enrollment has dropped, going down to 6.8 percent in urban schools and 2.6 in rural schools between the 1991/92 and 1992/93 academic years. The largest reductions were in Grades 9-11(12), which went down by 20.3 percent, and in schools for the disabled, which declined by 16.7 percent. Most likely, the civil war explains these decreases affecting both reporting and attendance over that period. The number of teachers, however, increased at a rate of 1-3 percent over the same period.

11.24 Average class size has also decreased over the past few years (see Table 11.6) as economic hardships deepened. Little

Table 11.5: Student-Teacher Ratio

	STUDENTS TOTAL*	PER Gr. 1-3(4)	TEACHER Gr. 5-11
1985/86	16.1	23.8	18.5
1989/90	14.3	21.4	16.5
1990/91	14.4	21.3	16.5
1991/92	13.7	21.7	15.4
1992/93	12.2	20.8	14.4

* TOTAL figures include teachers of music, physical culture, etc. as well as heads of schools so these ratios are smaller.

Source: MOE.

analysis has been done to trace the causes of these declines, and it is important that the Government do so in the near future.

11.25 Unfortunately, the expenditure figures are not adequately disaggregated to assess unit expenditure by level of education. However, the aggregate figures do show that amounts paid for textbooks and other inputs have remained small and declined over the past three years, while the amounts paid out for salaries and benefits increased.

11.26 *Budget and Financing:* The planned education budget has been fluctuating over the past three years. The 1991 plan figures were 19.8 percent of the Government budget, going down to 14.4 percent in 1992, and up again, to 37 percent in 1993. Actual expenditures in 1993 show a different picture, however. Although the Government allocated 36.5 billion rubles to education for 1993, it had spent only half by the end of the third quarter (see Table 11.4).

11.27 Although the largest share of social sector expenditures continues to go to education, this share has been declining since 1991. Whereas 24 percent of the budget went to education in 1991, this fell to 21 percent in 1992, and will probably be no higher than that in 1993. In real terms, the education budget has seen steep declines, falling 34 percent between 1990 and 1991, with an additional drop of 52 percent between 1991-92, and an estimated decline of at least 73 percent between 1992 and 1993.

11.28 The education and health wage bill has become large and unsustainable, in spite of the dramatic declines in individual wages. The salary of the average education employee is in real terms, 4.7 percent his/her 1990 salary. In health, the figure is equally dismal at 4.5 percent. Understandably, morale, is very low as professionals are striving to cope with daily pressures. Any possibility of employment abroad is increasingly attractive. To keep its skilled education and health workers in the sector without increasing the wage bill, the Government will have to reduce the number of personnel before it increases salaries. However, it is difficult to imagine how any wage increase will be able to make up for the declines since 1989, the harshest of which have occurred over the last three years.

11.29 *Personnel:* As the above tables show, class size and teacher-to-student ratio is shrinking in most schools. The number of hours of instruction that each teacher is required to provide has fallen. In Grades 1-4, teachers must give a minimum of 16 hours of instruction a week; in Grades 5-11, they must teach 14 hours. These numbers were reduced last year from a minimum 20 and 18 hours per week, respectively, as a way of raising teacher compensation, since teachers who teach more than the minimum are paid on a pro-rated basis. On average, each teacher teaches 1.3 times the minimum (approx. 18 and 21 hours, respectively); the average for neighboring republics is 27 hours. Lowering the required minimum hours to increase teacher salaries, instead of just raising wages, has an adverse effect on education quality and should be reconsidered. Efficiency gains could be made by increasing the number of hours each teacher teaches, and increasing class size from 21-24 to approximately 25-28. This would cut spending without seriously reducing quality.

Table 11.6: Average Class Size

CLASS SIZE	
1990/91	22.4
Rural	21.2
Urban	25.8
1991/92	21.9
Rural	20.8
Urban	25.3
1992/93	21.1
Rural	20.1
Urban	24.4

Source: MOE.

11.30 *Hours of contact:* Recent changes in primary and secondary school curricula have reduced the number of hours of contact each student has with the teacher(s). For Grades 1-5, the number of hours a student is required to be in class has been cut 2 hours a week. In Grade 6, it was cut by one hour. The intention is to reduce instruction in each grade by 1-2 hours, introducing the policy one grade at a time. Thus, Grade 7 hours will be reduced by one hour in 1993, Grade 8 by one hour in 1994, etc. While there appears to be little justification for these reductions; however, they will cause significant declines in education quality. If the aim is to reduce per teacher working hours as a way of cutting costs, then rationalizing the teaching force should have a more direct impact. If the curriculum is overloaded, improving the contents would yield better results than reducing the number of hours of contact.

11.31 *Textbooks and other education materials:* The 1978 decree on textbooks declared that all textbooks were to be provided free by the Government, that each book was to be kept for 4 years, and that larger print-runs were to make up for wastage. In recent years, the textbook expenditures have been falling, due to the overall reduction in education expenditures and to a shift in the education budget toward salaries and benefits. Although the policy is to have a student-to-textbook ratio of 1:1, only 60 percent of the textbooks ordered last year were delivered. In July 1993, for example, none of the alphabet readers for Grade 1 were received (old texts were revived from libraries, collected from families, etc. to meet the need); 103,000 Grade 4 students had no mathematics textbooks; and 102,000 Grade 8 students had no economic or geography texts.

11.32 Several bottlenecks exist in the publication and distribution of textbooks. First, there are insufficient funds for the initial print-runs. Since 1990, paper and other inputs, most of which are imported, have been scarce. Second, the growing population necessitates a larger print-run each year, and local publishers are increasingly unable to meet these needs (from 1987 to 1992, MOE estimates that the need for textbooks grew by an additional 3.0 million). Third, the cost of distribution is borne by the rayon and less rayons cannot fully meet the needs of their students. Finally, there is little opportunity to involve private sector operators in providing textbooks, though a few texts are available in the markets.

Training

11.33 With the transition to a market-oriented economy, the demands on the training sub-sector are changing. Market-oriented skills and Western language proficiency are growing in importance. Retrenched workers and new entrants into the labor market face declining employment opportunities in the public and private sectors. Unemployment and under-employment are accelerating in the public sector as enterprises respond to the contraction of the economy. Private sector activity has not grown at a pace that would create a large number of jobs. Political instability and economic uncertainty have made foreign investors leery of involvement, and investment opportunities have not been attractive enough to keep local investors' funds in the country. Though not adequately documented, small-scale enterprises and informal sector activities are areas that provide the greatest opportunity for job creation in the short-term.

11.34 *Public sector training:* Currently, the public sector provides almost all training, managed by the Ministry of Labor and targeted at retrenched workers. Even among retrenched workers, however, the number of eligible trainees is limited. This is due to the policy of training only those for whom jobs have already been identified; to lack of capacity at training centers; and to limited funds available to provide stipends to trainees (equivalent to the minimum wage in October 1993). For example, out of 54,786 applicants to the Employment Fund in the first 9 months of 1993, (re)training was provided only to 2,537 persons.

11.35 With the number of hidden unemployed and underemployed growing rapidly, the demand for the training programs has led to public sector institutions to accept fee-paying trainees, but only in small programs concentrated in the large cities of Dushanbe and Khojand.

The most popular courses are marketing, computer skills (although only one institution in the country provides these), and other business skills, such as accounting and bookkeeping. Although several technical schools and the Pedagogical University in Dushanbe have begun to provide foreign language classes to their regular students, such courses are not available to trainees who are not enrolled as regular students.

11.36 *Private sector training programs:* Very few non-Government run training courses are available, and all of these were provided by foreign NGOs or through bilateral arrangements. Several potential private training providers indicated reluctance to invest in setting up such

courses, since it is still unconstitutional to accept fees for providing any kind of education. The Government will have to address the lack of incentives for private sector involvement. Many courses currently provided by the public sector, such as marketing and business practices, computer skills, and foreign languages are traditionally provided by the private sector in most countries and could attract private sector participation in Tajikistan.

11.37 Unfortunately, a large and growing number of the unemployed have little or no access to the kind of training they need to seek employment in the public sector, or to work in the formal or informal private sector. The largest such group are new entrants into the labor market, who have been effectively excluded from any of the training opportunities available to retrenched workers.

Recommendations

11.38 The following recommendations are important steps that the Government should take within the next three years to improve (or at least maintain) current levels of investment in human capital.

Health

11.39 The Government should place more emphasis on basic services as a fundamental aspect of the social safety net. In general, an emphasis on health education, preventative care and disease control is recommended. Improved access is not a high priority, with the exception of extending services

Table 11.7: Salary and Benefits as Share of Sector Budgets (Percent)

	Plan	Actual
1991		
Education*	69.4	75.7
Education**	66.9	71.3
Health**	51.2	67.1
1992		
Education*	53.8	72.2
Education**	48.7	66.4
Health**	48.8	66.9
1993		
Education	67.0*	
Education**	62.2**	
Health**	63.1**	

* Includes salaries' tax (37%), travel allowances, student stipends, meals at canteens (sanatoria, kindergartens, and socio-cultural establishments), and partial payments to alleviate food price inflation.

** Includes all items under (*) above but excludes meals.

Source: MOF.

to the refugee and displaced population. The most needed improvements are in the quality of care and in system efficiency.

11.40 In the short-term, the Government needs to address problems in the health sector that stem from the civil war and natural disasters, as well as the structural problems facing the sector. There is a need for strict prioritization. First, gains can be made by addressing the imbalance in the distribution of health professional levels. Population-to-doctor ratios in Tajikistan are generous by middle-income developing country standards, though below other FSU countries. However, shortages remain in some specialties while others are oversupplied. MOH must identify which medical professional levels are needed and ensure that training programs address those needs. Entry to training courses for oversupplied levels of specialties should be limited. The MOH should determine how many professionals are needed in the system and trim accordingly.

11.41 Second, outdated procedures have adverse health effects and/or increase health care costs. These include: treating with large doses of medicines; prescribing multiple medicines for relatively simple ailments; and using elaborate and largely unnecessary diagnostic procedures. In-patient stays at hospitals are longer than in most other countries. For example, in 1990, the average hospital stay for the flu was 9 days; a rest stay in a sanatorium or health resort, 6 days. Correcting these problems would improve the health status of the population while cutting costs.

11.42 Third, private sector involvement could relieve some of the pressure on the system. The Government must: i) have transparent procedures for the licensing of private practitioners; ii) have a clear policy on opportunities for public servants' setting up private practice; and iii) provide an adequate regulatory environment to protect the population from malpractice.

11.43 *Maternal and Child Health:* To reduce maternal and infant mortality and morbidity, attention needs to be paid to improving nutrition, providing adequate and accessible family planning services, and promoting preventive care. Training health care professionals in modern medical technologies and procedures, including methods of family planning, is as important as increasing the resource allocation to qualitative inputs in the sector. Existing programs to provide iron supplements to pregnant women should be strengthened.⁴ A universal food item should be identified and fortified with iron. (One possibility would be to fortify flour at central mills before it is distributed to households.) Hard-hit areas should be frequently surveyed to: i) monitor malnutrition and ensure adequate measures are implemented to counter it; ii) that the Government undertakes an active breastfeeding promotion program; and iii) that micro-nutrient deficiencies in the population are addressed through supplementation and fortification programs. Concerted efforts should be made to educate the public on the benefits of limiting family size, particularly as a way of improving maternal and child health. MOH should also include training in providing family planning services and counselling in all pre- and in-service courses for health staff.

11.44 *Adult Health:* The most important intervention in adult health is to reduce the population's consumption of fats, alcohol and cigarettes. This is obviously a long-term issue, and education campaigns are needed to reinforce the message. In the short-term, modern procedures for the handling of cardio-vascular diseases must be introduced and staff trained.

4. Ideally, these supplements should be combined in an iron folate capsule and should be provided without targeting to all pregnant women.

11.45 *Budget and Financing:* A system of health care financing must be developed that will assure both equity and access, as well as generate some revenue. Any revenue generation effort should be viewed as a way of influencing the demand for services, not as a substantial short-run cost reduction mechanism. The current cost recovery policy should be examined and critical services removed from fee-charging.

11.46 *Drugs and Pharmaceutical Supplies:* Drug expenditures should be carefully monitored. A drug policy should be implemented that will, among other things, address issues of expired medicines, appropriate doses, and updating procedures; training of medical and pharmacy staff; and adequate quality control measures, including regulating storage facilities and the cold chain. An important first step would be to improve MOH's international procurement procedures to ensure that the most essential drugs are purchased at the lowest prices. Local pharmaceutical production should remain limited to simple generic capsules and IV fluids.

11.47 *Capacity Building and Institutional Development:* Implementation plans should be developed to improve the health system's efficiency and quality of care. Private clinics and nursing homes must be allowed to operate under license. The role of medical research and teaching institutes must be clearly defined. Reducing the ratio of health staff to population through attrition and barriers to entry will be an important prerequisite to increasing wages in real terms for health professionals. Medical and paramedical curricula must be revised, and admission to training programs should be linked to the country's needs.

11.48 *Cross-sectoral efforts:* Improvements in water, water distribution and sanitation will play a pivotal role in improving the population's health, especially of children. The Government should adopt a plan to improve water and sanitation services, particularly in rural areas and in regions most affected by the war and floods. In addition, MOH should educate the population on maintaining of basic hygiene in the home, possibly through the mass media.

Education

11.49 Access to education should be expanded for refugees returning from neighboring countries and internally displaced persons. Efforts should be made to produce systematic school surveys to determine how much the quality of education has changed in the last three years, and to track any changes that occur in the future.

11.50 *Quality of Education:* Declines in instructional hours and in teacher-to-student contact, teacher (re)training, and in provision of textbooks are expected to have a direct impact on the quality of education in the country. Government should immediately change those policies that have eroded these indicators, and protect expenditures allocated to textbooks. If the necessary efficiency measures are taken, the budgetary implications of these recommendations do not have to be enormous.

11.51 Decreasing enrollment is a cause for concern if it continues. Through the surveys mentioned above, the Government should identify areas of the country with the sharpest drops and the reasons for them. Of particular importance should be the gender of students who are either not entering school or who have left schools in rural areas, since anecdotal evidence suggests that girls are disproportionately represented.

11.52 *Budget and Financing:* Streamlining the teaching force will be an important cost-cutting and efficiency measure in the sector, but must be preceded by a study of the sector's needs in the next three to five years so that there will not be a shortage of trained teachers, especially teachers with specific skills. Reducing the number of teachers will free resources needed to provide teachers with an adequate wage. The sharp real declines in wages in education may have provided an incentive to reduce the oversupply of teachers, but has also caused exodus of the most highly trained, and will result in a shortage in the coming years.

11.53 *Education Materials:* The removal of bottlenecks in publishing and distributing textbooks and other education materials is an important step maintaining education quality. Recent Government discussions regarding curriculum changes should be encouraged, and technical assistance should be provided to enable the Government to take advantage of international expertise in this area. A book policy should be put into place including, among other things, the possibility of instituting a rental scheme. Such a policy should encourage private sector involvement in both publication and distribution.

11.54 *Training:* To meet the demands of the market-oriented economy, flexible and innovative training approaches should be adopted. Close coordination between the Ministry of Labor, which has many of the responsibilities of the technical schools, and the Ministry of Education and various line ministries, including Industry and Agriculture, will be required for effective training programs.

11.55 Government should encourage private sector involvement in setting up training courses. While private initiatives are being developed, continued Government involvement will be needed to maintain on-going training courses for those who are: (i) unable to pay for the training they need; and (ii) for those who seek skills that are in demand but do not attract private sector providers.

11.56 Training should be de-linked from guarantees of employment. Although the current policy yields impressive placement figures for the labor exchange offices, it introduces an unnecessary barrier to training and limits the potential to train persons who want to go into the private sector.

11.57 Training programs should strengthen their links with enterprises. Until private sector initiatives offer better courses and better employment opportunities, public enterprises will remain the main user of trained personnel. Strengthening their links with public enterprises and making increased efforts to have them participate in practical training of workers will enhance the relevance of the training provided. In many instances, enterprises are willing to share in the costs of training their future staff, and this should be explored further.

11.58 The Government can play a crucial role in developing appropriate curricula and materials to meet the above-mentioned needs, and could spearhead the initiative to upgrade trainers' skills. Since there are many donor initiatives to do this in the FSU and in Eastern and Central Europe, Tajikistan could benefit from their experiences and may be able to attract their assistance.

11.59 The Ministry of Labor is beginning to consider the active export of labor to countries in Europe and the Middle East. If this initiative takes off, the training sub-sector should be prepared both to provide the kind of training required abroad, and to establish procedures for cost-recovery, either from the hiring firm, or from students seeking the employment opportunities abroad. This idea, however, is still in its nascent stages.

11.60 *Data collection:* It is important to pay attention to improving data collection and methodology as the Government begins to put proposed policy changes into place. This effort should be centered around Goskomstat, but it is equally important to ensure that the collected data is available and useful to the line ministries.

CHAPTER 12

ENVIRONMENT

Overall Assessment

12.1 The rich natural resources of Tajikistan have the potential to support sustainable development. However, to fully achieve this kind of development, environmental considerations must not be made secondary to future investment choices. Water resources, fertile soils, and biodiversity (flora and fauna) are primary national assets. These assets, as well as clean air, are being threatened by lack of environmental considerations in agricultural practices, industrial development, and waste management. Given the wealth of its resources and the considerable vulnerability imposed on them by topographic and climatic conditions, it is all the more important for Tajikistan to establish well functioning environmental institutions capable of accurate monitoring and impact assessment.

12.2 The inappropriate use of pesticides and fertilizer in the major cotton producing areas of the country has contaminated the soil, as well as surface and ground water. While irrigation has substantially contributed to agricultural productivity, it has caused significant soil salinization and erosion. The loss of plant and tree cover due to deforestation and overgrazing also contributes considerably to salinization (from sand winds) and erosion, as well as loss of biodiversity. The hydropower industry has mixed impact on the environment and society at-large. Dams provide flood control and have the potential to help avoid air pollution problems associated with energy production based on fossil fuels. On the other hand, the construction of large dams and reservoirs reduces biodiversity and scarce arable land and displaces populations. Air pollution is caused by inefficient technologies in the industrial sector and traffic congestion. In the past, the level of air pollution in the urban centers exceeded health standards by many times. Since 1992, however, air pollution levels have dropped dramatically. This is because economic contraction has led to a decrease in automotive transportation and industrial production. The aluminum smelter is the major source of air pollution and is a threat to public health. Many drinking water sources are deemed unfit for human consumption because of inadequate distribution systems and agricultural and industrial contamination. Lack of adequate waste water treatment facilities and poor solid and hazardous waste management practices also constitute high risks to human health and the environment.

Climatic and Topographic Sources of Concern

12.3 Ninety-three percent of Tajikistan is mountainous and 80 percent of its land area is prone to earthquakes. The combination of mountainous topography and high seismicity, together with severe weather conditions, contribute to natural calamities which exacerbate many environmental problems and inflict serious damage on the national economy. Approximately 60 percent of the republic is subject to avalanches, landslides and mudslides, the frequency and intensity of which are further increased by human activity. Since the beginning of the twentieth century, over 500 earthquakes with magnitudes greater than five on the Richter scale were registered in Tajikistan, three of them resulted in massive loss of life-- the Khait, the Sarez, and the Karatag. In 1949, Khait earthquake triggered a landslide of gigantic blocks of rock that quickly covered the regional center of Khait, which had a population of over 24,000.

12.4 The 1911 Sarez earthquake also triggered a landslide, creating a 850 meter high natural dam (later named the Usoi Dam after the village it engulfed) that led to the natural creation of Sarez Lake

which currently covers 88.0 km². According to hydrological observations, the lake is in a quasi-equilibrium state, causing considerable concern over a potentially devastating outpouring of water. To protect the population from such a disaster, an automatic satellite communications-based warning system, "Usoi", was installed, but needs additional financial support for operations and maintenance.

Flora and Fauna

12.5 Over the recent decades, populations of many species of plants and animals have become endangered and some even extinct. More than 200 species of plants have been listed in the "Red Book" of Tajikistan, some of which are also listed in the International Red Book.

12.6 Tajikistan is home to 365 bird species, 49 species of reptiles, over 10,000 invertebrates and insects, and more than 80 species of mammals. Some of the rarer mammals include Snow Leopard (*Panthera uncia*), Bukhara Deer, Asiatic Bear (*Ursus arctos isabellinus*), Marco Polo Sheep (*Ovis ammon poli*), Long-tailed Marmot (*Marmota caudata*), Asiatic Mouflon (*Ovis orientalis*), Markhor (*Capra falconeri*), and Mediterranean Gazelle. Some attempts have been made to restore the dwindling populations of Bukhara Deer and Mediterranean Gazelle. The Marco Polo Sheep, long held sacred in Tajikistan, are threatened due to the loss of winter and summer range from livestock encroachment, as well as poaching. The Ministry of Natural Protection reported that the last Tiger was killed only recently.

12.7 Tajikistan has a large variety of soils that sustain a diversity of plant life. The indigenous plant gene pool is a very important resource for the world. It is especially rich in species with economic value used for medicinal and manufacturing purposes, including about 400 medicinal herbs, over 115 dye plants and 40 fruit bearing plants. Tajikistan is the place of origin for several crops and fruit-bearing tree species. The wild relatives of such species as lentils, chickpeas, walnuts, apples, wheat, pulses, almonds, and pistachios can still be found. The area provides unique opportunities for selection of new drought and disease resistant varieties, and a living laboratory for studying insect-plant relationships to advance biological control techniques. Tajikistan also provides fertile ground for prospecting natural sources of pharmaceutical products. Currently, Tajikistan's only pharmaceutical enterprise produces its medicines almost entirely from indigenous herbs.

Water Resources

12.8 Water is Tajikistan's most abundant natural resource. There are 8,500 glaciers in the country, covering six percent of Tajikistan's total land area. These glaciers store 455.9 km³ of water and, together with winter rain and snow, feed the valleys by flowing into the 947 streams and rivers which total 28,500 km in length. The total water runoff from the mountains equals approximately 61.8 km³ annually. Some twenty of these glaciers are "pulsating glaciers" which are characterized by periodic movements. The most famous of these, the Medvezhe glacier, located at the head of the Vaksh River in the Western Pamirs, poses the greatest danger and caused catastrophe in 1963 and 1973. There is some evidence of glacial contamination from atmospheric dust, air-borne pesticides and other chemicals from the Aral region; lack of specific information on this is a concern.

12.9 Tajikistan's rivers constitute the two major river systems of Central Asia, the Amu Darya and the Syr Darya, which feed the Aral Sea. The majority of Tajikistan's rivers belong to the Amu Darya River Basin, including the Pianj, the Vakhsh, and the Kafirnigan Rivers. The Syr Darya River has only a small catchment area in the north. There are 1,300 lakes which make up about one percent

of the territory, and underground aquifers which contribute almost nine percent of the country's total water use.

12.10 One of the most serious policy dilemmas facing the countries in Central Asia concerns environmental problems of the Aral Sea basin. In addition, Tajikistan has the lowest per capita annual water consumption and land irrigation, 1,300 m³ and 0.13 hectares, respectively – 1.5 times lower than neighboring republics. At the same time, water utilization efficiency is much higher than the average for the region. Nevertheless, a significant degree of cooperation among the republics will be crucial in reaching a solution to the Aral Sea crisis. Although Tajikistan covers only 5.7 percent of the total basin area, it would be instrumental in any regional solution as 44 percent of the average annual runoff of the basin is formed within its borders. Of Tajikistan's 54.8 km³ of runoff, only 20 percent is used for the needs of the republic.

Industry

12.11 Industrialization has been one of the factors responsible for degrading Tajikistan's water resources. For instance, the Yavan Chemical plant's direct discharge to surface waters has to some extent polluted the Naryn-Sy River to the extent that it is now unsuitable for drinking or irrigation. In 1989, the Vakhsh Nitrogen Fertilizer plant¹ polluted the only large aquifer in southern Tajikistan, destroying the water supply of several villages and endangering the cities of Kurgan-Tyube and Kalininabad.

12.12 The Leninabad Chemical Plant which was originally engaged in uranium mining has now been converted to a refinery for processing gold, silver, tungsten, and certain other rare metals. It appears that no remediation is planned, although significant soil and water contamination has been implicated at this site. Mining activities, which had been started in some 400 sites for over 36 useful constituents, are also likely to cause water contamination, as well as soil erosion. It is important that the environmental impacts of these mines be assessed and remedial action taken before production levels are resumed.

12.13 Tajikistan's hydropower production is third in the world, after the United States and Russia. The most intensive development of these resources has been in the Vakhsh Valley, where the two highest dams, the Nurek and the Rogun (still under construction), are located. While large-scale development of hydroelectricity has brought substantial benefits to Tajikistan, it has also resulted in loss of arable land, soil erosion, and reduction in fish populations. It has been estimated that from 1984 to 1989, the fish population decreased by more than 30 percent because of loss of breeding grounds. The construction of the Rogun, which was scheduled to be completed in 1997-2002,² will force 22 and 40 thousand rural people to be relocated from the Komsomolabad and Garm Districts.

Agriculture

12.14 Agriculture's impact on the environment stems mainly from reliance on irrigation, which in 1989, consumed 81 percent of the 12.6 km³ of water used. Presently 86 percent or 698,000 hectares of the arable land is irrigated, primarily for cotton and, to a lesser extent, fodder crops, vegetables, and

1. This fertilizer plant was destroyed during the war.

2. The construction of the Rogun Dam has ceased due to the lack of funding.

fruit. The growth rate of irrigated land has been considerably lower than in other states of the Aral Sea Basin, primarily due to the difficulty of building irrigation systems under mountainous conditions.

12.15 Efficiency of water use is the biggest problem associated with the present irrigation system. Water withdrawn for irrigation is used at an efficiency rate of approximately 67 percent. This rate can partly be attributed to the irrigation canals which often lose 60 to 70 percent of their water for lack of concrete jackets. Irrigation also has indirect consequences associated with the increase in demand for hydropower, which has its own set of environmental and social problems. In 1988, irrigation required two billion kilowatt hours of electricity.

12.16 The second largest problem related to irrigation is the lack of adequate drainage systems and the associated water logging and salinization. In the early 1980s, Tajikistan lost 45,000 tons of cotton per year due to water logging and soil salinization. According to the 1989 FSU Environmental Survey, 15 percent of Tajikistan's total cropland was salinized, and 15 thousand hectares of irrigated cropland were completely unusable because of high saline concentrations.

12.17 Soil erosion is another by-product of intensive irrigation. According to the 1989 FSU Environment survey, 68 percent of all agricultural land had been eroded to some extent and 28 percent of the total land area. Erosion from irrigation had effected 52.6 percent of all irrigated cropland. The Ministry of Nature Protection has noted that soil erosion from flooding, wind, overgrazing and loss of plant and tree cover are equally important. Currently, little is being done to protect the limited soil resources of the country.

12.18 Indiscriminate use, over-application, and inadequate storage of pesticides and fertilizers have resulted in considerable contamination of soils, ground water, surface water, and food products in Tajikistan. A 1992 document published by UNICEF and the World Health Organization (WHO) reported that pesticides have been applied in Tajikistan at a rate of 19 kilograms per hectare on average, as compared with two to three kilograms per hectare for the FSU. The 1989 FSU Environment Survey indicated that Tajikistan had the highest levels of pesticide residues in its soils, and that the quantity of fertilizers used on irrigated lands was 10 to 15 times larger than the mean values for the FSU. For example, the cotton fields of the Hissar and Vakhsh Valleys have residual concentrations of pesticides in soils 3.1 times higher than health standards allow (i.e., 3.1 times above the maximum pollutant concentrations (MPC)). Recently, however, the rate of pesticide and fertilizer utilization has decreased dramatically due to shortages of agricultural chemicals. The use of hazardous defoliant has also been curtailed, and they are no longer applied by aerial methods.

12.19 In 1989, only 50 percent of the farms had storage facilities for agricultural chemicals, and most of these were in poor condition. Chemicals are often stored outside, exposed to the elements, so that leakage of stored pesticides and fertilizers is prevalent. In 1992, UNICEF and WHO found a high incidence of respiratory ailments, neurological and congenital disorders, and immunosuppression among children in Tajikistan; health problems believed to be linked to agricultural chemical exposure. Agricultural workers are often exposed to fertilizers, pesticides and other chemicals during application and handling.³

3. It should be noted that the overwhelming majority of the agricultural workers are currently women.

12.20 Storage space is also a limiting factor in the use of organic manure as fertilizer. Only 30 percent of Central Asia's agricultural facilities have manure depositories. Mismanaged liquid waste from cattle-breeding farms is still another non-point source of water contamination.

Water Supply and Sanitation

12.21 The inadequate supply of clean drinking water appears to be the single greatest health hazard in Tajikistan. Even before the civil war, only about 65 percent of the total population had access to piped water, and distribution systems in many towns were in poor condition. In rural areas, only 40 percent of the population had piped water, while the remainder obtained water from open sources. The civil war and floods have exacerbated water supply problems, which are especially severe among the approximately 600,000 displaced persons who live in unorganized settlements. For example, dysentery is common among displaced persons in the Kurgan-Tyube region. Even in areas with piped water supply, high levels of diarrhoeal diseases and endemic hepatitis A are common and suggest poor quality of the drinking water.

12.22 Diarrhoeal disease is the most common cause of death in infants and accounts for 30 percent of the mortality among children less than five years old. Incidence of hepatitis (primarily type A) increased 50 percent between 1990 and 1991. In the Vakhsh Valley, one of the most densely populated areas, about 40 percent of the citizens get their drinking water from arcycls (open canals). This has resulted in incidence of typhoid, viral hepatitis and bacterial dysentery that is 15, 12, and 3 times, respectively, more frequent than the national average. In 1988, drinking water was tested in the Hissar Valley; 21.5 percent of the samples exceeded pesticide health standards and 21.7 percent exceeded bacteriological health standards.

12.23 According to the 1989 FSU Environmental Survey, 49 percent of the waste disposal sites in Tajikistan did not comply with sanitary norms and regulations. In 1985, 72 percent of Tajik homes lacked sewage systems; in 1988, 91 million cubic meters of untreated municipal and industrial waste water were discharged directly into rivers due to a shortage of waste water treatment facilities. It appears that these problems have significantly increased since the beginning of the civil war, and that the treatment facilities that do exist are poorly maintained and incapable of adequately treating waste waters. Industrial waste water is either untreated or insufficiently treated before discharge into surface water bodies.

Air Pollution

12.24 Tajikistan's air pollution is not as severe as in other FSU countries due to the relatively low level of industrialization and extensive use of hydropower which minimizes fossil fuel pollution. The capital, Dushanbe, is by far the most polluted city in Tajikistan; automotive emissions and the nearby cement factory account for most of its air pollution. High levels of benzopyrene, a carcinogen, are especially alarming. In 1991, benzopyrene concentrations exceeded maximum permissible concentrations by a factor of seven. Since 1992, however, there has been a dramatic decrease in air pollution levels throughout Tajikistan due to the contraction of the economy which has led to a decrease in automotive transportation because of fuel shortages, as well as a decrease in industrial production. Air pollution levels are expected to rise again when normal economic activity is resumed.

12.25 The single most significant stationary source of air pollution is the aluminum smelter, located in Tursunzade (Regar), near the Uzbek border. It is the third largest aluminum smelter in the

FSU and the only significant manufacturing plant in Tajikistan. The smelter is believed to be equipped with wet scrubbers, which treat only 98 percent of the hydrogen fluoride produced. Actual air emissions for 1991 were 1.1 kilograms of fluorine solids per ton (metric) of aluminum produced and 0.5 kilograms of fluorine gas per ton of aluminum produced, totaling 193 tons of fluorides annually. The plant also annually emits 1,306 tons of sulfur dioxide and 28,900 tons of carbon monoxide. The hydrogen fluoride emissions have been the source of significant adverse health effects, both to the residents of Tursunzade and the bordering communities in Uzbekistan. These emissions are also known to cause discernible adverse effects on sensitive plants and grazing animals. Livestock in the area are losing their teeth and dying, and the teeth of local children have been found to be discolored.

Institutional Arrangements

12.26 The Ministry (State Committee) for Nature Protection (Goskompriroda) is the organization entrusted with establishing and implementing environmental policy, coordinating environmental activities of other public and private entities, and monitoring, and enforcing, compliance with environmental laws. It has two separate research divisions: the Tajik Research Center for the Protection of Water Resources and the Research Laboratory for the Protection of Nature. The Ministry employs fewer than 50 people; its field activities are conducted by local agencies in each of the three oblasts and in each rayon within these oblasts. The Department of Conservation and Rational Use of Natural Resources and the Pamir Biological Institute, both part of the Tajik Academy of Sciences, formulate natural resource management strategies for Tajikistan. The Junior Academy of Sciences, the Tajik Institute of Economics and the Tajik National Planning Commission also function in this capacity.

12.27 In 1990, the State Commission for Emergency Situations was created to address problems relating to the prevention, occurrence, and elimination of natural disasters, accidents, catastrophes and other emergency situations. This commission operates the system "Usoi", designed to prevent a possible breaching of Lake Sarez. It also addresses problems relating to environmental protection and rational use of natural resources. The National Hydrometeorological (Hydromet) Service collects, analyses and disseminates hydrometeorological data to forecast floods and efficiently allocate water for irrigation, hydropower production, and other uses. It also monitors the glaciers and coordinates activities with neighboring countries to manage the region's river basins. Presently, Tajikistan has 56 hydrometeorological stations and 78 hydrometeorological posts which is not enough to gather complete information on hydrometeorological regimes and to adequately serve the national economy.

12.28 Although Tajikistan currently uses the environmental laws of the FSU, new environmental legislation is in the process of being formulated. The FSU standards are not selective enough when choosing environmental indicators. As a result, it is virtually impossible to monitor and enforce all the standards in the field. Several agencies monitor the environment, but in general, the process is unreliable, as the laboratories and field equipment are obsolete and spare parts are difficult to come by. In addition, there is a lack of chemical reagents and adequate standards and methodologies. Environmental impact assessments (EIAs) and environmental audits are not effectively used. The economic instruments of environmental management based on the polluter pays principle is being introduced to generate much needed funds for environmental activities. Tajikistan has recently created its own environment fund called "Ekhyo" that will eventually be replenished through revenues generated from user fees, taxes, discharge/emission permits, and fines for non-compliance with environmental laws, after the economy is restored and restructured.

Recommendations

12.29 The investment program for environmental improvements in Tajikistan should be based on institution building, developing opportunities that capitalize on geographical and environmental intrinsic characteristics unique to the republic and on cost-effective programs to reduce public health hazards and natural resource degradation.

Short-Term

12.30 It is essential to improve environmental monitoring and information systems for enforcement, forecasting natural disasters, and planning for water resource allocation. Field monitoring and laboratory equipment need to be upgraded, particularly those used by the National Hydromet Services. A reliable supply of spare parts for proper maintenance must be ensured. New standards and methodologies for collecting and analyzing data should be developed. The number of hydrometeorological stations and posts needs to be increased.

12.31 In the process of reviewing and revising environmental standards and regulations, more realistic ambient standards for both air and water quality should be adopted, and interim emission standards should be established that will allow existing industry and municipalities to move to the new standards over a reasonable time period. New sources of pollution should be required to meet these standards immediately.

12.32 Training the Ministry of the Nature Protection's staff in environmental management should be a high priority. The program should include training in environmental auditing and impact assessment, risk management techniques and environmental and natural resource economics.

12.33 The Ministry of Agriculture's institutional capacity should be strengthened and focused on environmental matters.

12.34 Tajikistan's environmental economic instruments need to become more effective by relying on pollution charges and environmental use fines.

Medium-Term

12.35 Restructuring the economy will provide medium-term opportunities for addressing environmental objectives that should not be missed. Environmental protection must be treated as an integral part of the entire macroeconomic reform process. Macroeconomic reforms must be coupled with efforts to develop institutions, regulatory instruments, and economic incentives that discourage environmental abuse. Movement from a centrally-planned to a market-based economy, with the accompanying realignment of prices, changes in ownership, and tighter budgetary control, will lead to more efficient utilization of natural resources.

12.36 Strict and public environmental impact assessments (EIAs), when applied systematically to all sectors, are a major preventative tool of environmental enforcement. EIA effectiveness could be increased by: i) greater public participation in their preparation; ii) the dissemination of their results in local and national media; and iii) establishing a specific EIA unit in the Ministry for Nature Protection.

12.37 Once economic restructuring shows which companies will survive in the medium and long term, environmental auditing of industrial plants and mining facilities will be an essential ingredient in achieving a more efficient, less polluting industrial base in Tajikistan. These audits help identify environmental problems, production inefficiencies, and cost-effective and preventive solutions. While industry should ultimately be responsible for the full cost of the audits, in the early years of transition, they could be made available to industry as a government service. The audit service could be part of a pollution prevention technical assistance program that would assist industry in identifying and implementing low-waste or waste-free manufacturing techniques instead of encouraging the expansion of expensive end-of-pipe treatment capacity.

12.38 Reducing the amount of fluoride emitted from the aluminum smelter in Tursunzade is warranted for public health reasons in Tajikistan and Uzbekistan. This could be accomplished through a maintenance program for the existing wet scrubbers which would increase existing removal efficiency or by installing of dry scrubbers which can achieve a higher degree of fluoride treatment. Dry scrubbers have the advantage of closed-cycle operation, where no contaminated water or sludge is produced, and collected materials can be returned directly to the cells. Returned fluoride and alumina dust are valuable materials that may offset the cost of operating the dry scrubber system. In some instances, the value of recovered material may be large enough to amortize a portion of the capital required to install the system. In addition, improvements in anode manufacturing would reportedly significantly alleviate contamination problems in the electrolytic cells and reduce the amount of cryolite used, which in turn would reduce fluoride emissions.

12.39 The lack of clean drinking water appears to be a result of contamination from pesticides, fertilizers, industrial waste, inadequate sewage treatment systems and open distribution systems. Poor drinking water quality seems to be concentrated in intensive agricultural regions such as the Vakhsh and Hissar Valleys where population density is high, cotton cultivation is extensive, and open canals are common. Organic farming practices should be expanded and chemical pesticides and fertilizers replaced by biological pest control methods and organic manure fertilizers. The construction of storage facilities for manure is required if the use of manure as a fertilizer is to be expanded. Proper storage facilities are also needed to protect pesticide and fertilizer containers from chemical and physical deterioration, to prevent leakage into the environment. Better management practices for liquid farm animal waste are needed, including (but not limited to) treatment. Non-point source pollution from agriculture can also be addressed by enhancing self-purification processes, including the construction of artificial wetlands, and plant covers along watercourses and reservoirs.

12.40 The drinking water distribution system should be improved and expanded. The Yavan Chemical enterprise might be a good source of chlorine for disinfecting drinking water since production capabilities are already in place. Existing sewage treatment plants should be upgraded and better maintained.

12.41 Investment in high efficiency irrigation systems and lined water distribution canals would be highly beneficial since it reduces demand for hydropower. A decrease in domestic hydropower demand could have two important consequences: i) greater export of electricity which would generate hard currency, and ii) a decrease in construction of environmentally- and socially-damaging large dams and reservoirs.

12.42 More extensive use of small hydropower plants, which are less environmentally and socially damaging than large hydro projects, should be considered for the remote mountain regions.

12.43 There is a need for soil quality intervention. Construction of adequate drainage systems is needed to minimize soil salinization, and livestock grazing must be restricted in the highlands to reduce soil erosion and to protect important indigenous species of flora and fauna. Irrigation practices should also be modified to decrease soil erosion.

12.44 Clearing of the endemic tugai forests in the Amu Darya and Pianj valleys the southwestern Tajikistan has increased flooding and bank erosion. A reforestation project in this area is recommended to minimize annual flooding and erosion damage, and to reduce the problem of soil salinization.

12.45 Conservation of bio-diversity should be given priority. There is a need to identify and establish in-situ conservation areas for the protection of genetic resources of medicinal plants and wild relatives of economically important crops and tree species. A project of this kind would contribute to the broader objective of conserving sustainable farming and forest systems. It would provide an incentive for foreign investment in bio-diversity prospecting by pharmaceutical companies and could be of great benefit to plant breeders in Tajikistan and worldwide given Tajikistan's unique biological diversity, particularly in wild relatives of globally significant species such as wheat. The use of GEF (Global Environment Facility) funds for this purpose might be particularly relevant.

12.46 The tremendous natural beauty, high recreational value, and limited potential for industrial and agricultural development of Tajikistan's high mountain regions make them an ideal place to develop an ecotourism industry. The first step in developing ecotourism would be full establishment of the Pamir National Park. A high degree of local community involvement would be a key component for the success of the National Park and an ecotourism industry. However, habitat protection is not itself sufficient to guarantee species survival. This is particularly evident in the case of the Marco Polo sheep which, like other game, are being hunted beyond any self-regenerating capacity by the local population. This, in conjunction with pressures on habitat from deforestation, extensive grazing and intensive agriculture, is driving the species toward extinction. While Resolution N-170 passed in 1990 to encourage and formalize the establishment of protected areas indicates an intent to preserve the country's natural resources, but the Government currently lacks the financial ability to orchestrate the social, economic and legal changes required to adequately protect those resources or to secure their sustainable development.

12.47 The Government needs to take measures that facilitate the creation of new parks. First, it should establish and enforce detailed regulations aimed at better protecting natural resources in, and in the proximity to the parks. More importantly, it should help increase the incomes of local populations and increase its own resources directed to native species protection. In this regard, controlled hunting and eco-tourism have significant potential. The high comparative advantage of protected areas for ecotourism, controlled hunting, wildlife research and high mountain recreation would ensure that the protected areas will both preserve biodiversity and have a direct beneficial impact on the national and local economies.

12.48 Pollution fees and fines should be increased to reflect economic costs and to offset the effects of inflation.

Long-Term

12.49 New sewage treatment plants should be constructed, particularly in areas where functioning waste water collection systems are in place. The coverage of sewerage and drinking water distribution systems needs to be expanded.

12.50 Tajikistan should reduce motor vehicles emissions by coordinating with neighboring states, particularly with respect to lowering the levels of lead and other pollutants in fuels. Expanding public transportation in urban centers could also lower automobile emissions.

12.51 To save scarce administrative resources, Tajikistan should adopt a system whereby major enterprises monitor their own emissions, subject to government review. Regulations should be established for enterprise self-monitoring and reporting, and reporting of false information should be made a criminal offense.

12.52 A general system for solid and hazardous waste management should be established with necessary recycling, treatment, and disposal facilities.

Statistical Appendix

Contents

1. Population and Employment

- 1.1: Population and Employment - Summary Table
- 1.2: Employment by Sector, Annual Average
- 1-2a: Sector Shares of Employment
- 1-3: Workers and Employees in State Sector
- 1.3: Labor Force and Participation Rate
- 1.4: Registered Unemployment

2. National Accounts

- 2.1: Net Material Product at Current Prices
- 2.2: Distribution of Net Material Product at Current Prices
- 2.3: Net Material Product at Constant Prices
- 2.4: Net Material Product at Constant Prices, Growth Rates
- 2.5: Net Material Product - Implicit Price Deflators
- 2.6: Net Material Product - Growth Rates of Implicit Price Deflators
- 2.7: Gross Social Product by Sector at Current Prices

3. International Trade

- 3.1: Exchange Rates
- 3.2: Trade by Commodity Groups at Current Prices, 1990
- 3.3: Geographical Distribution of Interrepublic Trade, 1991
- 3.4: Geographical Distribution of Interrepublic Trade, 1992
- 3.5: Geographical Distribution of Interrepublic Trade, 1993
- 3.6: Geographical Distribution of Extrarepublic Trade, 1993

4. Public Finance

- 4.1: Government Budget

5. Monetary Survey

- 5.1: Monetary Survey

194 Statistical Appendix

6. Agriculture

- 6.1: Agricultural Production at Constant Prices**
- 6.2: Production and Average Yields of Major Agricultural Crops**
- 6.3: Main Aggregate of Animal Husbandry**
- 6.4: Agricultural Production Summary**
- 6.5: Employment in Agriculture**
- 6.6: Main Indicators of Agricultural Farms, 1991**
- 6.7: Main Indicators of Agricultural Farms, 1992**
- 6.8: Main Indicators of Agricultural Farms, 1993**

7. Industry

- 7.1: Industry Production by Sector at Current Prices**
- 7.2: Industry Production by Sector at Constant Prices**
- 7.3: Electricity Production and Consumption**
- 7.4: Primary Energy Supply (natural units)**
- 7.5: Primary Energy Supply (tons oil equivalent)**

8. Prices and Wages

- 8.1: Monthly Wages by Sector (Annually)**
- 8.2: Monthly Wages by Sector, 1992**
- 8.3: Monthly Wages by Sector, 1993**
- 8.4: Wholesale Prices**
- 8.5: Retail Prices of Goods**

9. Household Monetary Income and Expenditures

- 9.1: Money Income and Expenditure of the Population**

10. Investment

- 10.1: Capital Investment by State Enterprises and Organizations**
- 10.2: Work in Progress in Construction**

TABLE I-1: TAJIKISTAN: POPULATION AND EMPLOYMENT – SUMMARY TABLE (in thousands)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Total Population	3,903	4,485	4,631	4,785	4,938	5,086	5,232	5,342	5,555	5,556
Males	1,930	2,227	2,301	2,378	2,454	2,527	2,600	2,652	2,764	2,766
Females	1,973	2,258	2,330	2,407	2,484	2,559	2,632	2,690	2,791	2,790
Urban	1,336	1,481	1,519	1,567	1,609	1,653	1,676	1,668	1,689	1,636
Rural	2,567	3,004	3,112	3,218	3,329	3,433	3,556	3,674	3,866	3,920
Below Working Ages	1,775	2,007	2,076	2,151	2,224	2,294	2,364	2,425	2,525	2,543
Working-Age Population a/	1,828	2,142	2,209	2,276	2,343	2,410	2,470	2,509	2,610	2,601
Above Working Ages	300	336	346	358	371	382	398	408	420	412
Persons Older and Younger Than the Able-Bodied Ages Who Are Working	..	..	..	..	..	..	..	..	..	..
Older	61	60	60	56	54	54	55	55	111	..
Younger	14	9	9	7	7	7	7	7	28	..
Total Labor Resources	1,861	2,175	2,340	2,302	2,370	2,429	2,469	2,526	2,669	..
Total Employed Population	1,442	1,681	1,714	1,775	1,820	1,879	1,938	1,970	1,908	..
State Sector	..	..	..	..	..	..	..	1,073	998	..
Leased Enterprises	..	..	..	..	..	..	..	86	83	..
Joint-Stock Companies	..	..	..	..	..	..	..	2	26	..
Economic Associations	..	..	..	..	..	..	..	11	..	..
Social Organizations	..	..	..	..	..	..	..	13	10	..
Joint Ventures	..	..	..	..	..	..	..	1	1	..
Collective Farms	231	238	242	248	251	253	263	293	285	..
Cooperatives	..	..	..	2	7	32	52	52	49	..
Individual Labor Activities	..	0	0	2	3	3	3	3	2	..
Private Subsidiary Agriculture	226	270	275	295	313	341	366	373	399	..
Private Agriculture	..	..	..	..	..	..	..	..	..	..
Students	202	216	219	230	237	235	231	237	230	..
Religious Workers	0	0	0	0	0	0	1	1	1	..
Able-Bodied Persons Not Employed in the National Economy	217	278	307	297	312	315	299	318	530	..
Housewives	..	..	..	..	..	..	..	..	..	..
Military	..	..	..	..	..	..	..	..	..	..
Unemployed	..	..	..	..	..	..	..	..	4	..

a/ Working age includes women aged 16-54 and men aged 16-59.

Source: State Statistical Committee of Tajikistan.

TABLE 1-2: TAJIKISTAN: EMPLOYMENT BY SECTOR, ANNUAL AVERAGE (in thousands)

	1980	1985	1986	1987	1988	1989	1990	1991	1992
Material Sphere	1,098	1,278	1,297	1,334	1,364	1,411	1,462	1,487	1,451
Agriculture including forestry	618	724	723	745	765	792	833	881	892
Agriculture excluding forestry	616	722	720	743	763	790	831	878	889
Forestry	2	2	3	2	2	2	2	3	3
Industry, total	311	359	373	382	383	415	422	404	502
Industry, other	207	241	247	251	251	254	261	257	250
Construction	104	118	126	131	132	161	161	148	132
Other, material sphere	169	195	202	207	216	204	208	202	177
Transportation of goods	56	67	69	70	73	55	54	55	48
Maintenance of roads	7	8	8	8	7	7	7	7	6
Communication servicing material production	3	3	3	3	3	3	3	3	2
Wholesale trade	59	69	70	73	76	77	79	79	72
Retail Trade and catering	..	..	..	..	..	..	..	..	..
Material Supply	17	18	18	19	19	17	16	17	15
Procurement	9	10	11	11	10	11	13	12	9
Information and computing services	3	3	5	5	5	5	4	3	2
Other branches of material production	16	18	18	19	23	29	32	27	23
Nonmaterial Sphere	349	401	415	441	456	466	474	480	457
Transportation	21	24	24	26	25	20	19	19	18
Communication	9	10	10	9	9	9	9	9	9
Housing	11	14	15	15	16	16	16	16	16
Public utilities and personal services	21	27	27	32	35	35	35	35	28
Health care, social security, physical culture and sports	66	79	83	91	95	101	104	106	110
Education	128	150	156	164	173	183	189	197	200
Culture and art	22	24	24	25	26	28	28	25	19
Science and scientific services	27	30	31	31	30	30	29	26	21
Credit	..	..	..	..	..	..	..	..	..
Insurance	5	5	5	5	6	6	6	6	6
General administration and defense	39	39	41	42	41	39	40	41	30
Private non-profit institutions serving households	..	..	..	..	..	..	..	..	..
Other, material and nonmaterial spheres	517	596	616	648	672	670	682	682	634
Total Employment	1,446	1,679	1,712	1,775	1,820	1,877	1,936	1,968	1,908

Source: State Statistical Committee of Tajikistan.

TABLE 1-2A: TAJIKISTAN: SECTOR SHARES OF EMPLOYMENT (in percent)

	1980	1985	1986	1987	1988	1989	1990	1991	1992
Material Sphere	75.9	76.1	75.8	75.2	75.0	75.2	75.5	75.6	76.0
Agriculture including forestry	42.7	43.1	42.2	42.0	42.0	42.2	43.0	44.8	46.8
Agriculture excluding forestry	42.6	43.0	42.1	41.9	41.9	42.1	42.9	44.6	46.6
Forestry	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Industry, total	21.5	21.4	21.8	21.5	21.1	22.1	21.8	20.6	20.0
Industry, other	14.3	14.3	14.4	14.2	13.8	13.6	13.5	13.0	13.1
Construction	7.2	7.0	7.3	7.4	7.2	8.6	8.3	7.5	6.9
Other, material sphere	11.7	11.6	11.8	11.6	11.9	10.8	10.7	10.3	9.3
Transportation of goods	3.9	4.0	4.0	3.9	4.0	2.9	2.8	2.8	2.5
Maintenance of roads	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3
Communication servicing material production	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Wholesale trade	4.1	4.1	4.1	4.1	4.2	4.1	4.1	4.0	3.8
Retail Trade and catering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Material Supply	1.2	1.1	1.1	1.0	1.0	0.9	0.8	0.9	0.8
Procurement	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.5
Information and computing services	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1
Other branches of material production	1.1	1.0	1.1	1.1	1.3	1.5	1.7	1.4	1.2
Nonmaterial Sphere	24.1	23.9	24.2	24.8	25.0	24.8	24.5	24.4	24.0
Transportation	1.5	1.4	1.4	1.5	1.4	1.1	1.0	1.0	0.9
Communication	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Housing	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.8
Public utilities and personal services	1.5	1.6	1.5	1.8	1.9	1.8	1.8	1.8	1.5
Health care, social security, physical culture and sports	4.5	4.7	4.8	5.1	5.2	5.4	5.4	5.4	5.8
Education	8.8	8.9	9.1	9.2	9.5	9.7	9.8	10.0	10.5
Culture and art	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.3	1.0
Science and scientific services	1.9	1.8	1.8	1.7	1.6	1.6	1.5	1.3	1.1
Credit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Insurance	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
General administration and defense	2.7	2.3	2.4	2.3	2.3	2.1	2.1	2.1	1.6
Private nonprofit institutions serving households	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other, material and nonmaterial spheres	35.8	35.5	36.0	36.5	36.9	35.7	35.2	34.7	33.2
Total Employment	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table 1-2.

TABLE 1-3: TAJIKISTAN: WORKERS AND EMPLOYEES IN STATE SECTOR, 1992 (in thousands)

	Total	of which: Workers	of which: Employees
Material Sphere	742.6	632.4	110.2
Agriculture including forestry	218.8	199.8	19.0
Agriculture excluding forestry	215.8	197.2	18.6
Forestry	3.0	2.6	0.4
Industry, total	332.5	279.1	53.4
Industry, other	210.2	178.9	31.3
Construction	122.3	100.2	22.1
Other, material sphere	191.3	153.5	37.8
Transportation of goods	68.7	60.0	8.7
Maintenance of roads	..	..	..
Communication servicing material production	11.1	8.1	3.0
Wholesale trade	51.8	39.2	12.6
Retail Trade and catering	18.8	16.0	2.8
Material Supply	7.0	4.6	2.4
Procurement	9.2	8.1	1.1
Information and computing services	2.0	1.1	0.9
Other branches of material production	22.7	16.4	6.3
Nonmaterial Sphere	378.3	134.6	243.7
Transportation	..	..	..
Communication	..	..	..
Housing	13.8	12.4	1.4
Public utilities and personal services	24.8	19.3	5.5
Health care, social security, physical culture and sports	103.8	35.7	68.1
Education	179.8	53.3	126.5
Culture and art	16.7	5.1	11.6
Science and scientific services	12.8	5.1	7.7
Credit	6.4	0.9	5.5
Insurance	..	..	..
General administration and defense	20.2	2.8	17.4
Private nonprofit institutions serving households	..	..	..
Other, material and nonmaterial spheres	569.6	288.1	281.5
Total	1,120.9	767.0	353.9

Source: State Statistical Committee of Tajikistan.

TABLE 1-4: TAJIKISTAN: LABOR FORCE PARTICIPATION RATE

	Age Groups												
	Total	0-15	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	over 65
1989 Census													
Total Population (thous.)	5092.6	2295.7	416.5	463.9	441.4	326.0	238.9	139.1	151.2	164.9	142.0	119.5	191.9
Employed (thous.)	1831.6	1.8	155.7	329.5	359.6	275.7	209.4	123.5	132.7	122.0	77.3	29.1	14.8
Labor Force Part. (%)	36.0	0.1	37.4	71.0	81.5	84.6	87.7	88.8	87.8	74.0	54.4	24.4	7.7
Males:													
Population (thous.)	2530.2	1162.8	207.7	227.5	219.7	162.1	118.2	71.5	79.7	82.0	68.1	55.8	74.2
Employed (thous.)	1059.2	0.8	74.8	180.5	211.4	159.6	116.2	70.2	77.5	77.4	60.0	21.0	9.4
Labor Force Part. (%)	41.9	0.1	36.0	79.3	96.2	98.5	98.3	98.2	97.2	94.4	88.1	37.6	12.7
Females:													
Population (thous.)	2562.4	1132.9	208.8	236.4	221.7	163.9	120.7	67.6	71.5	82.9	73.9	63.7	117.7
Employed (thous.)	772.4	1.0	80.9	149.0	148.2	116.1	93.2	53.3	55.2	44.6	17.3	8.1	5.4
Labor Force Part. (%)	30.1	0.1	38.7	63.0	66.8	70.8	77.2	78.8	77.2	53.8	23.4	12.7	4.6

Source: State Statistical Committee of Tajikistan.

TABLE 1-5: TAJIKISTAN: REGISTERED UNEMPLOYMENT (in thousands, end of month)

	Total	Males	Females	Number Receiving Benefits
1992				
January	..	..	..	..
February	..	..	..	..
March	..	..	..	..
April	0.5	..	..	0.1
May	1.3	..	..	0.8
June	3.5	2.7	0.8	1.8
July	3.6	..	..	2.6
August	5.5	..	..	3.6
September	7.2	5.8	1.4	4.8
October	8.1	..	..	5.1
November	8.6	..	..	5.4
December	6.8	4.2	2.6	4.7
1993				
January	8.6	..	..	4.3
February	8.9	..	..	4.8
March	9.7	7.0	2.5	4.2
April	11.3	..	..	4.6
May	12.7	..	..	5.6
June	11.7	7.6	3.1	5.0
July	12.5	..	..	4.8
August	13.7	..	..	5.1
September	16.6	9.9	6.7	5.4
October	18.0	..	..	5.3
November	20.5	..	..	5.8
December	21.6	12.4	9.2	4.9

Source: State Statistical Committee of Tajikistan.

TABLE 2-1: TAJIKISTAN: NET MATERIAL PRODUCT AT CURRENT PRICES (millions of rubles)

By Industrial Origin:	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993 6/
Agriculture including forestry	1,335	1,628	1,607	1,544	1,798	1,797	2,018	4,628	6,631	4,749
Agriculture excluding forestry	1,334	1,625	1,603	1,541	1,794	1,793	2,015	4,622	6,626	4,749
Forestry	2	3	4	3	3	3	3	5	5	
Industry, total	1,774	2,099	1,949	2,142	2,219	2,022	2,275	4,581	30,713	75,419
Industry, other	1,334	1,555	1,340	1,501	1,509	1,284	1,503	3,228	25,848	60,534
Construction	440	544	609	641	711	738	772	1,353	4,865	14,885
Other	765	708	739	669	861	999	1,197	1,332	5,761	10,732
Transportation of goods	84	142	157	151	172	172	207	250	1,700 1/	3,126
Maintenance of roads	..	..	..	..	..	..	..	..
Communication (material production)	6	9	10	10	11	13	14	16		
Wholesale trade	161	186	204	152	229	259	300	656		
Retail trade and catering	36	42	42	22	50	55	56	..	2,078 2/	4,738
Material supply	47	44	52	59	47	54	52	106	804	1,118
Procurement	43	50	56	54	55	51	69	160	230	164
Information and computing services	..	4	8	10	11	16	17	22	219	
Other branches of material production	389	232	211	211	284	380	483	121	730	1,586
Net Material Product	3,874	4,435	4,295	4,355	4,878	4,817	5,490	10,540	43,105	90,900
By Expenditure Category:										
Consumption	3,109	3,903	4,042	4,135	4,355	4,638	5,148	8,783	39,625 3/	
Consumption of population	2,791	3,479	3,598	3,663	3,872	4,115	4,591	7,903	36,146 3/	
Social consumption	319	424	444	472	483	523	557	880	3,479 3/	
Investment (accumulation)	1,012	1,312	1,109	1,099	1,282	1,066	879	1,625	6,368 3/	
Fixed capital	527	547	553	769	759	748	502	705	..	
Changes in inventories and other	485	765	556	330	523	318	377	920	..	
Losses	50	76	92	126	118	177	..	174	4,030 4/	
Net exports 5/	(298)	(855)	(947)	(1,005)	(877)	(1,064)	(538)	(41)	(6,918)	

1/ Including transportation of goods, maintenance of roads and communication servicing material production.

2/ Including wholesale and retail trade.

3/ Preliminary. 4/ Estimated at prices of 1 October 1992.

5/ Net exports are derived as the difference between national income produced and national income used except for 1992 in which it is an actual trade balance.

6/ The first 6 months of year.

Source: State Statistical Committee of Tajikistan.

TABLE 2-2: TAJIKISTAN: DISTRIBUTION OF NET MATERIAL PRODUCT AT CURRENT PRICES (in percent)

By Industrial Origin:	1980	1985	1986	1987	1988	1989	1990	1991	1992
Agriculture including forestry	34.5	36.7	37.4	35.4	36.9	37.3	36.8	43.9	15.4
Agriculture excluding forestry	34.4	36.6	37.3	35.4	36.8	37.2	36.7	43.9	15.4
Forestry	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Industry, total	45.8	47.3	45.4	49.2	45.5	42.0	41.4	43.5	71.3
Industry, other	34.4	35.0	31.2	34.5	30.9	26.6	27.4	30.6	60.0
Construction	11.4	12.3	14.2	14.7	14.6	15.3	14.1	12.8	11.3
Other	19.7	16.0	17.2	15.4	17.6	20.7	21.8	12.6	13.4
Transportation of goods	2.2	3.2	3.7	3.5	3.5	3.6	3.8	2.4	3.9
Maintenance of roads	..	..	..	..	..	..	..	..	..
Communication (material production)	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.0
Wholesale trade	4.1	4.2	4.7	3.5	4.7	5.4	5.5	6.2	0.0
Retail trade and catering	0.9	0.9	1.0	0.5	1.0	1.1	1.0	0.0	4.8
Material supply	1.2	1.0	1.2	1.4	1.0	1.1	0.9	1.0	1.9
Procurement	1.1	1.1	1.3	1.2	1.1	1.1	1.3	1.5	0.5
Information and computing services	..	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.5
Other branches of material production	10.0	5.2	4.9	4.9	5.8	7.9	8.8	1.2	1.7
Net Material Product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
By Expenditure Category:									
Consumption	80.3	88.0	94.1	95.0	89.3	96.3	93.8	83.3	91.9
Consumption of population	72.0	78.4	83.8	84.1	79.4	85.4	83.6	75.0	83.9
Social consumption	8.2	9.6	10.3	10.8	9.9	10.9	10.2	8.3	8.1
Investment (accumulation)	26.1	29.6	25.8	25.2	26.3	22.1	16.0	15.4	14.8
Fixed capital	13.6	12.3	12.9	17.7	15.6	15.5	9.1	6.7	..
Changes in inventories and other	12.5	17.2	12.9	7.6	10.7	6.6	6.9	8.7	..
Losses	1.3	1.7	2.1	2.9	2.4	3.7	0.0	1.6	9.3
Net exports	-7.7	-19.3	-22.1	-23.1	-18.0	-22.1	-9.8	-0.4	-16.0

Source: State Statistical Committee of Tajikistan.

TABLE 2-3: TAJIKISTAN: NET MATERIAL PRODUCT AT CONSTANT PRICES (millions of 1992 rubles)

By Industrial Origin:	1980	1985	1986	1987	1988	1989	1990	1991	1992
Agriculture including forestry	6,988	11,947	12,416	11,623	12,891	11,207	10,185	9,176	6,631
Agriculture excluding forestry	6,983	11,937	12,404	11,613	12,881	11,197	10,175	9,167	6,626
Forestry	5	10	13	10	10	10	10	9	5
Industry, total	37,363	43,051	44,773	45,805	52,590	53,817	54,510	50,508	30,713
Industry, other	25,457	28,333	28,373	29,671	34,288	34,433	35,779	32,280	25,848
Construction	11,907	14,717	16,400	16,134	18,302	19,384	18,731	18,228	4,865
Other	31,517	31,902	33,003	32,613	34,493	36,712	37,514	16,327	5,761
Transportation of goods	..	..	..	..	..	..	..	..	..
Maintenance of roads	..	..	..	..	..	..	..	..	..
Communication (material production)	..	..	..	..	..	..	..	..	..
Wholesale trade	..	..	..	..	..	..	..	..	..
Retail trade and catering	..	..	..	..	..	..	..	..	..
Material supply	..	..	..	..	..	..	..	..	..
Procurement	..	..	..	..	..	..	..	..	..
Information and computing services	..	..	..	..	..	..	..	..	..
Other branches of material production	..	..	..	..	..	..	..	..	..
Net Material Product	53,086	68,038	70,390	69,438	77,836	75,571	74,336	65,036	43,105
By Expenditure Category:									
Consumption	42,605	56,546	60,077	61,333	64,196	66,687	69,130	54,190	39,625
Consumption of population	38,239	50,406	53,476	54,336	57,072	59,170	61,646	48,762	36,146
Social consumption	4,366	6,140	6,601	6,997	7,124	7,518	7,483	5,429	3,479
Investment (accumulation)	13,867	19,009	16,478	16,308	18,904	15,334	11,806	10,025	6,368
Fixed capital	7,225	7,925	8,220	11,407	11,188	10,756	6,741	4,350	..
Changes in inventories and other	..	..	..	..	..	..	..	..	..
Losses and discrepancy	..	..	..	..	..	..	..	..	..
Net exports	..	..	..	..	..	..	..	..	..

Source: State Statistical Committee of Tajikistan.

TABLE 2-4: TAJIKISTAN: NET MATERIAL PRODUCT AT CONSTANT PRICES - GROWTH RATES (in percent)

By Industrial Origin:	1986	1987	1988	1989	1990	1991	1992
Agriculture including forestry	3.9	-6.4	10.9	-13.1	-9.1	-9.9	-27.7
Agriculture excluding forestry	3.9	-6.4	10.9	-13.1	-9.1	-9.9	-27.7
Forestry	27.3	-23.8	3.1	3.0	0.0	-11.8	-44.4
Industry, total	4.0	2.3	14.8	2.3	1.3	-7.3	-39.2
Industry, other	0.1	4.6	15.6	0.4	3.9	-9.8	-19.9
Construction	11.4	-1.6	13.4	5.9	-3.4	-2.7	-73.3
Other	3.4	-1.2	5.8	6.4	2.2	-56.5	-64.7
Transportation of goods	..	..	..	..	..	..	..
Maintenance of roads	..	..	..	..	..	..	..
Communication (material production)	..	..	..	..	..	..	..
Wholesale trade	..	..	..	..	..	..	..
Retail trade and catering	..	..	..	..	..	..	..
Material supply	..	..	..	..	..	..	..
Procurement	..	..	..	..	..	..	..
Information and computing services	..	..	..	..	..	..	..
Other branches of material production	..	..	..	..	..	..	..
Net Material Product	3.5	-1.4	12.1	-2.9	-1.6	-12.5	-33.7
By Expenditure Category:							
Consumption	6.2	2.1	4.7	3.9	3.7	-21.6	-26.9
Consumption of population	6.1	1.6	5.0	3.7	4.2	-20.9	-25.9
Social consumption	7.5	6.0	1.8	5.5	-0.5	-27.5	-35.9
Investment (accumulation)	-13.3	-1.0	15.9	-18.9	-23.0	-15.1	-36.5
Fixed capital	3.7	38.8	-1.9	-3.9	-37.3	-35.5	..

Source: State Statistical Committee of Tajikistan.

TABLE 2-5: TAJIKISTAN: NET MATERIAL PRODUCT - IMPLICIT PRICE DEFLATORS (1983 = 100)

By Industrial Origin:	1980	1985	1986	1987	1988	1989	1990	1991	1992
Agriculture including forestry	128.5	91.6	87.0	89.3	93.7	107.7	133.2	338.9	672.1
Agriculture excluding forestry	128.5	91.6	87.0	89.3	93.7	107.8	133.2	339.3	672.9
Forestry	100.0	100.0	100.0	100.0	100.0	97.1	100.0	180.0	300.0
Industry, total	95.0	98.4	88.7	94.8	85.4	76.4	84.3	183.3	1911.2
Industry, other	93.8	98.2	84.5	90.6	78.8	66.7	75.2	179.0	1790.2
Construction	99.0	99.1	99.6	106.4	104.0	102.0	110.4	198.8	2679.3
Other	111.3	101.8	102.7	94.1	114.4	124.8	146.3	374.1	4585.0
Transportation of goods	86.8	100.0	100.0	100.0	100.0	100.0	126.3	..	..
Maintenance of roads	..	..	..	..	..	..	..	..	..
Communication (material production)	100.0	100.9	100.0	100.0	95.8	100.0	106.2	..	..
Wholesale trade	88.2	75.7	82.8	62.8	86.0	91.8	94.2	..	..
Retail trade and catering	..	..	..	..	..	..	..	..	..
Material supply	81.4	105.0	83.7	92.4	78.6	89.6	86.7	..	..
Procurement	130.9	158.9	157.3	160.2	148.3	124.2	174.9	..	..
Information and computing services	..	100.0	100.0	100.0	100.0	100.6	105.7	..	..
Other branches of material production	124.5	104.2	104.5	105.6	147.2	175.4	232.1	..	..
Net Material Product	107.8	96.3	90.2	92.7	92.6	94.2	109.1	239.4	1477.4
By Expenditure Category:									
Consumption	107.8	102.0	99.4	99.6	100.2	102.7	110.0	239.4	1477.4
Consumption of population	108.6	102.2	99.3	99.6	100.3	102.9	110.7	239.4	1477.4
Social consumption	101.3	99.9	99.8	99.6	99.6	101.6	104.7	239.4	1477.4
Investment (accumulation)	99.6	99.1	102.4	105.5	108.7	96.8	120.3	239.4	1477.4
Fixed capital	101.7	99.1	102.6	110.2	113.1	102.7	129.5	239.4	1477.4

Source: State Statistical Committee of Tajikistan.

TABLE 2-6: TAJIKISTAN - NET MATERIAL PRODUCT: GROWTH RATES OF IMPLICIT PRICE DEFLATORS (in percent)

By Industrial Origin:	1986	1987	1988	1989	1990	1991	1992
Agriculture including forestry	-5.0	2.6	5.0	14.9	23.6	154.5	98.3
Agriculture excluding forestry	-5.1	2.6	5.0	15.0	23.6	154.7	98.3
Forestry	0.0	0.0	0.0	-2.9	3.0	80.0	66.7
Industry, total	-9.9	6.8	-9.9	-10.6	10.4	117.4	942.5
Industry, other	-13.9	7.1	-13.0	-15.3	12.7	138.1	899.9
Construction	0.5	6.8	-2.2	-1.9	8.2	80.1	1247.6
Other	0.8	-8.3	21.6	9.1	17.2	155.7	1125.7
Transportation of goods	0.0	0.0	0.0	0.0	26.3	..	..
Maintenance of roads	..	..	..	..	..	..	..
Communication (material production)	-0.9	0.0	-4.2	4.4	6.2	..	..
Wholesale trade	9.4	-24.2	37.0	6.8	2.6	..	..
Retail trade and catering	..	..	..	..	..	..	..
Material supply	-20.3	10.4	-14.9	14.0	-3.3	..	..
Procurement	-1.0	1.9	-7.5	-16.2	40.8	..	..
Information and computing services	0.0	0.0	0.0	0.6	5.0	..	..
Other branches of material production	0.3	1.0	39.4	19.1	32.4	..	..
Net Material Product	-6.4	2.8	-0.1	1.7	15.9	119.5	517.0
By Expenditure Category:							
Consumption	-2.5	0.2	0.6	2.5	7.1	117.6	517.0
Consumption of population	-2.8	0.3	0.7	2.6	7.6	116.3	517.0
Social consumption	-0.1	-0.3	0.1	2.0	3.1	128.6	517.0
Investment (accumulation)	3.4	3.0	3.0	-11.0	24.3	99.1	517.0
Fixed capital	3.5	7.4	2.7	-9.2	26.2	84.8	517.0

Source: State Statistical Committee of Tajikistan.

TABLE 2-7: TAJIKISTAN: GROSS SOCIAL PRODUCT BY SECTOR AT CURRENT PRICES

	1980	1985	1986	1987	1988	1989	1990	1991	1992
	(millions of rubles)								
Agriculture and forestry	1,837	2,306	2,309	2,205	2,503	2,488	2,776	5,801	24,147
Agriculture	1,835	2,302	2,303	2,201	2,498	2,483	2,771	5,793	24,087
Forestry	2	5	6	4	5	5	5	7	60
Industry and construction	5,121	6,476	6,491	6,943	7,123	7,016	7,269	15,235	107,091
Industry	4,170	5,314	5,194	5,525	5,618	5,499	5,755	12,755	95,183
Construction	950	1,162	1,297	1,418	1,505	1,517	1,514	2,480	11,908
Other	945	985	1,034	970	1,166	1,326	1,332	1,994	10,793
Transport of goods	187	305	338	322	340	342	407	555	3,836
Road maintenance	..	..	..	..	..	..	..	..	..
Communication (material production)	3	12	13	14	16	17	18	24	141
Wholesale trade	198	232	253	209	288	326	367	796	240
Retail trade and catering	46	55	56	38	66	72	74	..	3,248
Material supply	54	53	61	70	61	65	70	203	1,503
Procurement	56	74	76	75	72	70	89	204	864
Information and computing services	..	12	14	17	20	29	23	33	241
Other sectors of material production	396	241	222	225	303	404	284	180	719
Total gross social product	7,903	9,766	9,834	10,117	10,757	10,830	11,376	23,030	142,030
	(percentage shares of gross social product)								
Agriculture and forestry	23.2	23.6	23.5	21.8	23.2	23.0	24.4	25.2	17.0
Agriculture	23.2	23.6	23.4	21.8	23.2	22.9	24.4	25.2	17.0
Forestry	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Industry and construction	64.8	66.3	66.0	68.6	66.0	64.8	63.9	66.2	75.4
Industry	52.8	54.4	52.8	54.6	52.1	50.8	50.6	55.4	67.0
Construction	12.0	11.9	13.2	14.0	13.9	14.0	13.3	10.8	8.4
Other	12.0	10.1	10.5	9.6	10.8	12.2	11.7	8.7	7.6
Transport of goods	2.4	3.1	3.4	3.2	3.2	3.2	3.6	2.4	2.7
Road maintenance	..	..	..	..	..	..	..	..	..
Communication (material production)	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1
Wholesale trade	2.5	2.4	2.6	2.1	2.7	3.0	3.2	3.5	0.2
Retail trade and catering	0.6	0.6	0.6	0.4	0.6	0.7	0.7	..	2.3
Material supply	0.7	0.5	0.6	0.7	0.6	0.6	0.6	0.9	1.1
Procurement	0.7	0.8	0.8	0.7	0.7	0.6	0.8	0.9	0.6
Information and computing services	..	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.2
Other sectors of material production	5.0	2.5	2.3	2.2	2.8	3.7	2.5	0.8	0.5
Total gross social product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: State Statistical Committee of Tajikistan.

TABLE 3-1: TAJIKISTAN: EXCHANGE RATES (rubles per dollar)

Year	Month	Monthly Average	At End of Period
1992	January	110	110
1992	February	103	90
1992	March	93	100
1992	April	100	100
1992	May	94	85
1992	June	89	100
1992	July	137	161
1992	August	168	205
1992	September	217	254
1992	October	349	398
1992	November	426	450
1992	December	417	415
1993	January	489	572
1993	February	570	593
1993	March	664	684
1993	April	766	823
1993	May	912	1,024
1993	June	1,078	1,060
1993	July	1,020	987
1993	August	986	993
1993	September	1,077	1,169
1993	October	1,188	1,184
1993	November	1,196	1,231
1993	December	1,240	1,247

Source: National Bank of Tajikistan.

TABLE 3.2A: TAJIKISTAN: INTERNATIONAL TRADE IN DOMESTIC AND WORLD PRICES IN 1990 (millions of rubles)

	Interrepublic Trade						Extrarepublic Trade						Total Trade					
	Domestic Prices			World Prices			Domestic Prices			World Prices			Domestic Prices			World Prices		
	Export	Import		Export	Import		Export	Import		Export	Import		Export	Import		Export	Import	
INDUSTRY	2227	3035	-809	1546	2824	-1278	304	687	-382	356	325	31	2531	3722	-1191	1902	3148	-1246
POWER	63	71	-8	94	106	-13	0	0	0	0	0	0	63	71	-8	94	106	-13
OIL AND GAS	10	271	-261	32	610	-579	0	0	0	0	0	0	10	271	-261	32	610	-579
Oil Products	7	0	7	24	0	24	0	0	0	0	0	0	7	0	7	24	0	24
Refineries	0	238	-238	0	530	-530	0	0	0	0	0	0	0	238	-238	0	530	-530
Gas Products	3	33	-30	7	80	-73	0	0	0	0	0	0	3	33	-30	7	80	-73
COAL	5	8	-3	4	7	-3	0	0	0	0	0	0	5	8	-3	4	7	-3
OTHER FUELS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Combustible Shale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FERROUS	4	110	-106	4	129	-125	0	7	-7	0	9	-9	4	117	-113	4	138	-133
Ferrous Ores	0	0	-0	0	0	-0	0	0	0	0	0	0	0	0	-0	0	0	-0
Ferrous Metals	3	72	-69	4	88	-85	0	7	-7	0	9	-9	3	78	-75	4	97	-93
Coking Products	0	13	-13	0	19	-19	0	0	0	0	0	0	0	13	-13	0	19	-19
Fire Resistant	0	3	-3	0	5	-5	0	0	0	0	0	0	0	3	-3	0	5	-5
Metal Products	1	23	-22	0	16	-16	0	0	-0	0	0	-0	1	23	-22	0	16	-16
NON-FERR.	298	193	105	496	322	174	168	39	129	281	45	237	466	232	234	777	367	410
Non-ferrous Ores	15	0	14	23	1	22	0	38	-38	0	44	-44	15	38	-23	23	44	-21
Non-ferr. Metals	283	193	91	473	322	151	168	2	167	281	1	280	451	194	257	754	323	431
CHEMICALS	119	322	-203	91	258	-168	2	57	-55	2	39	-37	121	379	-258	92	297	-205
Mineral Chemistry	0	1	-1	0	1	-1	0	0	0	0	0	0	0	1	-1	0	1	-1
Basic Chemicals	78	90	-12	56	65	-9	1	4	-4	1	3	-3	79	95	-16	57	69	-12
Chemical Fibers	0	65	-65	0	46	-46	0	3	-3	0	2	-2	0	68	-68	0	48	-48
Synthetic Resins	0	7	-6	0	5	-5	0	3	-3	0	2	-2	0	10	-9	0	8	-7
Plastic Products	2	13	-10	2	10	-8	0	1	-1	0	0	-0	2	13	-11	2	10	-9
Paints & Laquers	8	12	-5	6	9	-4	0	2	-2	0	2	-2	8	14	-7	6	11	-5
Synthetic Paints	0	6	-6	0	5	-5	0	1	-1	0	1	-1	0	7	-7	0	6	-6
Synthetic Rubber	0	3	-3	0	2	-2	0	0	-0	0	0	-0	0	3	-3	0	2	-2
Organic Chemicals	0	5	-5	0	5	-5	0	0	0	0	0	0	0	5	-5	0	5	-4
Tires	0	26	-25	0	25	-25	0	0	-0	0	0	-0	0	26	-26	0	25	-25

Source: Intelligent Decision System.

TABLE 3.2B: TAJIKISTAN: INTERNATIONAL TRADE IN DOMESTIC AND WORLD PRICES IN 1990 (millions of rubles)

	Interrepublic Trade						Extrarepublic Trade						Total Trade					
	Domestic Prices			World Prices			Domestic Prices			World Prices			Domestic Prices			World Prices		
	Export	Import		Export	Import		Export	Import		Export	Import		Export	Import		Export	Import	
Rubber & Asbestos	30	46	-16	25	39	-14	1	17	-16	1	9	-8	30	63	-32	26	48	-22
Other Products	1	16	-15	1	16	-15	0	8	-8	0	4	-4	1	24	-23	1	19	-18
Pharmaceuticals	0	33	-33	0	30	-30	0	18	-18	0	16	-16	0	51	-51	0	46	-46
MACHINERY	228	796	-567	242	859	-617	3	113	-110	4	84	-81	232	909	-677	246	944	-698
Energy & power	0	8	-8	0	8	-7	0	0	0	0	0	0	0	8	-8	0	8	-7
Technology	0	6	-6	0	6	-6	0	0	-0	0	0	-0	0	6	-6	0	7	-7
Mining	0	5	-5	0	7	-7	0	0	-0	0	0	-0	0	5	-5	0	8	-8
Transportation	6	11	-5	8	14	-6	0	1	-1	0	1	-1	6	12	-6	8	16	-8
Railway Equipmen	0	4	-4	0	3	-3	0	1	-1	0	1	-1	0	5	-5	0	4	-4
Electro-technical	27	61	-34	25	56	-31	0	1	-1	0	1	-1	27	62	-35	25	57	-32
Cables	14	12	2	14	12	2	0	0	0	0	0	0	14	12	2	14	12	2
Pumps	32	36	-4	36	41	-5	0	2	-2	0	2	-2	32	38	-6	36	42	-6
Machine Tools	4	10	-6	5	12	-7	0	8	-8	0	7	-7	4	18	-14	5	19	-14
Forging/Pressing	0	2	-2	0	2	-2	0	0	-0	0	0	-0	0	3	-3	0	2	-2
Casting Equipment	0	2	-2	0	2	-2	0	0	0	0	0	0	0	2	-2	0	2	-2
Precision Instr.	5	4	1	3	3	1	0	0	0	0	0	0	5	4	1	3	3	1
Synthetic Diamond	0	3	-3	0	3	-3	0	0	0	0	0	0	0	3	-3	0	3	-3
Tools and Dies	0	54	-54	0	44	-44	0	14	-14	0	13	-13	1	68	-68	1	57	-56
Autos & Parts	0	150	-150	0	114	-114	0	9	-9	0	9	-9	0	158	-158	0	123	-123
Bearings	0	3	-3	0	2	-2	0	0	0	0	0	0	0	3	-3	0	2	-2
Tractors & Agri.E	45	59	-14	60	80	-19	0	5	-5	0	5	-5	45	64	-20	60	85	-25
Construction M&E	3	22	-19	4	31	-26	0	1	-1	0	1	-1	3	22	-19	4	31	-27
Communal M&E	0	4	-4	0	6	-6	0	0	0	0	0	0	0	4	-4	0	6	-6
Light Ind. M&E	8	19	-11	10	22	-12	2	20	-18	2	16	-14	10	39	-29	12	37	-26
Food M&E	0	14	-14	0	18	-18	0	10	-10	0	8	-8	0	24	-24	0	26	-26
Trade M&E	31	4	27	45	6	39	0	0	0	0	0	0	31	4	27	45	6	39
Printing M&E	0	1	-1	0	0	-0	0	2	-2	0	2	-2	0	3	-3	0	2	-2
Appliances	29	20	8	8	11	-3	1	5	-4	0	2	-1	29	25	4	8	13	-4
Sanitary Eng.	10	8	2	5	4	1	0	0	0	0	0	0	10	8	2	5	4	1
Shipbuilding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Intelligent Decision System.

TABLE 3.2C: TAJIKISTAN: INTERNATIONAL TRADE IN DOMESTIC AND WORLD PRICES IN 1990 (millions of rubles)

	Interrepublic Trade						Extrarepublic Trade						Total Trade					
	Domestic Prices		World Prices				Domestic Prices		World Prices				Domestic Prices		World Prices			
	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import		
Radio Electronics	1	110	-109	1	80	-78	0	11	-11	0	6	-6	1	121	-120	1	85	-84
Other Ind. M&E	5	122	-117	10	233	-223	1	1	-0	1	1	0	6	123	-118	10	234	-223
Metal Construction	1	5	-5	1	6	-5	0	0	0	0	0	0	1	5	-5	1	6	-5
Metal Products	8	26	-18	6	20	-14	0	12	-12	0	3	-3	8	38	-31	6	23	-17
M&E Repair	1	3	-2	2	6	-4	0	0	0	0	0	0	1	3	-2	2	6	-4
Medical Equipmen	0	8	-8	0	8	-8	0	10	-10	0	9	-9	0	18	-18	0	17	-17
WOOD & PAPER	3	124	-122	2	88	-86	0	13	-13	0	7	-7	3	137	-135	2	95	-93
Logging	0	19	-19	0	12	-12	0	0	0	0	0	0	0	19	-19	0	12	-12
Sawmill	1	54	-53	1	41	-40	0	1	-1	0	1	-1	1	55	-54	1	41	-40
Plywood	0	5	-5	0	4	-4	0	0	-0	0	0	-0	0	5	-5	0	4	-4
Furniture	0	15	-15	0	7	-7	0	11	-11	0	6	-6	0	27	-27	0	13	-13
Paper & Pulp	2	31	-29	1	25	-24	0	1	-1	0	1	-1	2	31	-30	1	26	-24
Chemistry Prod.	0	1	-1	0	0	-0	0	0	0	0	0	0	0	1	-1	0	0	-0
CONSTR. MAT.	29	54	-25	28	54	-26	0	5	-5	0	2	-2	29	59	-30	28	56	-28
Cement	6	2	4	5	2	3	0	1	-1	0	0	-0	6	3	4	5	2	3
Asbestos Products	4	10	-5	6	13	-7	0	0	0	0	0	0	4	10	-5	6	13	-7
Roofing	1	5	-4	1	5	-4	0	0	0	0	0	0	1	5	-3	1	5	-4
Precast Concrete	0	3	-3	0	3	-3	0	0	0	0	0	0	0	3	-3	0	3	-3
Wall Materials	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ceramics	1	2	-1	1	1	-1	0	0	0	0	0	0	1	2	-1	1	1	-1
Constr. Products	0	2	-2	0	2	-2	0	0	-0	0	0	-0	0	3	-3	0	2	-2
Other	6	5	1	8	7	2	0	0	0	0	0	0	6	5	1	8	7	2
Glass & Porcelain	9	23	-14	7	19	-12	0	4	-4	0	1	-1	9	27	-18	7	20	-13
Medical Products	0	3	-3	0	3	-3	0	0	-0	0	0	-0	0	3	-3	0	3	-3
LIGHT INDUSTR	1061	558	503	406	158	248	126	298	-172	68	76	-8	1187	856	331	474	233	240
Cotton Products	525	97	428	264	30	234	117	25	93	63	9	55	643	122	521	327	39	289
Flax Products	0	10	-10	0	4	-4	0	1	-1	0	1	-1	0	11	-11	0	5	-5
Wool Products	216	115	101	65	28	37	2	24	-21	2	8	-6	218	139	80	67	35	31
Silk Products	210	173	37	36	32	4	6	35	-29	2	10	-8	216	208	8	39	42	-3
Hosiery/Knitwear	33	34	-2	11	12	-1	0	50	-50	0	9	-9	33	84	-52	11	20	-9

Source: Intelligent Decision System.

TABLE 3.2D: TAJIKISTAN: INTERNATIONAL TRADE IN DOMESTIC AND WORLD PRICES IN 1990 (millions of rubles)

	Interrepublic Trade						Extrarepublic Trade						Total Trade					
	Domestic Prices		World Prices		Domestic Prices		World Prices		Domestic Prices		World Prices		Domestic Prices		World Prices			
	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import		
Other Textiles	11	24	-13	7	13	-6	0	13	-13	0	2	-2	11	36	-26	7	15	-8
Sewn Goods	49	33	16	16	11	5	0	91	-91	0	21	-21	49	124	-75	16	32	-16
Leather	19	72	-53	7	29	-21	0	60	-60	0	17	-17	19	132	-113	8	46	-38
FOOD PROD.	405	424	-20	144	170	-26	5	151	-146	2	62	-60	410	576	-166	146	232	-86
Sugar	0	123	-123	0	48	-48	0	0	0	0	0	0	0	123	-123	0	48	-48
Bread Products	0	0	0	0	0	0	0	1	-1	0	1	-1	0	1	-1	0	1	-0
Confections	1	18	-18	0	8	-8	0	0	-0	0	0	0	1	19	-18	0	8	-8
Vegetable Oils	11	32	-21	4	12	-8	2	6	-4	0	3	-3	13	37	-25	4	15	-11
Perfume Oils	3	21	-19	2	15	-13	0	26	-26	0	10	-10	3	47	-45	2	25	-24
Distilleries	0	0	-0	0	0	0	0	1	-1	0	0	-0	0	1	-1	0	0	-0
Wines	23	1	23	3	0	3	0	2	-2	0	1	-1	23	2	21	3	1	2
Fruit/Vegetables	264	1	263	104	0	104	0	4	-4	0	2	-2	264	5	259	104	3	101
Tabacco	85	18	67	23	6	17	0	10	-10	0	3	-3	85	28	58	23	10	14
Other Food	1	72	-71	0	17	-17	2	23	-21	1	3	-3	3	94	-91	1	20	-19
Meat Products	15	56	-41	7	26	-19	1	46	-45	0	24	-24	16	102	-86	7	51	-43
Dairy Products	0	30	-30	0	15	-15	0	26	-26	0	9	-9	0	55	-55	0	24	-24
Fish Products	0	15	-15	0	6	-6	0	7	-7	0	5	-5	0	22	-22	0	11	-11
Flour & Cereals	3	40	-37	1	15	-14	0	1	-1	0	0	-0	3	41	-38	1	16	-15
OTHER IND.	4	105	-101	3	62	-59	0	4	-4	0	1	-1	4	109	-105	3	63	-60
Microbiology	0	9	-9	0	7	-7	0	0	0	0	0	0	0	9	-9	0	7	-7
Animal Feed	0	8	-8	0	7	-7	0	0	0	0	0	0	0	8	-8	0	7	-7
Other Products	4	89	-85	3	48	-45	0	4	-4	0	1	-1	4	93	-89	3	49	-46
AGRICULTURE	92	182	-90	32	97	-65	4	81	-76	1	58	-58	96	263	-166	33	155	-122
Crops	90	163	-74	31	92	-61	0	80	-80	0	58	-58	90	243	-154	31	150	-118
Animal Husbandry	2	19	-16	1	5	-4	4	1	4	1	0	0	6	19	-13	1	5	-4
OTHER PROD.	59	142	-83	65	161	-96	0	0	-0	0	0	-0	59	142	-83	65	161	-96
Info. Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Services	14	4	10	14	4	10	0	0	-0	0	0	-0	14	4	10	14	4	10
Transport Expense	45	138	-93	51	157	-106	0	0	0	0	0	0	45	138	-93	51	157	-106
TOTAL	2377	3359	-982	1643	3082	-1439	308	767	-459	356	383	-26	2686	4127	-1441	1999	3464	-1465

Source: Intelligent Decision System.

TABLE 3-3: TAJIKISTAN: GEOGRAPHICAL DISTRIBUTION OF INTERREPUBLIC TRADE, 1991

	Export	Import	Balance
(millions of rubles)			
Russia	1752.5	1253.0	499.5
Ukraine	248.8	281.3	-32.5
Belarus	108.4	60.6	47.8
Moldova	6.4	32.1	-25.7
Armenia	37.3	27.9	9.4
Azerbaijan	41.7	37.2	4.5
Kazakhstan	412.8	317.6	95.2
Uzbekistan	243.5	361.9	-118.4
Turkmenistan	96.3	197.3	-101.0
Kyrgyz Republic	60.6	237.5	-176.9
Georgia	16.4	199.3	-182.9
Lithuania	23.9	23.2	0.7
Latvia	34.9	29.1	5.8
Estonia	33.5	9.1	24.4
Non-FSU Countries	827.6	600.6	227.0
Total	3944.6	3667.7	276.9
(in percent)			
Russia	44.4	34.2	
Ukraine	6.3	7.7	
Belarus	2.7	1.7	
Moldova	0.2	0.9	
Armenia	0.9	0.8	
Azerbaijan	1.1	1.0	
Kazakhstan	10.5	8.7	
Uzbekistan	6.2	9.9	
Turkmenistan	2.4	5.4	
Kyrgyz Republic	1.5	6.5	
Georgia	0.4	5.4	
Lithuania	0.6	0.6	
Latvia	0.9	0.8	
Estonia	0.8	0.2	
Non-FSU Countries	21.0	16.4	
Total	100.0	100.0	

Source: State Statistical Committee of Tajikistan.

TABLE 3-4: TAJIKISTAN: GEOGRAPHICAL DISTRIBUTION OF INTERREPUBLIC TRADE, 1992

	Export	Import	Balance
(millions of rubles)			
Russia	7813.2	11139.4	-3326.2
Ukraine	1927.1	1730.8	196.3
Belarus	679.5	661.7	17.8
Moldova	69.1	69.2	-0.1
Armenia	65.7	47.8	17.9
Azerbaijan	634.2	262.3	371.9
Kazakhstan	2410.8	2915.0	-504.2
Uzbekistan	1470.4	2629.5	-1159.1
Turkmenistan	705.3	3467.8	-2762.5
Kyrgyz Republic	381.3	479.3	-98.0
Georgia	23.1	51.4	-28.3
Lithuania	39.3	159.0	-119.7
Latvia	138.7	143.8	-5.1
Estonia	75.3	81.8	-6.5
Non-FSU Countries	20620.7	20132.8	487.9
Total	37053.7	43971.6	-6917.9
(in percent)			
Russia	21.1	25.3	
Ukraine	5.2	3.9	
Belarus	1.8	1.5	
Moldova	0.2	0.2	
Armenia	0.2	0.1	
Azerbaijan	1.7	0.6	
Kazakhstan	6.5	6.6	
Uzbekistan	4.0	6.0	
Turkmenistan	1.9	7.9	
Kyrgyz Republic	1.0	1.1	
Georgia	0.1	0.1	
Lithuania	0.1	0.4	
Latvia	0.4	0.3	
Estonia	0.2	0.2	
Non-FSU Countries	55.7	45.8	
Total	100.0	100.0	

Source: State Statistical Committee of Tajikistan.

TABLE 3-5: TAJIKISTAN: GEOGRAPHICAL DISTRIBUTION OF INTERREPUBLIC TRADE, 1993

	Export	Import	Balance
(millions of rubles)			
Russia	58304.5	78103.6	-19799.1
Ukraine	4606.4	4058.1	548.3
Belarus	6233.7	6300.0	-66.3
Moldova	3137.0	417.4	2719.6
Armenia	0.0	91.5	-91.5
Azerbaijan	998.4	1005.7	-7.3
Kazakhstan	15155.5	61050.6	-45895.1
Uzbekistan	18894.7	60982.6	-42087.9
Turkmenistan	3224.0	24279.7	-21055.7
Kyrgyz Republic	3861.7	1946.7	1915.0
Georgia	42.8	308.8	-266.0
Lithuania	4174.4	4046.2	128.2
Latvia	6735.5	1000.8	5734.7
Estonia	135.7	245.0	-109.3
Non-FSU Countries	200658.8	252354.1	-51695.3
Total	326163.1	496190.8	-170027.7
(in percent)			
Russia	17.9	15.7	
Ukraine	1.4	0.8	
Belarus	1.9	1.3	
Moldova	1.0	0.1	
Armenia	0.0	0.0	
Azerbaijan	0.3	0.2	
Kazakhstan	4.6	12.3	
Uzbekistan	5.8	12.3	
Turkmenistan	1.0	4.9	
Kyrgyz Republic	1.2	0.4	
Georgia	0.0	0.1	
Lithuania	1.3	0.8	
Latvia	2.1	0.2	
Estonia	0.0	0.0	
Non-FSU Countries	61.5	50.9	
Total	100.0	100.0	

Source: State Statistical Committee of Tajikistan.

TABLE 3-6: TAJIKISTAN: GEOGRAPHICAL DISTRIBUTION OF EXTRAREPUBLIC TRADE, 1993

(thousands of dollars)

	Export	(in percent)	Import	(in percent)	Balance
USA	24387.9	9.3	33413.8	8.9	-9025.9
Sweden	18542.7	7.0	33819.8	9.0	-15277.1
Iran	81.0	0.0	41.8	0.0	39.2
Afghanistan	1447.4	0.5	972.5	0.3	474.9
Nigeria	311.9	0.1	291.0	0.1	20.9
Turkey	2506.9	1.0	4724.4	1.3	-2217.5
Austria	12183.5	4.6	13299.4	3.5	-1115.9
Netherlands	143397.0	54.5	164738.6	43.8	-21341.6
Bulgaria	381.8	0.1	74.4	0.0	307.4
Indonesia	2.7	0.0	..	..	2.7
Greece	62.5	0.0	49.0	0.0	13.5
Israel	15.6	0.0	..	..	15.6
Pakistan	771.0	0.3	35.8	0.0	735.2
Hungary	69.9	0.0	1950.3	0.5	-1880.4
Poland	38.3	0.0	2834.6	0.8	-2796.3
Germany	873.9	0.3	7539.7	2.0	-6665.8
Korea	2306.4	0.9	484.4	0.1	1822.0
England	2042.8	0.8	6105.6	1.6	-4062.8
Belgium	19073.0	7.2	28433.0	7.6	-9360.0
Finland	9556.0	3.6	4195.7	1.1	5360.3
Czech Republic and Slovakia	740.0	0.3	119.1	0.1	320.9
Switzerland	942.6	0.4	4104.0	1.1	-3161.4
China	424.0	0.2	342.1	0.1	81.9
New Zealand	..	..	1226.2	0.3	-1226.2
Denmark	..	..	642.9	0.2	-642.9
Italy	6.0	0.0	11180.0	3.0	-11174.0
Japan	21706.0	8.2	2020.2	0.5	19685.8
Malaysia	..	..	65.3	0.0	-65.3
Singapore	..	..	12.7	0.0	-12.7
Norway	..	..	6474.9	1.7	-6474.9
France	..	..	42672.7	11.4	-42672.7
Latvia	..	..	1.5	0.0	-1.5
Cyprus	27.5	0.0	28.6	0.0	-1.1
Mongolia	639.3	0.2	155.0	0.0	484.3
Lithuania	421.0	0.2	585.0	0.2	-164.0
Estonia	165.0	0.1	108.0	0.0	57.0
Ukraine	168.5	0.1	..	..	168.5
India	..	..	64.5	0.0	-64.5
Malta	..	..	692.0	0.2	-692.0
Kazakhstan	..	..	1842.5	0.5	-1842.5
Total	263292.1	100.0	375741.0	100.0	-112448.9

Source: State Statistical Committee of Tajikistan.

TABLE 4-1A: TAJIKISTAN: GOVERNMENT BUDGET REVENUES (millions of rubles)

Revenue and Grants	1985	1986	1987	1988	1989	1990	1991	1992	1993
1. Turnover tax	888	702	772	843	1,019	1,065	955	112	0
2. Value-added tax	0	0	0	0	0	0	0	4,300	65,417
3. Excises	0	0	0	0	0	0	0	2,145	13,401
4. Tax on sales	0	0	0	0	0	0	219	172	0
5. Enterprise profits tax	286	289	331	336	314	369	604	5,388	43,947
6. Revenues from privatization	0	0	0	0	0	0	0	434	1,412
7. Tax on collective farms cooperatives & public organizations	38	40	44	40	59	78	0	305	1,578
8. Personal income taxes	110	117	228	248	286	185	333	1,634	13,954
9. State duties and local taxes	7	7	8	9	11	25	46	230	2,109
10. Revaluation of enterprise stocks	0	0	0	0	0	0	393	1,431	9,848
11. Export tax	0	0	0	0	0	0	1	43	1,316
12. Import tax	0	0	0	0	0	0	1	42	..
13. Tax on casino and video shows	0	0	0	0	0	0	0	2	..
14. Tax on gold sale	0	0	0	0	0	0	0	0	..
15. Motor vehicle tax	1	1	1	1	0	0	15	27	..
16. Custom duties	0	0	0	0	0	0	0	0	..
17. Custom procedures	0	0	0	0	0	0	0	0	..
18. Water use fee (industrial use)	1	1	1	1	1	3	6	9	..
19. Tax on forests	0	0	0	0	0	0	0	0	..
20. Leasing charges & non-tax revenues	24	27	30	25	18	54	128	604	..
21. Land Tax	6	7	7	7	6	7	7	218	..
22. 15% tax of mining industries	0	0	0	0	0	0	8	138	..
23. Lotteries	35	55	55	57	71	85	37	0	..
24. State insurance	130	145	160	177	197	232	0	0	..
25. Union transfers	212	489	500	498	576	1,168	2,543	0	0
26. Other revenues	67	88	86	109	115	165	161	207	17,131
Total revenues	1,805	1,968	2,223	2,351	2,673	3,436	5,457	17,441	170,113
Surplus/Deficit	78	43	113	140	111	251	1,180	(19,653)	(156,419)
As percent of GDP	1.3	0.7	1.9	2.1	(1.7)	3.4	3.0	(37.0)	(25.0)

Source: Ministry of Finance.

TABLE 4-1B: TAJIKISTAN: GOVERNMENT BUDGET EXPENDITURES (millions of rubles)

Expenditures	1985	1986	1987	1988	1989	1990	1991	1992	1993
1. Economy	750	825	891	891	1,111	1,620	1,315	18,142	117,051
2. Social and culture	896	980	1,069	1,213	1,261	1,416	2,403	13,744	103,428
of which									
2.1 Education	509	562	613	692	693	763	1,226	7,542	55,653
2.2 Culture	0	0	0	0	0	0	77	581	4,310
2.3 Health	205	217	240	284	309	354	608	3,611	34,297
2.4 Sports	2	2	2	3	4	4	4	19	82
2.5 Allowance to single mothers	30	31	32	34	34	34	18	25	..
2.6 Social protection	150	167	182	200	222	261	470	1,966	9,086
3. Science	0	0	0	0	25	25	18	196	1,704
4. State management & courts	29	28	28	29	31	49	82	602	17,726
5. Police	0	0	0	0	0	4	49	2,056	638
including defence	0	0	0	0	0	0		255	24,338
6. Reserve fund for council of ministers	0	0	0	0	0	0	0	0	0
7. Gold purchases	0	0	0	0	0	0	0	544	2,524
8. CIS budget for financing exports	0	0	0	0	12	9	0	0	0
9. State lotteries 1982	0	0	0	0	0	0	0	0	0
10. State lotteries 1992	0	0	0	0	0	0	0	0	0
11. State internal debt	0	0	0	0	0	0	0	432	0
12. Hard currency purchase	0	0	0	0	0	0	0	0	0
13. Refugees	0	0	0	0	0	0	0	0	35,862
15. Other	52	93	123	78	122	64	411	1,123	23,261
Total expenditures	1,727	1,926	2,110	2,211	2,562	3,186	4,277.0	37,094	326,532
Surplus/Deficit	78	43	113	140	111	251	1,180	(19,653)	(156,419)
As percent of GDP	1.3	0.7	1.9	2.1	1.7	3.4	3.0	(37.0)	(25.0)

Source: Ministry of Finance.

TABLE 5-1: TAJIKISTAN: MONETARY SURVEY (millions of rubles)

	1991 December	1992 December	1993 December	1994 March
NATIONAL BANK OF TAJIKISTAN				
Net foreign assets	12.0	31186.1	-204614.3	-255837.4
Net international reserves	0.0	0.0	1719.3	603.2
Net claims on ruble area	12.0	31186.1	-206333.5	-256440.6
Net domestic assets	3140.1	-6646.2	608702.8	575125.5
Net credit to government	-1015.3	12797.0	260881.2	214064.2
Net credit to other government	-56.1	-357.0	-5690.9	-10911.0
Credit to banks, rest of economy and other items, net	4211.5	-19086.2	353512.5	371972.3
Credit to banks	755.0	39583.0	203873.1	217922.8
Credit to rest of the economy	0.7	8352.0	29463.1	23438.5
Other items, net	3455.8	-67021.2	120176.3	130611.0
Liabilities	3152.1	24544.0	404088.5	319287.9
Currency in circulation	2400.0	18145.0	201145.0	64000.0
Required and excess reserves	739.8	5852.0	199524.8	250491.3
Other deposits	12.3	547.0	3418.7	4796.7
BANKING SYSTEM				
Net foreign assets	16.7	676150.8	985920.9	904842.4
Net international reserves	4.7	644964.7	1192254.5	1161282.9
Net claims on ruble area	12.0	31186.1	-206333.5	-256440.6
Net domestic assets	5187.9	-640846.7	-445569.2	-412400.9
Domestic credit	5043.3	70948.5	815117.1	841319
Net credit to government	-1505.2	706.6	202103.0	115185.4
Net credit to other government	-336.1	-1674.2	-20666.6	-39961.7
Credit to rest of economy and other items, net	7029.2	-639879.1	-627005.6	-487624.6
Credit to rest of the economy	6884.6	71916.2	633680.6	766095.3
Other items, net	144.6	-711795.3	-1260686.3	-1253719.9
Liabilities	5204.6	35339.7	540351.8	492441.3
Currency outside banks	2114.2	17617.1	175404.2	64000.0
Deposits	3090.4	17722.6	364947.6	428441.3
Velocity of broad money	2.57	1.95	3.11	4.38
Velocity of currency outside banks	6.34	3.92	9.58	33.73
Nominal gap	13400.0	17257.0	420050.0	539700.0

Source: NBT and IMF staff estimates.

TABLE 6-1: TAJIKISTAN: AGRICULTURAL PRODUCTION (millions of constant 1983 rubles)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Total gross agricultural production	2,324	2,433	2,523	2,346	2,566	2,790	2,354	2,252	1,650	2,142
Crop production	1,634	1,642	1,711	1,543	1,744	1,490	1,583	1,533	1,057	1,592
Grains	34	48	50	45	43	40	37	37
Potatoes	38	37	35	42	40	35	32	28
Vegetables	174	174	184	185	176	209	187	172
Fruits (without grapes)	158	145	153	134	146	123	119	104
Grapes	93	82	83	81	89	87	47	41
Tobacco	56	36	51	46	53	58	50	60
Cotton	969	847	999	791	844	813	458	451
Sugarbeets
Oilseeds	0	0	1	1	0	1	..	..
Other
Livestock production	690	791	812	802	821	799	772	718	593	550
Livestock	434	430	435	427	400	373	..	..
Cattle	246	242	246	240	227	230	..	..
Pigs	23	22	21	20	15	9	..	..
Sheep and goats	83	84	84	82	76	68	..	..
Poultry	56	50	54	57	55	39	..	..
Other	27	32	30	28	28	26	..	..
Milk	121	121	121	123	118	121	..	..
Eggs	28	30	32	32	29	39	..	..
Wool	24	24	24	26	21	20	..	..
Other livestock	205	199	209	192	204	165	..	..
Agricultural services	..									
Material inputs	1,286	659	610	620	651	1,123	463	272	..	..
Crop production
Animal production
Agricultural services
Net material product, by output:	1,037	1,774	1,913	1,725	1,914	1,667	1,892	1,980	..	..
Crop production
Animal production
Agricultural services
By form of ownership:	..									
State enterprises
Cooperative enterprises
Subsidiary and personal plots of population
Private enterprises

Source: State Statistical Committee of Tajikistan.

TABLE 6-2: TAJKISTAN: PRODUCTION AND AVERAGE YIELD OF MAJOR AGRICULTURAL CROPS

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Production—thousand tons										
Grain - Cleanweight	238	323	238	347	365	293	313	286	257	253
All Wheat	106	143	99	175	191	109	143	142	156	159
Wheat (winter)	103	134	91	163	184	101	136	134	133	105
(spring)	3	9	8	12	7	8	7	8	23	54
Coarse grain	104	143	107	138	140	147	133	109	78	67
Rye	1	7	5	7	7	2	2	2	2	1
Corn	62	101	73	85	88	109	85	60	32	33
Barley (winter)	27	22	17	29	33	24	35	36	42	15
(spring)	11	11	10	14	10	10	11	11	2	15
Oats	3	2	2	2	2	2	..	..	..	3
Rice	28	37	27	28	27	28	29	26	20	21
Oilseeds	1	0	0	0	0	0	0	0	0	0
Sunflowerseed	1	..	..	..	..	..	..	..	..	..
Cotton (raw)	1,011	935	992	872	964	921	842	826	515	524
(fiber)	321	291	293	276	294	250	256	255	165	180
Tobacco	13	..	11	11	10	9	10	11	10	12
Potatoes	153	185	199	192	183	217	207	181	167	147
Pulses	6	6	5	6	7	9	8	9	3	..
Vegetables	381	473	505	517	556	567	528	628	543	485
Fruit	213	245	245	219	215	197	220	177	183	149
Grapes	159	171	199	132	178	174	190	121	100	87
Other	..	..	..	..	..	..	..	..	..	1
Corn (silage + greench)	916	1,338	1,385	1,293	..	1,302	1,222	1,150	727	599
Hay	1,432	1,658	1,748	1,753	..	1,548	1,521	1,486	1,212	1,113
Average yield kg/h										
Grain	1,200	1,490	1,550	1,490	1,490	1,540	1,370	1,230	920	910
Wheat (winter)	370	1,120	1,230	1,260	1,290	1,060	1,000	1,060	860	850
(spring)	530	1,030	1,180	1,210	1,210	1,170	1,150	1,120	880	710
Coarse grain	1,210	1,520	1,600	1,550	1,560	1,610	1,310	1,310	1,040	..
Rye	1,150	870	1,080	890	..	..	..	..	990	670
Corn	4,900	5,710	4,440	4,150	4,470	5,690	4,990	3,920	2,970	2,970
Barley (winter)	890	1,070	1,340	1,410	1,430	1,230	1,190	1,120	1,070	910
(spring)	540	680	770	1,000	530	990	870	1,010	890	680
Oats	590	780	760	1,000	..	..	..	..	840	720
Millet	490	350	530	500	..	..	..	..	860	..
Rice	4,380	3,520	3,410	3,140	3,290	3,150	3,010	2,740	1,920	1,710
Oilseeds	..	..	..	..	..	..	..	..	..	..
Sunflowerseed	2,460	..	..	..	..	..	..	..	..	1,670
Cotton (raw)	3,280	3,000	2,950	2,690	3,010	2,980	2,770	2,770	2,050	1,910
(fiber)	1,040	930	940	850	920	940	840	..	..	..
Tobacco	293	..	..	285	287	279	267	262	205	234
Potatoes	16,000	18,100	18,500	17,100	16,300	16,500	14,300	14,100	12,800	11,900
Pulses	780	880	780	840	630	690	640	750	..	..
Vegetables	20,700	20,900	21,800	20,800	20,900	20,700	19,500	19,300	16,840	17,860
Fruit	4,180	4,950	5,010	4,330	4,170	3,620	3,980	3,210	3,280	2,550
Grapes	8,210	7,370	8,480	5,630	7,180	6,750	7,160	4,450	3,500	3,010
Other	..	..	..	..	..	..	..	..	..	..
Corn (silage + greench)	21,300	25,200	23,000	23,000	22,700	23,400	22,500	21,600	16,250	15,410
Hay	3,390	3,460	3,420	..	..	..	..	..	..	..

Source: State Statistical Committee of Tajikistan.

TABLE 6-3: TAJIKISTAN: MAIN AGGREGATES OF ANIMAL HUSBANDRY

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Livestock inventory (thousand heads)	4,355	4,782	4,883	4,897	4,970	4,969	4,879	4,926	4,434	4,258
Cattle	1,217	1,351	1,367	1,358	1,363	1,349	1,352	1,391	1,246	1,250
of which: Cows	456	505	507	515	530	539	557	586	544	560
Pigs	137	205	243	235	217	210	183	128	56	47
Sheep	2,338	2,437	2,471	2,479	2,539	2,544	2,462	2,484	2,237	2,081
Goats	629	749	759	778	802	815	830	871	846	825
Horses	35	42	43	46	50	51	52	53	49	55
Other	..	..	..	..	..	..	..	..	..	..
Animal husbandry products										
Meat (thousand tons)	161	179	185	190	193	191	185	151	126	114
Beef	78	91	92	97	99	100	94	83	71	66
Pork	11	14	17	19	19	19	15	9	5	3
Lamb	54	54	55	54	56	52	52	43	42	39
Poultry	16	18	20	18	17	18	21	13	7	5
Other	3	2	2	2	2	2	2	2	1	1
Milk (thousand tons)	499	547	571	567	574	580	575	587	509	447
Eggs (million pieces)	322	469	555	579	632	619	592	454	296	156
Wool (thousand tons)	6	5	5	5	5	5	5	4	4	3

Source: State Statistical Committee of Tajikistan.

TAJIKISTAN: AGRICULTURAL PRODUCTION SUMMARY (millions of 1983 rubles)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Total agriculture	2,324	2,433	2,523	2,346	2,566	2,290	2,355	2,252	1,650	2,142
Crops	1,634	1,642	1,711	1,543	1,744	1,490	1,583	1,533	1,057	1,592
Animal husbandry	690	791	812	802	821	799	772	718	593	550
Collective farms (kolkhoz)	1,067	993	1,015	928	1,051	902	922	902	587	..
Crops	922	852	870	780	902	749	772	760	474	479
Animal husbandry	145	141	145	149	150	153	151	142	113	..
State farms	687	785	830	793	870	769	809	673	430	..
Crops	474	525	548	510	580	490	552	468	283	261
Animal husbandry	213	260	281	283	290	279	257	205	147	..
Other State Enterprises	21	31	27	25	27	33	49	55	15	..
Crops	12	12	15	14	16	17	21	27	7	25
Animal husbandry	9	19	12	12	12	16	27	28	8	..
Private plots	510	582	614	572	592	562	550	601	609	1,129
Crops	217	237	264	232	238	227	229	271	291	820
Animal husbandry	293	345	350	340	354	335	321	330	318	309
Private Farms	..	..	..	..	..	..	..	..	9	..
Crops	..	..	..	..	..	..	..	..	2	7
Animal husbandry	..	..	..	..	..	..	..	..	7	..

Source: State Statistical Committee of Tajikistan.

TABLE 6-5: TAJIKISTAN: EMPLOYMENT IN AGRICULTURE (in thousands)

	1980	1985	1986	1987	1988	1989	1990	1991	1992
Total	615.8	721.9	720.0	742.8	762.8	790.1	831.0	878.1	..
Collective farms	230.7	252.0	247.0	248.4	250.9	246.0	259.0	287.0	293.0
State farms	146.0	186.0	183.2	183.5	184.7	173.0	175.5	183.3	192.0
Temporary workers	..	..	..	..	..	..	..	..	..
Labor on private plots	226.4	270.0	274.8	295.0	313.1	340.6	365.7	373.0	..
New Private Cooperatives	..	..	..	..	..	..	..	..	..
Private farms	..	..	..	..	..	..	..	..	..
Other	..	..	..	..	..	..	..	..	..

Source: State Statistical Committee of Tajikistan.

TABLE 6-6: TAJIKISTAN: MAIN INDICATORS OF AGRICULTURAL FARMS (1991)

	Total	Collective farms (kolhozes)	State Farms (sovhozes)	Other (state farms)	Private Plots	Private Farms
Number of farms	1,206,180.0	206.0	391.0	361.0	1,205,222.0	..
Gross Output (million 1983 rubles)	2,251.5	902.2	673.0	54.8	600.8	..
Fixed Capital (million 1983 rubles)	2,218.9	173.4	1,793.4	..	..	..
Profits (million 1983 rubles)	1,474.8	..	..	..	..	..
Number of loss-making farms	65.0	13.0	52.0	..	..	..
Production (thousand tons)						
Grain	304.4	133.1	141.6	10.4	12.4	..
Sugar beets	0.0	..	..	..	..	..
Sunflowers	0.0	..	..	..	..	..
Flax	1.5	0.5	1.0	..	..	..
Potatoes	180.6	29.3	67.5	8.9	74.9	..
Vegetables	626.8	154.3	156.0	11.2	305.3	..
Meat	85.7	11.2	29.2	4.1	36.8	..
Milk	587.2	154.6	102.9	9.1	319.6	..
Eggs (millions)	454.3	4.2	398.4	5.5	46.2	..
Cattle (thousand heads)	1,390.7	198.7	261.2	21.1	875.7	..
Cows	585.9	61.1	70.3	5.9	448.0	..
Pigs	128.2	8.2	100.5	13.9	2.9	..
Sheep, goats	3,355.0	526.0	880.4	69.8	1,797.6	..
Poultry	5,864.8	112.2	5,676.1	76.4	..	..

Sources: State Statistical Committee of Tajikistan.

TABLE 6-7: TAJIKISTAN: MAIN INDICATORS OF AGRICULTURAL FARMS (1992)

	Total	Collective farms (kolхозes)	State Farms (sovхозes)	Other (state farms)	Private Plots	Private Farms
Number of farms	..	..	..	..	..	..
Gross Output (million 1983 rubles)	..	..	..	..	..	..
Fixed Capital (million 1983 rubles)	..	..	..	..	..	..
Profits (million 1983 rubles)	..	..	..	..	..	..
Number of loss-making farms	..	..	..	..	..	..
Production (thousand tons)						
Grain	275.7	133.6	120.6	3.4	13.1	0.2
Sugar beets	0.0	..	..	..	..	..
Sunflowers	0.5	..	..	..	0.5	..
Flax	1.2	0.4	0.6	0.1	0.1	..
Potatoes	167.4	17.0	63.9	3.0	83.2	0.1
Vegetables	542.6	134.4	100.1	4.0	303.2	0.3
Meat	70.3	8.8	18.1	1.9	39.2	..
Milk	509.5	114.0	73.3	4.7	317.1	..
Eggs (millions)	296.0	2.0	248.3	2.4	43.3	..
Cattle (thousand heads)	1,246.1	155.5	217.8	8.5	843.6	..
Cows	544.3	51.2	61.3	2.0	428.9	..
Pigs	55.7	1.5	42.9	7.4	2.6	..
Sheep, goats	3,083.1	450.2	763.7	21.0	1,760.5	0.1
Poultry	2,786.5	20.9	1,997.1	39.5	729.0	..

Sources: State Statistical Committee ..

TABLE 6-8: TAJIKISTAN: MAIN INDICATORS OF AGRICULTURAL FARMS (1993)

	Total	Collective farms (kolhozes)	State Farms (sovhozes)	Other (state farms)	Private Plots	Private Farms
Number of farms	..	..	..	..	..	..
Gross Output (million 1983 rubles)	..	..	..	..	..	..
Fixed Capital (million 1983 rubles)	..	..	..	..	..	..
Profits (million 1983 rubles)	..	..	..	..	..	..
Number of loss-making farms	..	..	..	..	..	..
Production (thousand tons)						
Grain	273.0	134.2	114.4	3.7	13.0	1.1
Sugar beets	0.0	..	..	..	..	..
Sunflowers	0.6	..	0.1	..	0.5	..
Flax	0.0	..	..	..	..	..
Potatoes	147.0	13.4	49.1	2.2	82.0	0.2
Vegetables	484.8	97.6	73.9	3.1	309.1	0.4
Meat	0.0	..	..	..	..	..
Milk	0.0	..	..	..	..	..
Eggs (millions)	0.0	..	..	..	..	..
Cattle (thousand heads)	1,250.2	140.5	191.1	8.2	895.5	0.4
Cows	559.7	45.6	53.8	2.2	457.2	0.1
Pigs	45.6	0.7	38.1	4.3	2.4	..
Sheep, goats	2,906.0	407.0	675.0	19.5	1,739.5	2.0
Poultry	2,181.3	62.3	2,087.2	31.8	..	..

Sources: State Statistical Committee of Tajikistan.

TABLE 7-1: TAJIKISTAN: INDUSTRIAL PRODUCTION BY SECTOR (millions of current rubles)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
All Industry	3,485	4,589	4,712	4,926	5,175	5,299	5,474	12,341	93,993	734,727
Heavy Industry	1,071	1,533	1,681	1,992	1,944	1,936	2,038	3,992	47,773	349,692
Fuel-Energy Industry	170	217	202	233	258	227	316	540	5,977	..
Electricity	141	177	161	195	224	202	295	509	5,626	74,951
Fuel Industry	29	40	41	38	34	25	21	31	351	..
Ferrous & Non-Ferrous Metallurgy	160	347	400	438	506	519	524	1,291	26,470	170,909
Chemicals & Petrochemical Industry	113	185	206	215	243	225	241	471	4,003	23,472
Machine-Building & Metalworking	336	413	447	477	503	520	521	877	7,018	35,277
Forestry, Woodworking, Pulp & Paper Industry	61	81	86	92	91	90	84	185	802	4,914
Construction Materials	179	233	247	260	262	264	248	469	2,523	20,391
Light Industry	1,599	2,139	2,113	2,162	2,214	2,289	2,274	5,820	30,003	247,749
Textiles	1,305	1,767	1,742	1,809	1,846	1,904	1,853	4,829	27,129	225,826
Clothing	239	295	285	273	275	298	320	772	1,870	14,765
Leather and Shoe	55	77	78	80	84	87	90	196	939	7,158
Agriculture/Food Processing	661	717	749	762	774	820	855	1,848	11,090	69,078
Food Processing	477	485	504	512	524	538	581	1,280	9,424	54,309
Meat and Dairy Products	181	226	238	243	242	274	265	550	1,627	13,965
Fish	3	6	7	7	8	8	9	18	40	804

Source: State Statistical Committee of Tajikistan.

TABLE 7-2: TAJIKISTAN: INDUSTRIAL PRODUCTION BY SECTOR (millions of constant rubles of January 1993)

	1985	1986	1987	1988	1989	1990	1991	1992	1993
All Industry	420,051	427,192	448,552	473,222	481,740	487,521	469,970	355,768	286,593
Heavy Industry	237,227	251,461	271,578	299,550	298,652	306,118	292,037	202,965	146,332
Fuel-Energy Industry	55,580	48,945	54,648	62,365	51,368	58,436	56,356	51,057	53,370
Electricity	47,783	40,329	46,540	54,638	45,349	53,013	52,218	49,294	52,341
Fuel Industry	7,797	8,616	8,108	7,727	6,019	5,423	4,138	1,763	1,029
Ferrous & Non-Ferrous Metallurgy	77,835	89,744	97,910	112,499	116,211	115,166	96,739	78,068	56,252
Chemicals & Petrochemical Industry	17,514	19,459	21,074	23,518	24,247	25,920	28,542	12,183	6,972
Machine-Building & Metalworking	15,930	17,491	18,610	19,950	20,529	20,734	20,672	13,478	12,684
Forestry, Woodworking, Pulp & Paper Industry	6,609	7,092	7,595	7,436	7,517	6,969	7,875	4,945	2,824
Construction Materials	16,288	17,265	18,283	19,417	19,495	18,383	17,354	6,299	4,129
Light Industry	108,454	107,494	110,913	113,257	116,291	114,645	114,079	100,820	96,845
Textiles	100,677	99,771	103,263	105,432	107,962	105,911	104,852	94,471	91,013
Clothing	4,597	4,482	4,348	4,348	4,796	5,021	5,644	4,013	4,436
Leather and Shoe	3,180	3,241	3,302	3,477	3,533	3,713	3,583	2,336	1,396
Agriculture/Food Processing	54,470	54,672	54,603	56,555	59,931	60,308	52,445	34,814	27,349
Food Processing	39,232	38,604	38,180	40,089	42,893	42,395	40,869	28,486	23,776
Meat and Dairy Products	15,026	15,852	16,201	16,217	16,801	17,641	11,290	6,142	3,354
Fish	212	216	222	249	237	272	286	186	219

Source: Statistical Committee of Tajikistan.

TABLE 7-3: TAJIKISTAN: ELECTRICITY PRODUCTION AND CONSUMPTION (billions of KW/h)

	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
Production	13.6	15.7	13.6	15.9	18.8	15.3	18.2	17.6	16.8	18.0
of which:										
Thermal	1.0	1.3	1.5	1.3	1.2	1.5	1.3	1.2	0.9	1.0
Hydro	12.6	14.4	12.1	14.6	17.0	13.8	16.9	16.4	15.9	17.0
Nuclear	..	..	..	..	..	..	..	..	..	..
Total imports	4.1	5.5	7.4	6.5	5.5	8.0	6.9	6.9	6.4	5.0
Inter-republic	4.1	5.5	7.4	6.5	5.5	8.0	6.9	6.9	6.4	5.0
Extra-republic	..	..	..	..	..	..	..	..	..	..
Total supply	17.7	21.2	21.0	22.4	24.3	23.3	25.1	24.5	23.2	23.0
Domestic consumption	9.7	15.3	16.6	16.9	18.3	19.1	19.4	19.1	17.6	17.0
Industry and construction	4.9	9.1	9.8	10.3	11.2	11.6	11.5	11.0	9.8	8.0
Agriculture	2.7	3.5	3.7	3.5	3.8	4.0	4.2	4.5	4.3	5.0
Transport	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0
Other sectors	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.4	0.0
Households	0.7	1.0	1.1	1.1	1.2	1.3	1.3	1.1	1.2	1.0
Losses	0.9	1.1	1.4	1.3	1.4	1.5	1.6	1.8	1.8	2.0
Total Exports	8.0	5.9	4.4	5.5	6.0	4.2	5.7	5.4	5.6	6.0
Inter-republic	8.0	5.9	4.4	5.5	6.0	4.2	5.7	5.4	5.6	6.0
Extra-republic	..	..	..	..	..	..	..	0.0	0.0	0.0
Total uses	17.7	21.2	21.0	22.4	24.3	23.3	25.1	24.5	23.2	23.0

Source: State Statistical Committee of Tajikistan.

TABLE 7-4: TAJIKISTAN: PRIMARY ENERGY SUPPLY (natural units)

		1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
PRIMARY PRODUCTION											
Coal and Lignite (hard and brown) (Tb T)		832	516	660	593	673	515	475	313	214	174
Crude Oil (Tb T)		330	322	314	282	242	171	136	99	57	39
Gas (M M3)		222	303	292	280	235	194	111	93	72	49
Nuclear		..	..	..	..	..	..	..	..	..	..
Hydro/Geothermal (M KWH)		12,630	14,403	12,066	14,596	17,565	13,803	16,885	16,391	15,919	17,119
Other		..	..	..	..	..	..	..	..	..	..
TOTAL		..	..	..	..	..	..	..	..	..	..
ENERGY TRADE											
Coal and Lignite (Tb T)	Exports	428	256	..	..	..	..	230	274	186	80
	Imports	492	655	..	..	..	..	781	649	422	33
	Net Imports	..	..	..	..	..	..	..	..	..	..
Oil/Oil Products (Tb T)	Exports	343	355	..	..	..	..	139	109	64	41
	Imports	1,885	2,305	..	..	..	..	2,276	1,022	601	398
	Net Imports	..	..	..	..	..	..	..	..	..	..
Gas (M M3)	Exports	177	214	..	..	..	..	..	..	..	..
	Imports	1,133	1,389	..	..	..	..	1,729	1,775	1,154	1,374
	Net Imports	..	..	..	..	..	..	..	..	..	..
Electricity (M KWH)	Exports	8,008	5,922	4,403	5,526	6,066	4,172	5,663	5,390	5,595	6,386
	Imports	4,143	5,500	7,463	6,522	5,505	7,969	6,905	6,941	6,428	5,214
	Net Imports	..	..	..	..	..	..	..	..	..	..

Source: State Statistical Committee of Tajikistan.

TABLE 7-5: TAJIKISTAN: PRIMARY ENERGY SUPPLY (thousands of tons oil equivalent)

Item	1980	1985	1986	1987	1988	1989	1990	1991	1992	1993
PRIMARY PRODUCTION										
Coal and lignite (hard and brown)	461	286	366	329	373	285	263	173	119	96
Crude oil	472	460	449	403	346	245	194	142	82	56
Gas	255	348	336	322	270	223	128	107	83	56
Nuclear	..	..	..	..	..	..	..	..	..	..
Hydro/geothermal	4,104	4,681	3,921	4,744	5,709	4,486	5,488	5,327	5,174	5,564
Other	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	..
ENERGY TRADE										
Coal and lignite	Exports	237	142	..	..	..	127	152	103	44
	Imports	276	372	..	..	..	457	375	232	19
	Net imports	..	..	..	..	..	..	..	..	..
Oil/oil product	Exports	491	508	..	..	..	199	..	..	..
	Imports	2,721	3,314	..	..	..	3,283	..	..	..
	Net imports	..	..	..	..	..	..	..	..	..
Gas	Exports	204	246	..	..	..	..	..	..	..
	Imports	1,303	1,597	..	..	..	1,988	2,041	1,327	1,580
	Net imports	..	..	..	..	..	..	..	..	..
Electricity	Exports	2,603	1,925	1,431	1,796	1,971	1,356	1,841	1,752	2,075
	Imports	1,347	1,788	2,425	2,120	1,789	2,590	2,244	2,256	1,695
	Net imports	..	..	..	..	..	..	..	..	..
Total net imports	..	..	..	..	..	..	..	..	..	..
Total stock changes	..	..	..	..	..	..	..	..	..	..

Source: State Statistical Committee of Tajikistan.

TABLE 8-1: TAJIKISTAN: MONTHLY WAGES BY SECTOR (current rubles) 1/

	1980	1985	1986	1987	1988	1989	1990	1991	1992
AVERAGE	146	158	162	166	177	188	207	340	1,909
MATERIAL SECTORS	..	..	..	..	..	..	..	..	..
Industry	158	175	179	182	194	214	231	394	2,523
Electricity	179	187	188	193	210	243	278	779	..
Fuels	254	258	262	263	280	276	309	448	..
Metallurgy (Ferrous and Non-ferrous)	237	276	295	310	357	394	402	738	..
Machine-Building and Metal Working	169	189	143	194	210	224	246	387	..
Chemicals and Petrochemicals	187	211	218	220	237	262	296	486	..
Forestry, Woodworking and Paper-Pulp Industry	161	174	199	176	184	205	206	393	..
Construction Materials	174	192	198	204	216	240	258	455	..
Light Industry	139	152	151	151	169	180	193	319	..
Textile	154	166	169	170	189	203	218	377	..
Clothing	116	126	122	121	139	147	154	224	..
Leather and Shoe Industry	137	161	153	158	175	183	205	325	..
Food Industry	141	144	151	159	159	174	198	273	..
Meat and Dairy	151	163	167	168	171	188	196	273	..
Fish	137	151	161	156	190	239	254	497	..
Other Food Processing	..	..	..	..	..	..	..	..	..
Construction	180	200	205	212	233	253	276	434	2,616
Agriculture	124	136	142	141	151	160	177	315	1,425
Transport	170	176	178	182	195	204	223	324	1,611
Communications	127	136	139	144	160	173	191	330	2,083
Trade (Retail and Wholesale)	130	135	138	138	143	155	190	295	1,440
Other Material Production	..	..	..	..	..	..	..	..	..
NONMATERIAL SECTORS	..	..	..	..	..	..	..	..	..
Municipal Services	112	119	121	122	130	143	160	273	1,814
Science, Research and Development	174	184	188	197	230	260	288	435	2,534
Education	142	161	167	179	180	180	183	294	1,721
Culture	109	112	113	113	117	119	143	234	1,445
Arts	129	137	138	143	146	151	173	274	1,428
Health Care, Social Security, Sports	126	131	132	133	145	145	167	269	1,557
Banking, Finance, Credit, Insurance	143	158	164	167	179	192	296	712	4,665
Government	147	152	157	166	179	211	300	419	2,994

1/ For workers and employees.

Source: State Statistical Committee of Tajikistan.

TABLE 8-2: TAJIKISTAN: MONTHLY WAGES BY SECTOR, 1992 (current rubles)

	January	February	March	April	May	June	July	August	September	October	November	December
AVERAGE	724	732	900	879	1,196	1,780	1,651	1,719	2,150	2,592	2,985	4,336
MATERIAL SECTORS												
Industry	1,021	1,108	1,440	1,645	1,906	2,200	2,449	2,855	3,246	3,480	3,893	6,347
Agriculture	343	333	430	394	707	1,049	923	967	1,063	1,300	1,543	3,876
Forestry	487	352	920	649	582	1,593	1,246	1,266	2,646	2,342	2,176	3,865
Transport	585	668	859	1,072	1,387	1,694	1,976	2,219	2,294	2,647	3,002	2,806
Communications		810	994	941	1,379	2,050	1,927	1,942	2,149	3,301	4,093	5,698
Construction	753	962	1,392	1,489	2,075	2,747	2,859	2,774	3,967	4,144	4,771	5,357
Trade (Retail and Wholesale)	509	581	746	634	995	1,265	1,303	1,352	1,458	2,856	3,440	2,221
NONMATERIAL SECTORS												
Information and Computer Services	439	718	1,200	873	967	2,065	1,933	2,153	2,284	2,702	3,233	3,101
Municipal Services		683	790	854	903	1,680	1,753	1,868	2,016	3,130	2,553	3,601
Health Care, Social Security, Sports	554	661	740	689	1,114	1,858	1,802	2,405	2,393	2,374	2,912	3,059
Education	756	734	832	814	1,240	2,769	1,867	1,920	2,286	2,580	3,124	2,836
Culture and Arts	561	605	679	724	885	1,461	1,380	1,403	1,572	2,202	2,078	2,494
Science, Research and Development	717	733	1,289	1,403	1,347	3,177	2,843	2,682	3,380	4,226	5,614	7,168
Banking, Finance, Credit, Insurance	1,142	1,344	1,703	1,690	2,617	4,538	5,048	5,055	6,426	6,318	6,877	13,182
Government	656	995	1,281	1,176	1,615	3,070	3,328	3,232	3,647	4,343	4,819	6,320
ENTIRE STATE ECONOMY			942	984	1,334	1,955	1,870	1,978	2,390	2,810	3,288	4,228
Collective Farms	359		503	323	559	756	751	753	1,216	1,605	1,693	4,574
Cooperatives	439		2,562	902	1,163	4,421	2,440	1,770	3,786	3,052	3,532	4,948
Joint Ventures	1,340		2,234	2,267	3,686	6,432	3,509	6,701	5,057	3,699	4,746	5,335
Private Enterprises	..		2,510	..	1,605	5,503	2,564	1,912	3,788	3,645	3,889	6,133
Small Enterprises	..		3,116	1,524	1,605	5,503	2,564	1,912	3,788	3,645	3,889	6,133

Source: State Statistical Committee of Tajikistan.

TABLE 8-3: TAJIKISTAN: MONTHLY WAGES BY SECTOR, 1993 (current rubles)

	January	February	March	April	May	June	July	August	September	October	November	December
AVERAGE	3,335	4,357	4,960	6,459	8,158	10,612	12,951	14,317	16,160	23,129	26,463	33,680
MATERIAL SECTORS												
Industry	5,830	8,230	12,822	13,774	15,504	20,890	25,323	26,723	32,075	41,607	51,049	51,715
Agriculture	2,514	1,823	2,661	3,125	4,459	5,805	7,709	8,161	8,504	15,655	15,772	17,316
Forestry	2,024	2,963	4,681	3,412	3,401	5,999	6,419	6,341	8,964	8,152	19,724	27,637
Transport	3,460	4,780	5,105	6,512	8,313	12,522	15,693	18,368	18,396	22,866	29,475	29,707
Communications	4,123	6,872	7,647	7,738	9,888	17,865	15,062	14,592	17,337	25,934	31,915	39,700
Construction	4,904	6,163	8,762	12,240	15,913	22,207	27,559	30,221	38,486	45,594	55,758	59,939
Trade (Retail and Wholesale)	2,436	2,901	5,779	5,543	7,921	9,502	11,518	12,568	13,533	19,755	23,923	29,691
NONMATERIAL SECTORS												
Information and Computer Services	3,852	4,994	8,412	8,465	11,214	17,022	24,121	20,168	24,850	25,805	36,207	39,300
Municipal Services	4,199	5,282	5,020	7,496	9,153	9,402	14,057	14,551	16,483	24,259	30,821	38,800
Health Care, Social Security, Sport	2,957	4,109	4,373	4,841	7,157	9,428	10,157	11,353	12,273	17,974	22,387	20,300
Education	3,030	4,398	4,885	5,228	6,549	11,804	9,111	10,078	9,784	17,522	19,849	21,400
Culture and Arts	2,667	4,017	4,168	5,820	5,791	8,967	10,230	11,044	9,870	17,831	20,506	20,638
Science, Research and Development	4,803	7,008	8,176	8,259	10,939	19,900	16,402	17,019	18,419	30,682	30,457	33,726
Banking, Finance, Credit, Insurance	9,075	9,882	15,487	17,740	22,724	31,470	32,357	37,702	49,422	43,193	75,286	93,080
Government	5,409	7,849	10,174	9,721	11,615	21,056	21,885	20,977	24,395	30,152	37,030	38,784
ENTIRE STATE ECONOMY	3,807	4,985	5,997	7,442	9,327	12,862	15,044	16,179	17,629	25,375	30,028	35,187
Collective Farms	1,040	1,543	1,458	2,204	3,486	4,504	6,121	7,862	10,505	15,491	14,832	20,494
Cooperatives	6,619	3,667	6,878	11,358	11,164	11,985	16,233	21,822	21,522	29,778	32,510	62,567
Joint Ventures	5,257	7,434	10,282	8,966	13,144	12,602	29,562	27,597	31,158	44,794	49,177	47,984
Private Enterprises	5,000	6,166	4,905	9,485	11,200	18,500	21,177	27,914	29,974	46,477	25,200	37,769
Small Enterprises	5,000	6,166	7,948	9,485	11,200	18,500	14,729	18,392	24,753	24,027	37,062	58,842

Source: State Statistical Committee of Tajikistan.

TABLE B-4: TAJIKISTAN: WHOLESALe PRICES

Year	Month	Index	Monthly Inflation Rate (percentage change)
1990		100	
1991	January	136	36.1
	February	147	7.8
	March	148	0.8
	April	160	8.1
	May	184	15.0
	June	193	4.4
	July	196	1.7
	August	206	5.1
	September	212	3.1
	October	246	16.1
	November	259	4.9
	December	284	9.8
1992	January	749	163.9
	February	2,697	260.2
	March	2,900	7.5
	April	4,402	51.8
	May	4,719	7.2
	June	5,054	7.1
	July	7,218	42.8
	August	7,983	10.6
	September	13,379	67.6
	October	14,500	6.1
	November	15,133	6.6
	December	17,115	13.1
1993	January	42,120	146.1
	February	77,164	83.2
	March	115,746	50.0
	April	153,780	41.5
	May	185,399	13.2
	June	215,063	16.0
	July	253,774	18.0
	August	313,919	23.7
	September	355,042	13.1
	October	620,613	74.8
	November	771,422	24.3
	December	1,047,591	35.8

Source: State Statistical Committee of Tajikistan.

TABLE 8-5: TAJIKISTAN: RETAIL PRICES OF GOODS

Year	Month	Index	Monthly Inflation Rate (percentage change)
1990	December	100	
1991	January	109	9.4
	February	115	5.5
	March	125	8.2
	April	203	62.6
	May	209	2.8
	June	223	6.9
	July	230	2.9
	August	234	1.7
	September	244	4.6
	October	259	6.0
	November	285	10.0
	December	304	6.6
1992	January	951	213.1
	February	1,645	73.1
	March	1,851	12.5
	April	2,012	8.7
	May	2,040	1.4
	June	2,314	13.4
	July	2,615	13.0
	August	3,072	17.5
	September	3,392	10.4
	October	3,663	8.0
	November	3,912	6.8
	December	4,444	13.6
1993 1/	January	5,288	19.0
	February	6,579	24.4
	March	8,855	34.6
	April	14,514	63.9
	May	19,405	33.7
	June	22,762	17.3
	July	30,000	31.8
	August	42,900	43.0
	September	58,515	36.4
	October	73,203	25.1
	November	119,467	63.2
	December	330,804	176.9

1/ Consumer Price Index (CPI) in 1993.

Source: State Statistics¹ Committee of Tajikistan.

TABLE 9-1: TAJIKISTAN: MONEY INCOME AND EXPENDITURE OF THE POPULATION (millions of current rubles)

	1980	1985	1986	1987	1988	1989	1990	1991	1992
INCOME									
LABOR INCOME	2,223	2,914	3,021	3,106	3,394	3,714	4,254	7,219	34,010
Regular Wages	1,691	2,192	2,288	2,378	2,577	2,782	3,055	4,636	25,277
of which: Wages paid by Cooperative	..	..	..	..	15	132	203	180	773
Other Wages and Compensations	64	79	82	85	96	120	137	319	933
Income paid by Collective Farms	343	427	441	433	478	528	535	1,623	6,275
Income from Sale of Farm Products	125	216	210	210	243	284	324	461	1,526
TRANSFER RECEIPTS	505	740	796	834	942	1,094	1,346	3,290	8,518
Pensions and Allowances	381	521	562	586	631	672	801	2,046	6,312
Scholarships	26	29	30	31	32	34	44	103	490
Income from the Financial System (Insurance, Interest, etc.)	65	124	124	127	151	154	249	320	504
Other Income	33	66	80	90	128	234	252	821	1,211
TOTAL INCOME	2,728	3,654	3,817	3,940	4,336	4,808	5,600	10,509	42,528
EXPENDITURE									
PURCHASES	2,521	3,228	3,383	3,470	3,754	4,069	4,631	7,461	25,298
Retail Trade Purchases	2,304	2,956	3,086	3,147	3,391	3,664	4,207	6,532	22,033
Purchased Services	217	272	297	323	363	405	424	929	3,264
Rent and Utilities	53	68	79	88	89	103	90	103	487
Transport and Communications	112	140	149	150	138	177	193	304	1,584
Health and Other Services	11	16	19	22	25	27	34	47	89
Cooperatives	..	..	..	1	6	12	14	76	52
TRANSFERS AND SAVINGS	332	485	560	587	671	859	963	2,541	2,953
Taxes, Fees, Dues and Other	239	325	342	363	397	443	510	601	1,710
Savings	86	157	218	224	274	416	453	1,881	934
Other	7	3	..	..	..	..	..	59	310
TOTAL EXPENDITURE	2,853	3,713	3,943	4,057	4,425	4,928	5,594	10,002	28,250
INCOME less EXPENDITURE	(125)	(59)	(126)	(117)	(39)	(120)	6	507	14,278

Source: State Statistical Committee of Tajikistan.

TABLE 10-1: TAJIKISTAN: CAPITAL INVESTMENT BY STATE ENTERPRISES AND ORGANIZATIONS
(millions of current rubles)

	1980	1985	1986	1987	1988	1989	1990	1991	1992
Material Sphere	278	264	194	2,196	3,635	7,157	7,930	7,922	3,512
Agriculture including forestry	3	123	71	57	66	1,945	3,097	2,424	332
Agriculture excluding forestry	3	123	71	57	66	1,945	3,097	2,424	332
Forestry	..	..	..	..	..	..	..	..	..
Industry, total	0	0	46	2,078	3,241	4,593	4,374	4,429	3,092
Industry, other	..	..	46	2,046	3,061	3,850	3,886	3,980	3,059
Construction	..	..	..	32	180	744	488	449	33
Other, material sphere	275	141	78	62	328	618	458	1,069	88
Transportation of goods	..	..	..	..	..	..	..	..	..
Maintenance of roads	..	39	9	..	78	..	84	11	21
Communication (for material production)	..	73	55	27	46	91	178	210	35
Wholesale trade	..	..	..	..	..	..	..	..	..
Retail trade and catering	275	16	5	..	178	278	..	275	33
Material supply	..	9	9	..	27	208	34	241	..
Procurement	..	5	..	..	..	..	..	149	..
Information and computing services	..	..	..	..	..	41	..	..	..
Other branches of material production	..	..	..	34	..	..	162	183	..
Nonmaterial Sphere	241	80	192	135	859	1,870	2,819	2,992	1,274
Transportation	..	..	..	..	322	828	942	607	25
Communication	..	..	..	..	..	..	..	..	..
Housing	127	..	2	84	354	1,042	1,072	1,412	800
Public utilities and personal services	..	80	153	2	41	..	217	296	160
Health care, social security, physical culture and sports	18	..	7	23	94	..	205	237	63
Education	..	..	5	..	23	..	205	329	95
Culture and art	..	..	21	..	..	..	73	87	15
Science and scientific services	..	..	..	25	25	..	21	21	..
Credit	29	..	5	..	..	..	84	..	116
Insurance	..	..	..	..	..	..	..	..	..
General administration and defense	..	..	..	..	..	..	..	..	..
Private nonprofit institutions serving households	67	..	..	..	..	..	..	3	..
Other, material and nonmaterial spheres	516	221	269	196	1,187	2,488	3,277	4,060	1,362
Total Capital Investment	519	344	385	2,331	4,494	9,027	10,748	10,913	4,785

Source: State Statistical Committee of Tajikistan.

TABLE 10-2: TAJIKISTAN: WORK IN PROGRESS IN CONSTRUCTION (millions of current rubles)

	1980	1985	1986	1987	1988	1989	1990	1991	1992
Material Sphere	511.8	831.0	951.0	1,035.3	1,184.9	1,260.7	1,484.0	2,015.6	6,555.7
Agriculture including forestry	203.1	337.4	388.8	301.3	319.2	316.3	336.4	429.4	923.7
Agriculture excluding forestry	202.7	337.0	388.4	301.3	319.1	315.9	336.2	429.0	922.9
Forestry	0.4	0.4	0.4	..	0.1	0.4	0.2	0.4	0.8
Industry, total	285.3	471.3	527.6	699.3	821.3	887.7	997.9	1,492.0	5,208.6
Industry, other	277.1	445.0	501.1	623.4	741.5	818.2	926.5	1,389.0	5,047.7
Construction	8.2	26.3	26.5	75.9	79.8	69.5	71.4	103.0	160.9
Other, material sphere	23.4	22.3	34.6	34.7	44.4	56.7	149.7	94.2	423.4
Transportation of goods	..	..	..	..	..	..	..	..	..
Maintenance of roads	10.3	10.8	20.9	21.9	25.3	35.5	120.2	46.1	175.8
Communication (for material production)	3.2	6.5	5.7	6.2	6.5	6.9	8.8	17.6	41.4
Wholesale trade	..	..	..	..	..	..	..	..	..
Retail trade and catering	5.1	3.9	5.7	5.9	10.5	9.0	13.9	24.4	87.6
Material supply	2.8	0.9	1.1	0.6	1.8	4.2	3.6	6.1	0.5
Procurement	..	..	..	..	..	..	..	..	17.7
Information and computing services	..	..	..	..	..	..	..	..	1.1
Other branches of material production	2.0	0.2	1.2	0.1	0.3	1.1	3.2	..	99.3
Nonmaterial Sphere	182.9	216.5	198.1	295.6	320.9	463.0	555.1	872.8	2,804.9
Transportation	5.3	6.3	6.3	13.6	24.8	30.8	24.1	47.5	116.9
Communication	..	..	..	..	..	..	..	..	..
Housing	54.6	82.0	98.0	115.4	118.0	163.0	201.6	303.0	1,246.7
Public utilities and personal services	62.7	56.9	..	62.6	85.9	118.4	148.3	231.9	619.8
Health care, social security, physical culture and sports	13.8	22.5	27.1	30.6	..	46.5	57.5	87.1	280.5
Education	28.8	34.2	49.0	54.2	62.8	66.5	80.8	136.0	442.0
Culture and art	5.4	2.7	3.2	4.1	8.2	10.0	9.7	14.1	41.9
Science and scientific services	1.2	1.2	4.5	4.5	9.3	12.1	12.1	16.3	32.0
Credit	..	..	..	..	..	..	..	..	..
Insurance	..	..	..	..	..	..	..	..	..
General administration and defense	..	..	..	..	..	..	..	..	..
Private nonprofit institutions serving households	11.1	10.7	10.0	10.6	11.9	15.7	21.0	36.9	25.1
Other, material and nonmaterial spheres	206.3	238.8	237.7	330.3	365.3	519.7	704.8	967.0	3,228.3
Total work-in-progress in construction	694.7	1,047.5	1,149.1	1,330.9	1,505.8	1,723.7	2,039.1	2,888.4	9,360.6

Source: State Statistical Committee of Tajikistan.

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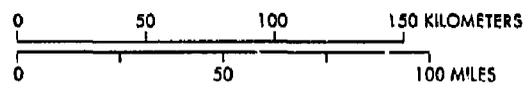
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- SELECTED CITIES
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- ⊙ OBLAST CENTER
- ⊙ NATIONAL CAPITAL
- - - - - AUTONOMOUS OBLAST (AO) BOUNDARIES
- · - · - · - OBLAST BOUNDARIES**
- +—+— INTERNATIONAL BOUNDARIES

* Area with no oblast level administrative divisions, where rayons are under direct republic jurisdiction.
 ** An oblast is noted only when its name differs from that of its administrative center.



The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.



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