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Leveraging the Potential of the Services Sector to Support Accelerated Growth in Senegal

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Abstract

Services play a major role in the Senegalese economy, accounting for 66 percent of economic activity and contributing nearly three-quarters of gross domestic product growth between 2006 and 2013. During the period, the private sector contributed 71 percent of services and accounted for 84 percent of its contribution to growth. The dynamism of private services is driven primarily by telecommunications and financial services: while the two sub-sectors made up 21 percent of private services, they accounted for nearly half (48 percent) of the contributions of private services to growth during the period. These trends are projected to improve in the future. Available data on employment and credit confirm the critical importance of services. In 2013, over 50 percent of credit to the economy was devoted to services, and 55 percent of the labor force was employed in the services sector, including 36 percent of the rural workforce and as much as 80 percent of the urban workforce.

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Leveraging the Potential of the Services Sector to Support Accelerated Growth in Senegal

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1. INTRODUCTION

Situated in the extreme west of the African continent, Senegal lies at the confluence of Europe, Africa and the Americas, and at the crossing point of major sea and air routes (WTO, 2003). This geographical advantage, and the unique historical antecedents associated with it, offers the country significant potential for competitiveness in services.[2] Senegal was the political and economic headquarters capital of colonial French West Africa, and subsequently among the headquarters of the financial system of the West African Economic and Monetary Union (WAEMU).[3] As a result of the latter, the country is home to a majority of banks and banking profits in the Union, ensuring that financial services are most deepened in Senegal relative to other member countries. The capital city, Dakar, is one of the most globally connected among African cities, offering a variety of choices for travel and trade.

Infrastructure for services had been well developed at the beginning of the twentieth century. Earliest communication systems were developed for the purpose of facilitating and coordinating international trade.[4] The first telegraph line was constructed in 1859 to facilitate communications between the country's capital, Saint Louis, and Gandiole, a major trade crossroad located 15 kilometers to its south. By 1900, telegraph lines connecting Saint Louis with major cities including Goree, Sedhiou and Ziguinchor were already completed. The wireless French West Africa radio telegraph network was developed in 1911 to facilitate communication between ships and the coast. Radio mass communication emerged with the establishment of Radio Dakar in 1939. Other international stations, notably from France and other African stations began transmitting into Senegal through short-wave and intermediate frequencies until the emergence of *Dakar FM* in 1990 and *Africa No 1* in December 1992. Radio transmission continued under public aegis until

[2] Following the World Bank definition, services correspond to the International Standard Industrial Classification (ISIC) divisions 50-99 of the UN and include value added in wholesale and retail trade, including hotels and restaurants, transport, financial, professional, personal services such as education and health care, real estate services and government. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources.

[3] The West African Monetary Union (WAEMU) was initially created in 1962 and was subsequently reconfigured into WAEMU in 1994. The member countries of WAEMU are Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo.

[4] Sagna (2000) provides an overview of this development.

July 1994 when the first private radio station, Sud FM, emerged following a liberalization of the airwaves in 1993. Television service first appeared in 1965, with the emergence of a national channel. Private channels emerged after the liberalization of communication services in 1993 with Excaf Télécom beginning television transmission. Use of computers also began in the 1960s by the Ministry of Economy and Finance and the internet followed in late 1980s. By 1996, Senegal had 141 radios and 41 televisions per 1,000 inhabitants and 11.4 computers per 1,000 inhabitants (World Bank 1999). The country officially connected to the internet through a 64Kbps link in March 1996, and upgraded to 1 Mbps in 1997 and 2Mbps in 1999. As of 1999, the International Telecommunications Union (ITU) rated Senegal as the second most advanced country (next to South Africa) in communications infrastructure and services based on financial and quality indicators of network functioning and productivity.[5]

As a member of the West African Economic and Monetary Union (WAEMU), many of Senegal's trade and monetary policies are formulated at the regional level. However, the country maintains a certain degree of autonomy in these areas (WTO, 2003). The economy transitioned substantially from state control and government support of production and consumption toward market competition through several reforms implemented over the years starting from 1994. These reforms have been more beneficial to the services sector composed principally of communications, trade, tourism, financial and business services, with communications benefiting more than other sectors.

Historically, the communications industry was organized as a monopoly in which the state-owned telecommunications provider Sonatel (Société Nationale des Télécommunications du Senegal) had exclusive monopoly in the sector. As part of the reforms negotiated on the WTO platform in 1997, the government committed to ending the monopoly by 2006. As a result of opening the telecommunications sector (both fixed and mobile services) to competition, the number of fixed telephone lines increased from about 100,000 in 1997 to 250,000 in 2001; mobile telephone lines grew to 550,000 by 2002 and mobile services were provided by two GSM operators – Alize, a

[5] CIDIF, State Telecommunications 1999 http://inforoutes.cidif.org/documents/consultation.cfm, quoted by Sagna (2001).

subsidiary of Sonatel, and Sentel, a subsidiary of a private company Millicom. By December 2014, the size of the markets grew to 312,000 fixed lines and 14.4 million mobile lines.[6]

The reforms also extended to the ICT sector. By 2002, there were 11 internet service providers in the country (WTO 2003). The number of internet connections (fixed and mobile) grew to 6.9 million by end of 2014. The tourism sector received significant attention in the country's Poverty Reduction Strategy Paper (PRSP) that was developed in 2001. Efforts to strengthen the sector included a focus on infrastructure renewal, reforms targeting the aviation and tourist attraction sectors and focused on crime and environmental health, and a tourist code that provided incentives for investment in tourism in addition to the general investment incentives provided in the investment code. The financial services industry is considered to be very healthy. Similar to communications, Senegal made commitments regarding the financial services sector as part of the WTO/GATS negotiations that ended in 1998.[7]

The series of reforms implemented have helped to liberalize the economy, propelled a vibrant private sector that is essential to the dynamism of the economy, unleashed the potentials of services, and ushered in a period of strong economic growth that was driven importantly by the targeted sectors. Two sectors, communications and financial services, are central to private sector dynamism. While the two sectors accounted for 21 percent of the private services sector, they accounted for nearly half (48 percent) of its contribution to growth. Indeed, these sectors are presently the most dynamic activity sectors and constitute the foremost foundations for future economic development. Emerging service activities are typically concentrated in Dakar but subsequently extend to other urban centers in the country. Whereas communications and financial services have followed this pattern, the tourism sector has not, thus limiting its growth and contributions to the economy.

This paper investigates the impact of the services sector on GDP growth in Senegal and its policy implications for sustainable development. After this short introduction, section 2 will examine

[6] Senegal's cellular networks have developed rapidly since the 2000s, and geographic coverage reached 106.5 percent in 2014. Mobile coverage in Senegal is on par with regional economic leaders such as Cape Verde (100.1 percent) and Ghana (108.2 percent) and greatly exceeds the SSA average (66 percent).

[7] The banking system is subject to both common regulations and the prudential framework of WAEMU. The insurance industry is subject to monitoring and regulations of the Conférence Interafricaine du Marché des Assurances (CIMA) which regulates the industries across the franc zone.

historical developments of the services sector in Senegal. Section 3 will look at the contribution of the services sector, while section 4 will discuss prospects for the services sector. Finally, section 5 will emphasize selected policy recommendations to position the services sector as the main driver of GDP growth in Senegal and will conclude the paper.

2. ECONOMIC DEVELOPMENT IN THE POST-DEVALUATION PERIOD

2.1. THE UNUSUAL TRAJECTORY OF STRUCTURAL TRANSFORMATION

In the typical structural transition experienced by the Western developed economies and non-Western emerging economies, the economy shifts from agriculture to industrial production as productivity rises in agriculture and value chains develop that link the agricultural sector to industrial processing. These in turn lead to reduction in demand for agricultural labor and release more workers for employment in industries. A similar process is repeated for transition from industry to services. Industrial productivity reaches high levels and education and technical experience levels rise in order to provide the skills required in the service economy. Public infrastructure investments in combination with private investments spur the growth of services, and induce a shift of workers into the sector. Many of the skills required in the service economy would already have been developed during the industrial stage of the transition.

From a historical viewpoint, the trajectory of the Senegalese economy is atypical. Instead of agriculture, it was trade that constituted Senegal's primary early economic pole. Indeed, as early as the 1980s, the Senegalese economy was already a tertiary economy, with the tertiary sector accounting for 61.9 percent of the economy (table 1). Between the periods 1981-1990 and 2006-2013, the share of the tertiary sector expanded further from 61.9 to 65.6 percent (an increase by 3.7 percentage points), driven by increase in the share of private services from 25.2 to 30.6 percent (an increase by 5.4 percentage points). In turn, this gain in share arose from gains in the share of communications (4.8 percent) and financial and business services (an increase by 3.0 percentage points). These sectors have recently emerged as frontline drivers of output and exports.

TABLE 1: STRUCTURE OF SENEGAL ECONOMY, 1981-2013

Sector share	1981-1990	1991-1994	1995-2005	2006-2013
Primary Sector	**19.6**	**17.7**	**16.2**	**13.8**
Agriculture	12.7	10.3	8.9	7.1
Secondary Sector	**18.6**	**21.2**	**21.3**	**20.6**

Manufacturing	12.2	14.0	14.0	12.1
Extraction	1.1	1.0	1.1	1.7
Construction	2.4	3.1	3.7	4.3
Tertiary Sector	**61.9**	**61.2**	**62.5**	**65.6**
Private	***42.0***	***42.9***	***44.0***	***46.7***
Commerce	16.8	17.1	17.3	16.1
Services:	*25.2*	*25.8*	*26.7*	*30.6*
Transportation	4.7	4.5	4.0	4.1
Post & Telecoms	1.9	2.4	3.5	6.7
Education	5.3	4.7	3.4	3.8
Health/Social Serv.	1.8	1.8	1.5	1.3
Hospitality	1.0	1.0	1.0	0.8
Financial & Business Services	5.0	5.5	6.7	8.0
Real Estate	4.9	5.4	5.8	5.5
Government	***19.9***	***18.3***	***18.5***	***18.9***
Public Administration	8.8	8.4	6.9	6.3
Net Taxes	11.1	9.9	11.6	12.6
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: Senegal country sources

The growth dynamics behind the trajectory of Senegal's economy is examined in comparison with WAEMU and Sub-Saharan Africa (SSA) representative economies. Compared to an average of 0.9 percent during 1990-1994, Senegal's economy grew at a robust rate of 4.5 percent per year in the immediate post-reform period from 1995 to 2005, but slowed to 3.4 percent between 2006 and 2013. While growth of the tertiary sector receded slightly, rates in the primary and secondary sectors fell by nearly 50 percent between 1995-2005 and 2006-2013. The domineering role of services in Senegal stands out in comparison with WAEMU and SSA. Whereas the services sector remained the dominant growth pole in Senegal, it was the industrial sector that played the role in the representative WAEMU economy. Given Senegal's membership in the union, it thus appears that Senegal is quite apart structurally from the remaining members of the union, which is reasonable considering Senegal's unique historical antecedents. In contrast, the growth pole shifted directly from agriculture to services in SSA in reflection of the general shift directly from primary sector to tertiary sector occurring in the region (table 2).

TABLE 2: ANNUAL REAL GDP GROWTH BY SECTOR, 1995-2013

	Senegal		**WAEMU**		**SSA**	
Growth rate	**1995-2005**	**2006-2013**	**1995-2005**	**2006-2013**	**1995-2005**	**2006-2013**
GDP	4.5	3.4	3.9	4.1	4.3	4.7
Agriculture	4.8	2.8	4.2	3.5	5.1	4.9

Industry	4.6	2.4	5.4	4.8	3.9	3.5
Tertiary Sector	5.4	4.4	4.6	4.1	4.3	5.5

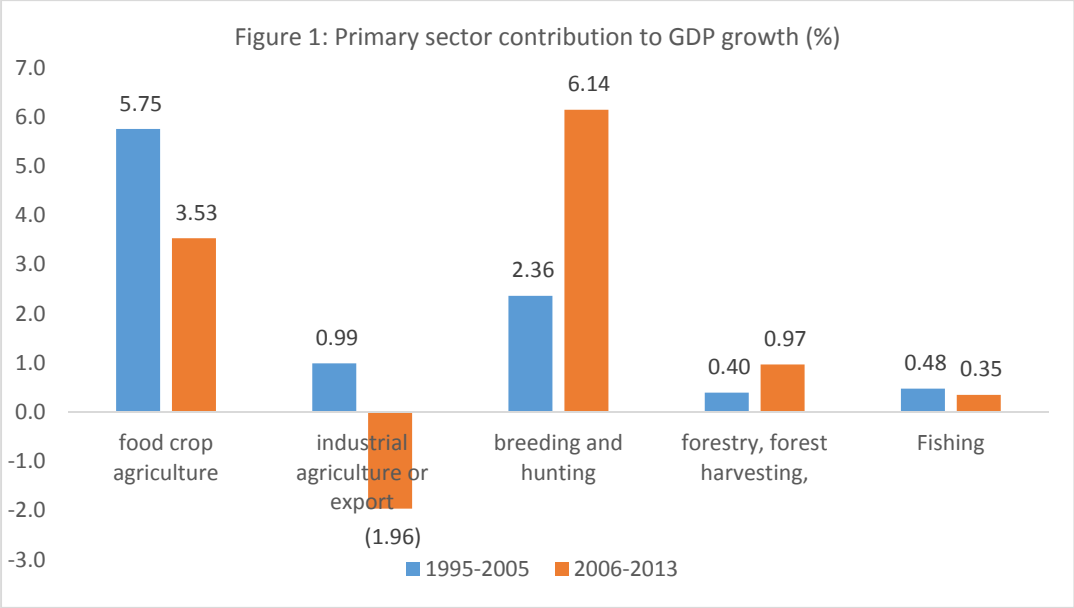
Source: Senegal country sources and World Bank

Growth rates in agriculture and industry decreased between the two periods across the regions being compared, owing partly to the financial crisis that occurred between 2008 and 2009. However, the halving of the growth rates in Senegal, in contrast to shaving off rates in the other representative economies, is the result of differentially significant challenges to the sectors in Senegal.

2.2. COLLAPSE OF THE PRIMARY SECTOR

The agriculture sector faced declining productivity that was driven by a combination of adverse climatic conditions and commodity price shocks. As a Sahelian country, Senegal is inherently vulnerable to unreliable rainfall. Agriculture remains largely rain-fed and irrigation infrastructure is not particularly strong, exposing crop production to the ravages of flooding and droughts. The sector also suffered from adverse food price shocks emanating from the commodities market, the impact of which is magnified by the inefficient domestic market. Between 1995 and 2013, agricultural growth was negative in 6 of 19 years, with contractions as severe as 35 percent in 2002 and 28 percent in 2011. Real value-added per worker in agriculture fell from $380 during 1995-2005 to $362 in 2006-2013 in Senegal (a decrease by 5 percent) while it increased from $561 to $641 in WAEMU (an increase by 14 percent) and from $500 to $653 (an increase by 30.6 percent) in SSA.[8] Crop production, fishing and industrial (or export) agriculture, which on average jointly accounted for two-thirds of the primary sector all experienced decline in growth during 2006-2013, and thus in contribution to overall growth (Figure 1). The decline is most pronounced in industrial agriculture where growth was negative in four of eight years, reaching as low as -45 percent in 2011, in effect slowing down growth from 6.3 percent in 1995-2005 to 0.9 percent in 2006-2013, and contracting by -3.4 percent in 2014. Thus, its contribution to GDP growth reversed from +1 percent to -2 percent during the respective periods. This weakness is attributable to high production costs, including energy cost, and lack of competitiveness in both input and output markets.

[8] World Bank Development Indicators 2014.



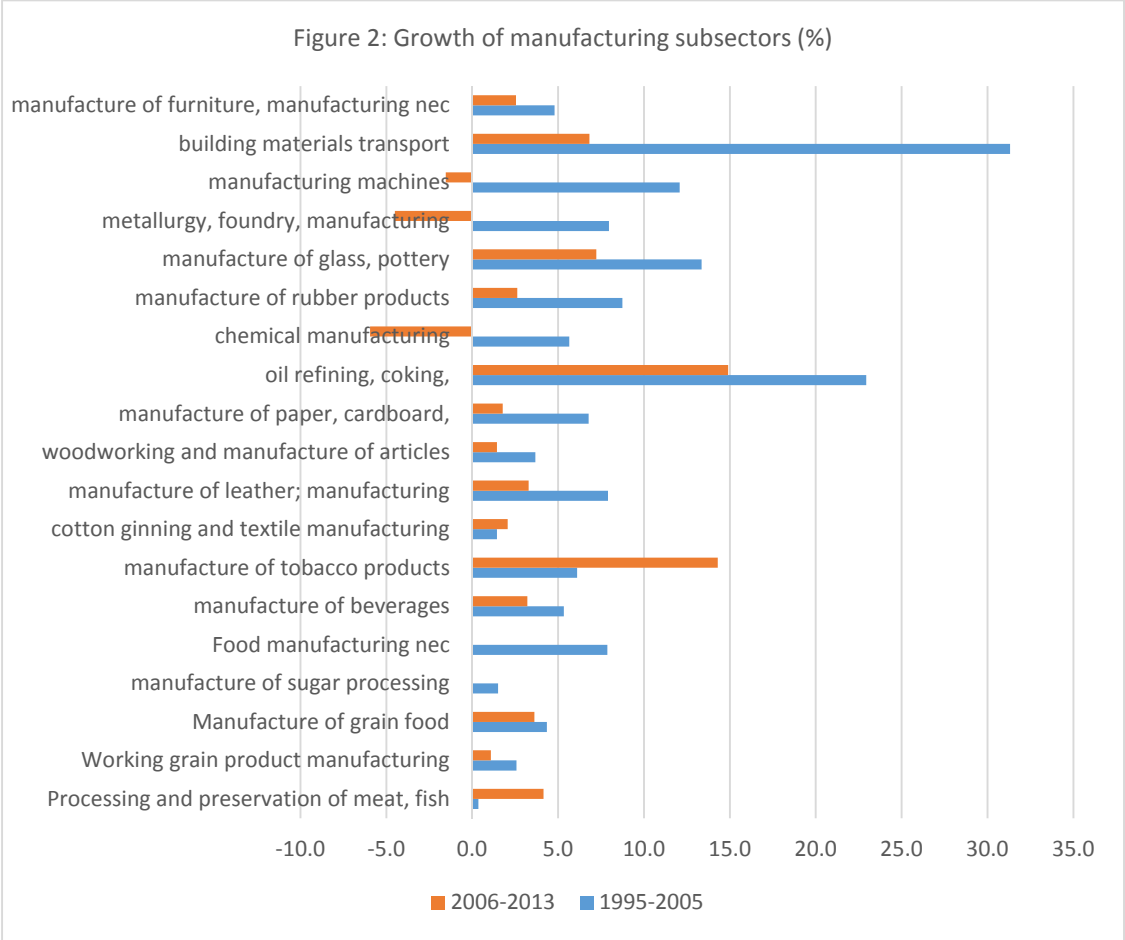
Source: Senegal country sources

However, livestock and forestry are bright spots in the sector. Efforts to strengthen irrigation infrastructure, address the challenges of agro-processing and deal with constraints in the fishing sector, while promoting livestock and forestry, are needed to reverse the decline in the sector. In addition, horticulture products, such mango, sweet potato, tomato, melon, banana, ginger, and tamarind, hold immense potentials for the future of agriculture in the country, both as important export earners as well as opportunities to strengthen industrial agriculture through agribusiness development. Export (tonnage) of these products grew at 16 percent per annum during 1991-2011 and domestic conditions such as favorable ecology, low cost of labor and proximity to European markets create conditions for growth of exports (Brethenoux et al 2011). Within industrial agriculture, horticulture has been performing well, increasing its exports from 10,728 tons in 2003 to 60,000 tons in 2013, or an annual average increase of 19 percent. A refocus on value chains in these products through agribusiness will help reduce wastages, strengthen local production, and encourage farmers to diversify their activities.

2.3. Loss of Manufacturing Competitiveness

The decrease in manufacturing growth was widespread across subsectors ranging from food manufactures to machine and chemical manufactures (figure 2). Comparing the two periods, only two subsectors, food packaging (preservation) and tobacco products, recorded higher growth rates

during 2006-2013 compared to 1995-2005. Elsewhere, growth slowed down or the subsector actually contracted (food, sugar, chemicals, metallurgy and machines). These outcomes are driven by a combination of declining productivity in agriculture and constraints to manufacturing productivity, including the poor state of infrastructure reflected in, for example, the poor quality of electricity supply (Senegal ranks 111th in the Global Competitiveness Index 2014-2015, worse than its WAEMU neighbors such as Mali, 101st and Côte d'Ivoire, 96th).

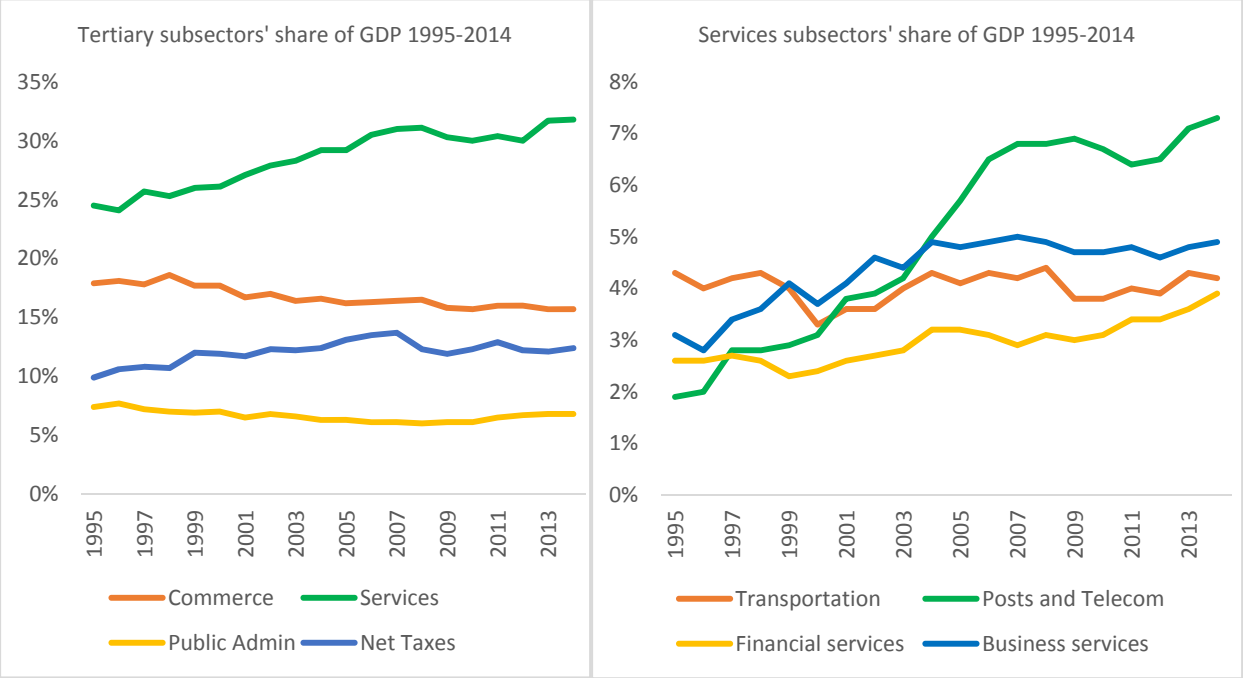


Source: Senegal country sources

2.4. Value Addition in the Services Sector

The prominent drivers of services growth are communications, financial and business services, and transportation, in decreasing order of importance (figure 3).

FIGURE 3: SERVICES AND SERVICE SUBSECTORS



Communications, the largest services subsector, exhibited the most dynamic growth at the rate of 13.6 percent per annum, leading to nearly quadrupling its share of the economy from 1.9 percent to 7.1 percent between 1995 and 2013. The financial services subsector grew at an annual average rate of 7 percent during 1995-2005, accelerating to 8.6 percent in 2006-2013 and reaching a remarkable double-digit growth of 12.7 percent in 2014.

The subsector is projected by country sources to grow at 10 percent per year during the 2015-2018 period. Senegal's position as the financial center of francophone West Africa has enabled the country to benefit from regional financial deepening, as well as the expansion of domestic financial markets and the real estate subsector. Transportation had been a major service subsector, but recent performance has been less impressive. The subsector was among the top three subsectors driving services growth during 1995-2005, but fell behind to the sixth during 2006-2013, due principally to its growth slowdown from 5.3 percent during the former to 2.9 percent in the latter period.

Tourism has considerable growth potential, but the subsector is very small and its performance, judged by hotels and restaurants, has weakened since 2007. After growing by 3 percent annual growth from 1995 to 2005, the subsector stalled and then contracted, posting an average growth rate of negative 1 percent from 2006 to 2013. The subsector has suffered a number of shocks, both

domestic and external, including environmental degradation, low rates of public investment, depressed demand in European consumer markets, and the negative reputational effects of the recent Ebola outbreak in the sub-region.

Growth in education, health care and other social services could sustain the momentum of the tertiary sector and promote greater economic inclusiveness as Senegal continues to undergo the demographic transition. Persistently high birth rates coupled with declining mortality rates have increased demand for social services, especially among the youngest and oldest segments of the population. Over the medium term, demand for these services is expected to intensify even as fertility rates begin to fall, as households with fewer children will likely invest more in the quality of education and health services. While real estate has grown slowly in recent years, it remains the second-largest tertiary subsector. The PSE is expected to have major implications for the future of Senegal's real estate market. The government's strategy calls for large-scale public infrastructure and urban development projects, which could greatly increase the demand for real estate, particularly in major cities.

3. Economic Contribution of Services

3.1. Output Growth

The tertiary sector contributed 68.8 percent and 75.9 percent of GDP growth during 1995-2005 and 2006-2013, respectively (table 3). Of these, private services accounted for 36.6 percent and 49.9 percent, amounting to 53.2 percent and 65.7 percent of tertiary sector's contributions to growth during the respective periods, as services share of the economy increased from 26.7 percent to 30.6 percent between the two periods. Meanwhile, commerce, the second-largest component of the tertiary sector, remained virtually stagnant, and its share of the economy fell from 17 percent to 16 percent.

Sectoral contributions to GDP growth depend on sectoral growth rates and sector composition (shares) of GDP, allowing the possibility of attributing large contributions to slow-growth sectors with large shares of GDP, thus diminishing the importance of sectoral dynamism. A share-adjusted index that standardizes contribution to GDP growth for sector size is presented in Table 3.

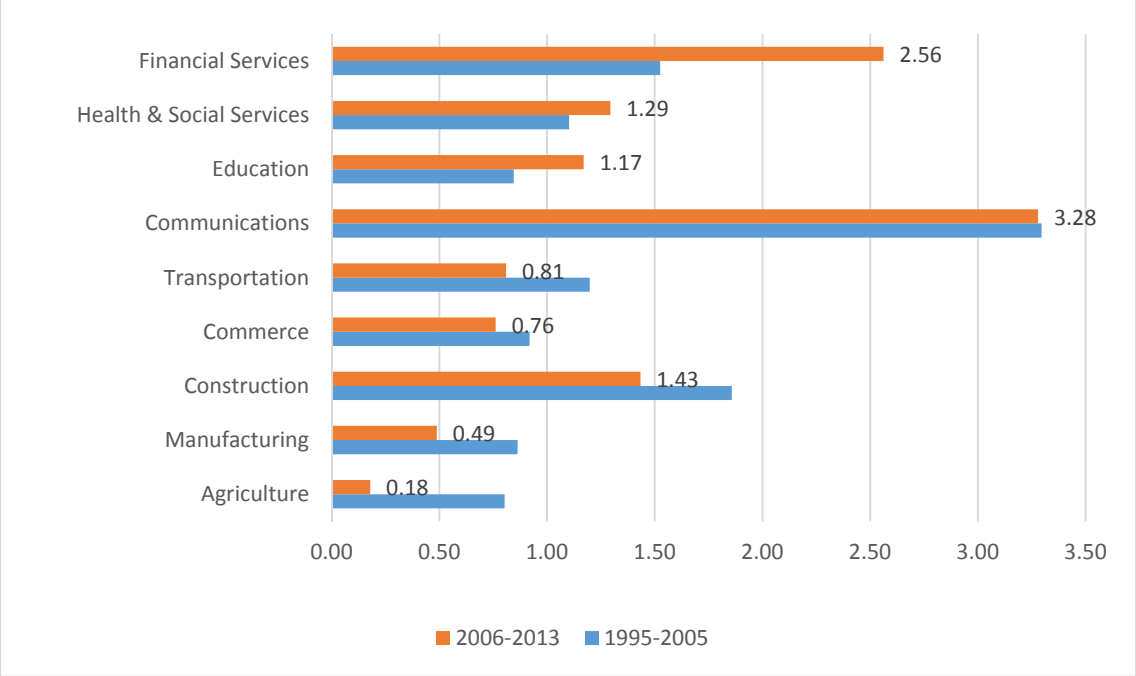
TABLE 3: REAL SECTORAL GROWTH RATES, CONTRIBUTIONS TO REAL GDP GROWTH, GDP SHARES AND SHARE-ADJUSTED CONTRIBUTIONS TO GDP GROWTH, 1995-2013*

	Average Annual Growth (%)		Contribution to Growth (%)		Share of GDP (%)		Share-adjusted Contribution to GDP growth (%)	
	1995-2005	2006-2013	1995-2005	2006-2013	1995-2005	2006-2013	1995-2005	2006-2013
GDP	**4.5**	**3.3**	**100.0**	**100.0**	**100.0**	**100.0**	**1.00**	**1.00**
Primary Sector	**2.9**	**2.7**	**9.3**	**9.1**	**16.2**	**13.8**	**0.57**	**0.66**
Agriculture	4.8	2.8	7.2	1.3	8.9	7.1	0.80	0.18
Secondary Sector	**4.6**	**2.4**	**21.9**	**15.0**	**21.3**	**20.6**	**1.03**	**0.73**
Manufacturing	3.9	1.6	12.1	5.9	14.0	12.1	0.86	0.49
Extraction	3.0	3.8	0.7	-0.1	1.1	1.7	0.64	-0.05
Construction	8.7	4.8	6.8	6.1	3.7	4.3	1.86	1.43
Tertiary Sector			**68.8**	**75.9**	**62.5**	**65.6**	**1.10**	**1.16**
Commerce	4.0	2.5	15.9	12.2	17.3	16.1	0.92	0.76
Services			***36.6***	***49.9***	***26.7***	***30.6***	***1.42***	***1.60***
Transportation	5.3	2.9	4.8	3.3	4.0	4.1	1.20	0.81
Post & Telecoms	15.2	11.3	11.4	22.0	3.5	6.7	3.30	3.28
Education	3.9	4.0	2.9	4.5	3.4	3.8	0.85	1.17
Health/Social Serv.	4.8	4.4	1.7	1.7	1.5	1.3	1.10	1.29
Hospitality	3.0	-1.0	0.7	-0.2	1.0	0.8	0.68	-0.23
Financial Services	7.0	8.6	4.1	8.2	2.7	3.2	1.52	2.56
Real Estate	3.5	2.9	4.5	4.7	5.8	5.5	0.78	0.87
Business Services	6.9	3.4	6.0	4.9	4.0	4.8	1.51	1.03
Government			**16.0**	**12.0**	**18.5**	**18.9**	**0.86**	**0.63**
Public Administration	1.8	3.1	2.8	5.9	6.9	6.3	0.41	0.93
Net Taxes	5.3	1.6	13.2	6.1	11.6	12.6	1.14	0.49

Source: Senegal Country Sources and authors' own estimates

Noticeably, the critical importance of services remains strong, after making this adjustment, with communications and financial services attaining the most outstanding contributions. Thus, recent growth is indeed services-biased, but the dynamism of the services sector, led by the two sectors is likely to extend into the longer term (figure 4). The communications subsector's contribution to GDP rose from 11.4 percent during 1995-2005 to 22.0 percent during the second period 2006-2013, representing 16.6 percent and 29.0 percent of the services sector's total contribution to GDP growth, respectively. The adjusted index reveals similar indicators, with communications accounting for the most dominant share of the service sector's contribution to economic growth.

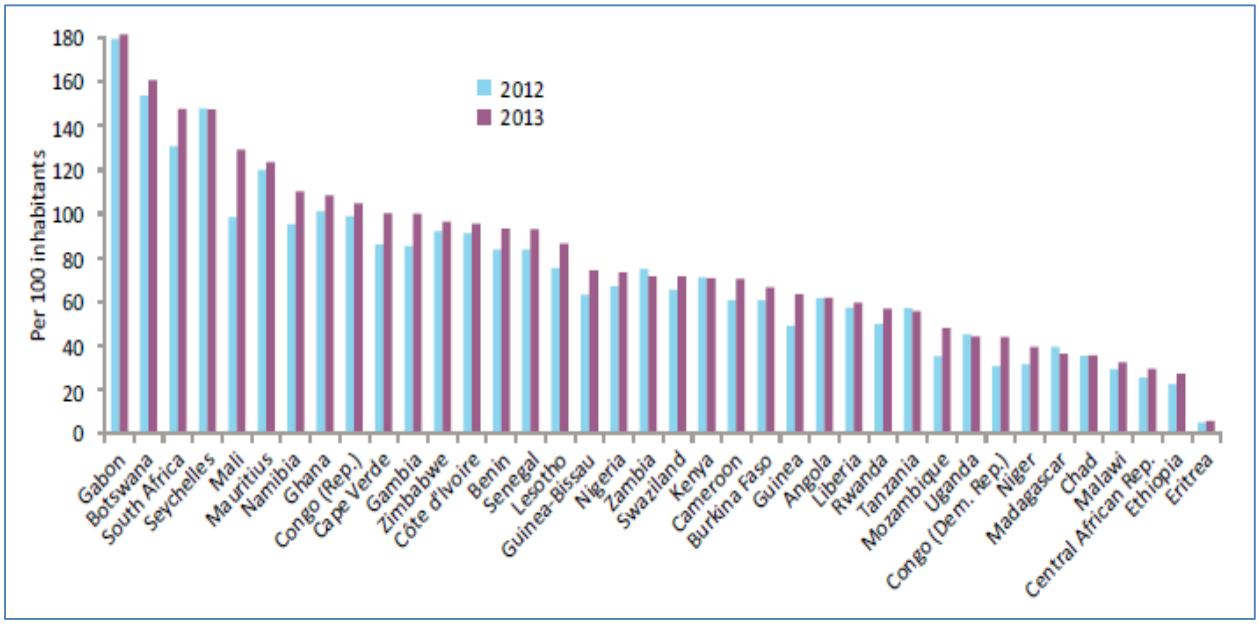
FIGURE 4: SHARE ADJUSTED SECTORAL CONTRIBUTIONS TO GDP GROWTH



Source: Senegal Country Sources and authors' estimates

Senegal can be classified as having entered the information society since the early 1990s based on its telecommunications infrastructure, radio network coverage, diversified audiovisual landscape, packaged satellite programming, connection to the information superhighway, and the use of information technology in different segments of society (Sagna 2000). Recent advances in ICT, including cellular communications, mobile banking, and wireless broadband internet, have served to deepen the economy. Cellular networks have developed rapidly since the 2000s, and geographic coverage reached 106.5 percent in 2014. Mobile coverage in Senegal is on par with regional economic leaders such as Cape Verde (100.1 percent) and Ghana (108.2 percent) and greatly exceeds the SSA average of 66 percent (Figure 5).

FIGURE 5: GEOGRAPHIC COVERAGE PER 100 INHABITANTS, 2012 AND 2013



Source: ITU, Measuring ICT Society (2014)

These developments have far-reaching implications for economic growth and development. Table 4 examines the growth and contribution of ICT capital services to GDP growth in comparison with four leaders in ICT services in Sub-Saharan Africa. Its average annual growth rate of 17.7 percent over 1995-2005 improved to 25.6 percent in 2006-2012, and this performance compares favorably with Cameroon, South Africa and Kenya while lagging only behind Nigeria. In terms of contribution to GDP growth, however, the sector outperforms the major ICT service economies on the continent with the exception of Nigeria's recent performance.

Table 4: ICT Capital Services in Sub-Saharan Africa

	Annual Growth Rate (%)		Contribution to GDP Growth (%)	
	1995-2005	2006-2012	1995-2005	2006-2012
Senegal	17.7	25.6	1.3	3.1
Cameroon	17.4	21.6	0.6	1.1
Kenya	8.4	18.9	0.5	1.2
Nigeria	26.0	33.7	0.6	3.4
South Africa	13.0	17.6	0.8	1.6

Source: The Conference Board Total Economy Database

3.2. INTERNATIONAL TRADE

Senegal's export of services tends to be concentrated in ICT services and tourism. During 2005-2012, ICT services accounted for 31 percent of service exports, better than other WAEMU countries (Côte d'Ivoire and Mali) as well as non-WAEMU countries included in table 5. Indeed, Senegal's services sector ranks among the most sophisticated in the group. However, this status of Senegal as the leading ICT-services producer and exporter has not translated into export of ICT goods. Although the country does better than the WAEMU comparator countries in terms of the share of ICT goods in total export of goods, it performed worse than the East African comparators – Kenya and Uganda – as well as South Africa. This lagging performance is perhaps a reflection of the lagging competitiveness of Senegal's manufacturing sector.

Tourism receipts were 16 percent of total exports during 2005-2012. Although higher than in Côte d'Ivoire and Mali, this performance was lower than those of the East African comparators. It is also clear from the table that Senegal is not very competitive in travel services. While history and location endows the country to become a travel and tourism destination, setbacks in transportation and lack of investment in the tourism sector have not allowed realization of the potentials.

Table 5: Service Export Indicators 2005-2012

	ICT service exports (% of service exports, BoP)	ICT goods exports (% of total goods exports)	Travel services (% of service exports, BoP)	International tourism, receipts (% of total exports)
Senegal	**31.49**	**0.53**	**39.81**	**16.24**
Côte d'Ivoire	30.76	0.37	11.40	1.26
Mali	28.64	0.13	55.32	11.25
Gambia	-	0.42	63.65	29.52
Kenya	-	0.81	25.00	18.29
Uganda	12.77	5.23	61.06	20.93
Nigeria	2.34	0.01	17.26	0.72
South Africa	11.32	1.15	64.64	10.57

Source: World Bank

Apart from ICT services, there has also been a complimentary shift of Senegal's exports toward technology-intensive goods. Table 6 shows the transition of merchandise export structure over the period 1995-2012. Over the period, there was a slight shift in export structure toward manufactures

across the board, but the shift was not substantial. However, the share of high value goods in manufactured exports was highest in Senegal; the share of high-skill and technology-intensive manufactures increased from 17.1 percent during 1995-2005 to 22.1 percent of total merchandise exports compared to WAEMU averages of 8.3 and 8.4 percent, respectively.

Table 6: Structure of Merchandize Exports 1995-2012

	Senegal		WAEMU		SSA	
% of merchandize export	1995-2005	2006-2012	1995-2005	2006-2012	1995-2005	2006-2012
Primary Commodities and Precious Stones	68.7	66.2	81.7	80.2	79.0	77.4
Manufactured goods	31.3	33.8	18.3	18.8	21.0	21.3
Labor Intensive and resource intensive manufacture	3.6	8.1	4.8	5.1	8.7	7.0
Low Skill and Technology Intensive manufacture	2.2	4.2	2.0	2.8	3.3	4.2
Medium Skill and Technology Intensive manufacture	3.5	4.3	3.1	2.6	3.5	3.7
High Skill and Technology Intensive manufacture	22.1	17.2	8.4	8.3	5.5	6.4

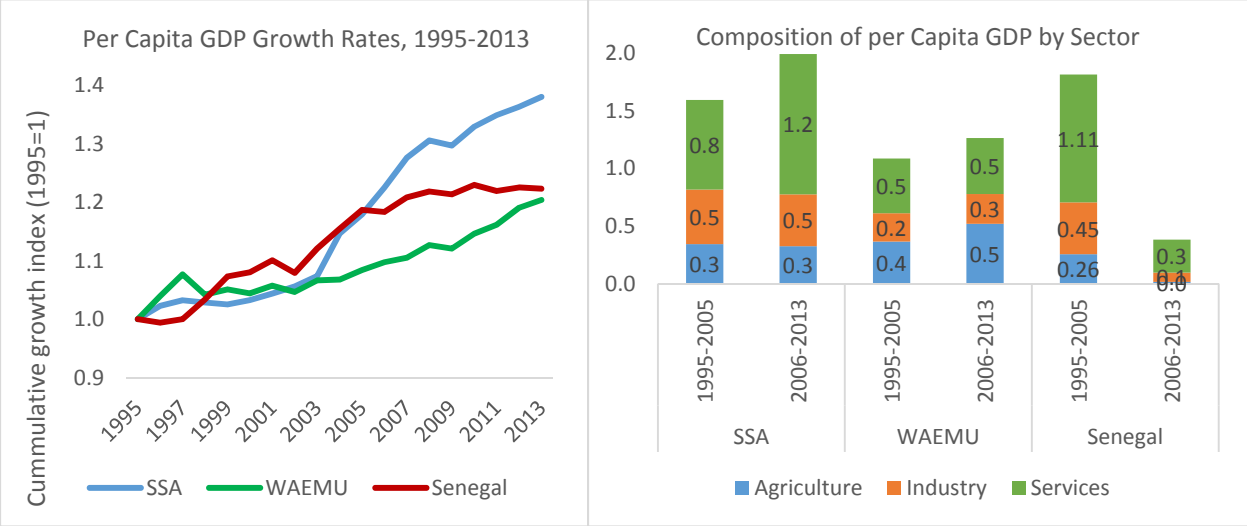
Source: World Bank and UNCTAD

3.3. EMPLOYMENT AND POVERTY REDUCTION

Senegal's per capita GDP rose by 1.81 percent during 1995-2005 and by 0.38 percent during 2006-2013, compared to averages of 0.97 and 1.32 for WAEMU and 1.59 and 2.00 for SSA over the same respective periods. A sectoral decomposition shows that the services sector's contribution to per capita growth in Senegal rose from 61 percent in 1995-2005 to 75 percent during 2006-2013.[9] Meanwhile, the sector's contribution increased from 49 percent to 61 percent in SSA and fell from 44 percent to 38 percent in WAEMU.

[9] There seems to be a disagreement between the country national accounts and the World Bank database in the construction of GDP per capital growth rates. Using data from country sources, the services sector contributed 69 percent and 76 percent to GDP growth during 1995-2005 and 2006-2013, respectively. Average population growth was 2.59 percent and 2.83 percent during the respective periods. Based on these, one would expect services' contribution to per capita GDP growth rates to be around 66.4 percent and 73.2 percent for the two periods. However, the numbers from WDI are 61 percent for 1995-2013 and 75 percent for 2006-2013, so that population had more than the expected effect on per-capita GDP growth in the earlier period and less than expected effects in the latter period. There is a potential explanation for this. Keeping output constant, a capital intensive production system will yield higher output per worker than a labor intensive technology. Thus, the observed difference is a reflection of technological change that minimizes the population growth effect significantly.

FIGURE 6: GROWTH AND COMPOSITION OF PER CAPITA GDP, SENEGAL AND COMPARISON COUNTRIES



Senegal's poverty headcount fell by 20 percentage points during 1995-2005, nearly by 2 percent per annum, but by only 1.6 percentage points during 2006-2011. Although the slowing pace of poverty reduction is a natural consequence of the decline in growth from 4.5 percent to 3.4 percent, this is not a sufficient explanation. The additional explanation is that growth of services during the latter period was exclusive to a large segment of the workforce. The prominence contributions of communications and financial services—which are more capital and skill intensive—to growth during 2006-2013 is consistent with this trend.

The distribution of labor across sectors suggests that services-driven growth is relatively employment inelastic. Between 1995 and 2004, employment growth was overwhelmingly concentrated in the informal sector, which accounted for 97 percent of new jobs. Thus, while services led GDP growth in the capital-intensive formal sector, commerce and agriculture led job creation in the labor-intensive informal sector. These differences may explain the dominant share of the informal sector in overall employment growth, and the majority share of agriculture in total employment (table 7).

TABLE 7: EMPLOYMENT GROWTH BY SECTOR AND SECTORAL SHARES IN EMPLOYMENT AND EMPLOYMENT GROWTH

	Annual Employment Growth, 1995-2004	Contribution to Employment Growth, 1995- 2004	Share of Total Employment, 2004 (%)
Agriculture	1.9	36.4	51.1
Fishing	1.4	1.2	2.3
Industry	2.6	12.2	13.1
Construction	3.5	2.6	2.1
Commerce	5.9	38.2	19.1
Services	3.7	10.8	8.2
Public Administration	1.7	2.6	4.2
Total	**2.8**	**100.0**	**100.0**
Formal Sector	1.1	2.7	6.2
Informal Sector	2.9	97.3	93.8

Source World Bank (2007)

The decomposition of GDP growth in Table 3 shows that commerce contributed most to GDP growth during 1995-2005. Decomposition of employment growth during the same period, presented in Table 7, also indicates that commerce contributed the most to employment growth durig the period. Table 8 below provides information on the level of skills in the sectors, showing that 90 percent of workers in the commerce sector completed not more than primary education. The information provided in the tables is complementary, showing that growth during 1995-2005 was inclusive and employment elastic; the growth driver sector coincided with the employment driver sector, and both educated and uneducated workers had opportunities in the growing economy. However, by 2011, the growth pole had shifted to "other services," where the proportion of workers that completed not more than primary education increased by only 0.60 percent between 2001 and 2011. Thus, the likelihood that this particular worker category will find jobs in the growing service economy might have decreased by about 20 percent.

Table 8: Employment by activity and instruction level (in %)

	Without education	Primary	Middle	Secondary	Post secondary	Total
			2001			
Agriculture	83.90	13.05	2.07	0.57	0.41	100
Industry	59.45	28.10	6.68	2.23	3.53	100
Commerce	73.68	15.98	6.36	2.44	1.54	100

Transports	59.77	31.86	3.72	0.70	3.95	100
Other Services	46.19	23.09	10.79	7.78	12.15	100
			2005			
Agriculture	86.10	11.39	1.87	0.57	0.06	100
Industry	51.30	35.20	8.83	3.36	1.31	100
Commerce	72.13	17.27	7.07	2.34	1.20	100
Transports	66.04	22.85	7.53	2.39	1.19	100
Other Services	40.72	25.08	14.54	9.28	10.37	100
			2011			
Agriculture	78.29	14.90	5.09	1.33	0.40	100
Industry	45.27	33.05	13.47	3.96	4.25	100
Commerce	64.25	23.71	8.72	2.52	0.80	100
Transports	46.34	23.49	15.43	10.64	4.10	100
Other Services	46.55	23.25	12.87	8.62	8.71	100
Source: ESAM2001, ESPS2005, ESPS2011						

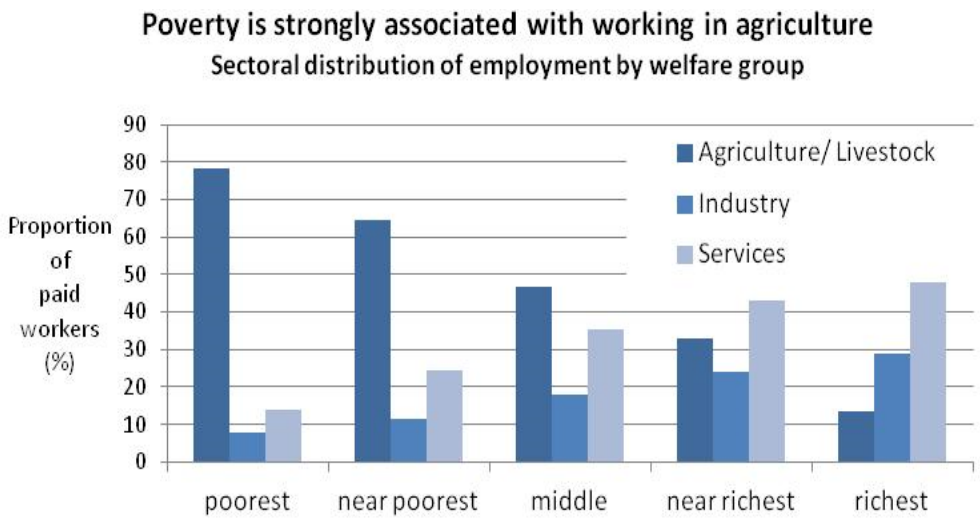
The foregoing is illustrated by a more aggregate picture. The services sector's share of total employment rose slightly from 31.5 to 33.8 percent between 2004 and 2011 (Figure 7). Notwithstanding the sector's dominance as a driver of GDP growth during 2006-2011, its expansion was not reflected in the growth of employment. While the services sector grew at an annual average rate of 4.9 percent between 2004 and 2011, employment in the sector grew by an average of only 1 percent per year.

FIGURE 7: DISTRIBUTION OF EMPLOYMENT BY SECTOR, 2004-2011 (%)

Source: World Bank (2007), Senegal Competitiveness Report (2011)

There is a strong correlation between poverty and sectors of economic activity. Figure 8 shows that the majority of the poor, about 80 percent of the poorest quintile, live in agricultural households while the majority of households in the richest quintile live in households engaged in the services sector. It also suggests that poverty reduces as household employment changes from agriculture to industry and further to services.

FIGURE 8: POVERTY AND SECTOR OF ACTIVITY



Source: Authors' calculations based on ESPS II, 2011

Poverty rates fell significantly between 2001 and 2005, while doing so only marginally between 2005 and 2011 (table 9). Between 2001 and 2005, poverty rates dropped by 3, 11, 7, 11 and 9 percent among workers in agriculture, industry, commerce, transport and other services, respectively. In contrast, the corresponding rates were 5, 2, 5, 4 and 0.73 percent between 2005 and 2011. While it is important to note that poverty fell by 5 percent in the agriculture sector (better than any other subsectors), the most alarming news is the indication that poverty did not fall significantly in the services sector during the latter period when services drove GDP growth.

Table 9: Poverty by activity and instruction level (%)

	Without education	Primary	Middle	Secondary	Post-Secondary	Total
			2001			
Agriculture	70.03	71.35	65.90	67.98	46.77	70.01
Industry	55.91	48.54	43.02	25.81	19.62	51.02
Commerce	49.46	38.74	23.34	23.57	17.59	44.96

Transports	57.76	48.03	27.33	50.00	11.38	51.64
Other Services	59.61	46.34	28.54	19.66	14.56	44.61
			2005			
Agriculture	66.94	69.00	61.23	45.60	77.83	66.95
Industry	44.77	39.99	29.27	18.37	5.06	40.31
Commerce	42.07	32.05	26.37	12.34	1.17	38.04
Transports	43.65	42.93	18.77	14.33	0.00	40.39
Other Services	48.51	39.28	23.74	18.99	7.79	35.63
			2011			
Agriculture	63.55	57.61	56.63	57.58	8.18	62.01
Industry	46.02	40.00	27.90	6.79	2.58	38.19
Commerce	36.47	28.80	23.96	12.11	10.22	32.73
Transports	43.40	54.08	13.18	15.13	1.88	36.54
Other Services	41.83	40.10	24.01	22.54	12.37	34.90
Source: ESAM2001, ESPS2005, ESPS2011 and authors' calculations						

However, a deepening of the information economy through ICT has the potential to reverse this trend. Consider the case of mobile technology services. Mobile phones enhance access to information, and as a consequence, reduce search costs, improve coordination between economic agents, and thus increase market efficiency. While direct employment benefits of mobile technology for the unskilled population may be limited to jobs in airtime sales, repair and support services including battery charging, the indirect benefits through an efficient information system can be substantial. Evidence shows that real-time information on agricultural prices in local and international markets facilitated by the Manobi platform is associated with more than 40 percent increase in farmers' incomes.[10] Such increase in incomes can yield substantial employment and instant poverty effects.

4. THE SERVICES SECTOR, PLAN SENEGAL EMERGENT, AND FUTURE OF THE EONOMY

Katz and Koutroumpis (2014) estimate the direct and indirect impacts of ICT on the Senegalese economy. Taken together, these impacts amount to 13.1 percent of GDP in 2012 and contributed 22.6 percent of growth between 2005 and 2012. Their estimates, based on a linear production function which has capital, labor and mobile penetration as input factors, yielded an elasticity estimate of 0.061, associating a 1 percent increase in mobile penetration with a 0.061 percent

[10] Dalberg (2013). "Impact of the Internet in Africa."

increase in GDP growth. However, investment in ICT capital is expected to yield a more profound effect on growth than mobile penetration, with the estimate of the capital elasticity of growth as high as 0.785.

ICT also exhibits enormous potential to drive the inclusive growth and poverty reduction being pursued in the PSE. Katz and Koutroumpis (2012) estimate the direct and indirect employment effect of telecommunications in Senegal, and find that approximately 20 indirect jobs are created in the economy for one direct job created in the sector. Thus, a deepening of communications portends a boon for job creation and poverty reduction.

To gauge the potential effect of ICT deepening on income and wealth distribution, Table 10 presents multinomial logit estimates of individual sorting into wealth quintiles depending on the sector of activity.

Table 10: Multinomial logistic regression of the probability to belong to a quintile group referred to Q1 groupe

		Coef.	**Std. Err.**	**z**	**P>z [95%]**	**Conf.**	**Interval]**
Quintile 1	(base outcome)						
Quintile 2							
	taille	-0.017	0.000	-140.230	0.000	-0.018	-0.017
	Female	-0.674	0.002	-269.750	0.000	-0.679	-0.669
	Agriculture	0.482	0.002	213.260	0.000	0.478	0.487
	Industry	1.124	0.004	294.140	0.000	1.116	1.131
	Commerce	0.383	0.003	111.250	0.000	0.377	0.390
	Transport	-0.653	0.007	-93.080	0.000	-0.667	-0.639
	Other services	0.496	0.004	138.110	0.000	0.489	0.503
	Urban	0.391	0.002	178.620	0.000	0.386	0.395
	Constante	0.369	0.003	110.880	0.000	0.363	0.376
Quintile 3							
	taille	-0.066	0.000	-485.110	0.000	-0.067	-0.066
	Female	-0.409	0.003	-163.300	0.000	-0.414	-0.404
	Agriculture	0.006	0.002	2.530	0.011	0.001	0.010
	Industry	0.509	0.004	129.140	0.000	0.502	0.517
	Commerce	0.834	0.003	263.530	0.000	0.828	0.840
	Transport	-0.930	0.007	-140.090	0.000	-0.943	-0.917
	Other services	0.159	0.004	43.730	0.000	0.152	0.166
	Urban	0.705	0.002	328.980	0.000	0.700	0.709
	Constante	0.948	0.003	281.690	0.000	0.941	0.955
Quintile 4							
	taille	-0.131	0.000	-825.100	0.000	-0.131	-0.131
	Female	-0.786	0.002	-316.260	0.000	-0.791	-0.781
	Agriculture	-0.267	0.002	-108.890	0.000	-0.272	-0.263
	Industry	0.424	0.004	105.390	0.000	0.416	0.431
	Commerce	0.693	0.003	212.350	0.000	0.687	0.700
	Transport	-0.090	0.005	-16.430	0.000	-0.101	-0.079

	Other services	0.776	0.003	227.650	0.000	0.769	0.783
	Urban	0.650	0.002	299.440	0.000	0.645	0.654
	Constante	2.049	0.003	602.210	0.000	2.042	2.056
Quintile 5							
	taille	-0.317	0.000	-1357.080	0.000	-0.318	-0.317
	Female	-0.662	0.003	-248.400	0.000	-0.667	-0.657
	Agriculture	-0.398	0.003	-141.330	0.000	-0.404	-0.393
	Industry	0.523	0.004	128.330	0.000	0.515	0.531
	Commerce	0.416	0.004	117.690	0.000	0.409	0.423
	Transport	-0.212	0.006	-36.980	0.000	-0.223	-0.200
	Other services	0.599	0.004	164.960	0.000	0.591	0.606
	Urban	1.283	0.002	543.400	0.000	1.279	1.288
	Constante	3.380	0.004	900.740	0.000	3.373	3.387

Source: ESAM2001, ESPS2005, ESPS2011 and authors' estimates

The estimates suggest that people engaged in "other services," which is dominated by ICT, are most likely to belong to the fourth wealth quintile than to the first quintile, based on the ranking of the coefficients of the "other service" dummy variable, which reached the highest value of 0.776 in the fourth quintile. The next quintile in the rank is the fifth (0.599), implying that individuals engaged in the sector are likely to end up in the top two income quintiles. By similar ranking, individuals engaged in commerce are most likely to end up in the third and fourth quintiles where the coefficients are highest at 0.834 and 0.693, respectively. Agriculture workers sort into the second and third quintiles. Workers in the transport sector are the most likely to be in the first quintile. However, as Katz and Koutroumpis (2012) demonstrate, the indirect employment effects of ICT deepening outsize the direct effects by a ratio of 20:1. Given the likelihood of indirect employment diversified across sectors, it is expected that the welfare effects of ICT development will be more broad-based.

One of the six pillars of the government's development strategy, contained in the Plan Senegal Emergent (PSE), focuses on increasing the scope and sophistication of information and communications technology (ICT). In particular, the PSE aims to improve the quality of ICT infrastructure and services, facilitate the growth of business process outsourcing (BPO), and catalyze the formation of ICT-specific human capital through implementation of large-scale ICT projects in key sectors such as education and health care.

Senegal ranks among the notable African countries already capturing parts of the global ICT value chain particularly in the areas of information technology outsourcing (ITO) and business process outsourcing (BPO) (Stephenson, 2012). Opportunities exist for expansion of mobile banking,

business-to-business connectivity, e-commerce and e-government systems, and other ICT services. Indeed, Senegal is well positioned to become a regional hub for 3G and 4G services.

4.1. EXPORT COMPETITIVENESS

Historically, tourism and ICT have been the key services exports in Senegal. While export statistics suggest competitive performance of the ICT services sector, the tourism sector has lost competitiveness. It has been noted that Senegal was only second to Kenya on the African continent as a tourism destination during the 1980s. Currently, many countries in western and eastern Africa have surpassed the two countries in terms of contribution of tourism to exports. The challenges faced by tourism in Senegal include beach erosions, lack of product diversification, lack of effective strategy, and dependence on a narrow consumer market.

A deliberate strategy to diversify services export beyond tourism and ICT is needed. Financial services, health and education services are gaining steam in terms of contributions to GDP growth (see figure 4). Meanwhile, these three sectors contribute substantially to the low ranking of Senegal in the Global Competitiveness Report (GCR) 2014-2015. In other words, the sectors hold potential contributions to export growth and competitiveness if appropriate strategies are implemented to sustain their growth. These sectors should be listed as priority.

It is essential that Senegal seeks to expand its markets, one of the binding limitations also identified in the GCR. A narrow market limits competitiveness by limiting the possibilities for "learning-to-compete" by firms that would otherwise be essential in scenarios of enlarging markets. Although these limitations may be associated with membership in an economic and monetary union, a growing list of emerging markets around the world provide potential markets for Senegal's services.

To begin, Senegal can capitalize on its unique position in West Africa to tap into rapidly expanding regional markets. Senegal is the institutional and financial center of WAEMU and home to several major research institutions, all of which can be leveraged to promote innovations in financial, education and health services. Regional demand for education services is increasing rapidly, driven foremost by Nigeria's rapidly growing youth population. Tapping into this market through a competitive education system will boost Senegal's exports while also accelerating the growth of

the domestic economy. For example, the country should be looking at capitalizing on its ICT sectors to offer competitive ICT education.

5. POLICY RECOMMENDATIONS AND CONLUCLISION

From all indications, Senegal is endowed with a strong ICT infrastructure and information economy, and thus laid the foundation for an innovation economy. Policy makers now need to pay attention to and make concerted efforts to build the remaining pillars of innovation. One of the underdeveloped pillars is the education sector. The growing complexity of the information economy requires it to be complemented by a population that is adequately sophisticated. Human capital indices are currently poor, particularly in areas of disease prevention and eradication, school enrollment and higher education. Development of the human capital necessary for further improvement of the services sector will require a technical and vocational education strategy based on private sector leadership. Policy makers must accurately identify mismatches between workforce skills and employer demand and create effective and sustainable strategies to address them.

Maximizing the economic impact of the services sector will require policies designed to support its development in ways that complement the growth of the economy as a whole. While services exports have grown steadily,[11] domestic demand remains relatively weak. Since domestic demand for services is driven largely by other sectors, efforts to stabilize agricultural production and facilitate the growth of manufacturing would have positive spillovers on the domestic market for services. Measures to promote agribusiness development and increase linkages between the domestic primary and secondary sectors would have an especially strong impact on services demand.

Reducing the cost of doing business through infrastructure investment and regulatory reform would accelerate the growth of services. Electricity and transportation are key components of economy-wide development, but they are especially critical to the services sector. Completing the implementation of new procedures for allocating electricity contracts based on competitive bidding would be a major step toward improving the reliability of the energy supply. Infrastructure

[11] Services exports grew at about 9 percent per annum between 2005 and 2011.

improvements could be complemented by legal and administrative reforms targeting property registration, obtaining construction permits and protecting minority investors, areas in which Senegal is currently making progress, although still lags behind many comparable countries. Investment in real estate and factories enabled by these changes would strengthen the base of demand for services.

Alleviating credit constraints and promoting entrepreneurship would make the growth of the services sector more inclusive. While the fastest-growing services subsectors are capital intensive, most jobs in the tertiary sector are concentrated in comparably labor-intensive activities characterized by high rates of informality and self-employment. Expanding access to finance and facilitating the formalization of small enterprises could increase the sector's impact on employment, poverty reduction, as well as shared prosperity.

Summing up, the services sector continues to play a prime role in the economy and exhibits substantial potential to drive future inclusive economic growth. However, productivity growth in agriculture, and development of agro-processing and manufacturing remain essential in order to advance growth inclusiveness and poverty reduction. In particular, further integration into global production chains, increasing domestic value addition and integrating more local content into regional and international trade, elements of which are already taking shape, will help expand the service economy while advancing sustainable growth and inclusiveness.

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