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# **Better Jobs in Nicaragua**

## **The Role of Human Capital**

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## Acronyms

FFF	Food, Fuel, Financial
INSS	Nicaraguan Institute of Social Security
TFP	Total Factor Productivity
CAFTA-DR	Central America Free Trade Agreement – Dominican Republic
IDEA	Institute of Academic Excellence ( <i>Instituto de Excelencia Académica</i> )
SNBES	<i>Sistema Nacional Para el Bienestar Social</i>
ECD	Early Childhood Development
ECE	Early Childhood Education
CDI	Child Development Centers
PNE	National Plan for Education ( <i>Plan Nacional de Educación</i> )
ALMPs	Active Labor Market Programs
SEPEM	Public Employment Service ( <i>Servicio Público de Empleo</i> )
PPA	<i>Programa Productivo Alimentario</i>
PAS	<i>Programa Agroalimentario de Semilla</i>
WFP	World Food Program
FFW	Food-for-Work
RAAN	Autonomous Northern Atlantic Region of Nicaragua ( <i>Región Autónoma del Atlántico Norte</i> )
RAAS	Autonomous Southern Atlantic Region ( <i>Región Autónoma del Atlántico Sur</i> )
FISE	Social Investment Emergency Fund ( <i>Fondo de Inversión Social de Emergencia</i> )
EMNV	<i>Encuesta Nacional de Medición del Nivel de Vida</i>
INATEC	National Technological Institute ( <i>Instituto Nacional Tecnológico</i> )
GDP	Gross Domestic Product

# Better Jobs in Nicaragua

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## The Role of Human Capital

### Executive summary

*In spite of considerable efforts to implement sound macroeconomic and open trade policies, by the end of the first decade of the 21st century, the economy—and the labor market—in Nicaragua show little change. There has been no structural change either in production or employment, and productivity has stagnated, leading to underperforming GDP and employment growth relative to the Latin American average.*

*This note aims to provide a detailed overview of the evolution of the labor market in Nicaragua in the last 10 years, by taking into account the complex nature of employment, and the role of the stock of human capital and of social policies to improve opportunities for the most vulnerable and reduce frictions in the labor market. The note is organized as follows: first, it provides the macroeconomic context of the last 10 years in Nicaragua; second, it discusses the evidence of the evolution of the main indicators of the labor market (participation, employment, unemployment, productivity and earnings). Third, the note discusses the stock and evolution of human capital, and fourth, the supply of social programs to support access to education and training, and to help workers access better jobs and mitigate frictions of the labor market. The analysis relies on the last three living standards measurement surveys (EMNV 2001, 2005 and 2009), the first three 2010 labor force surveys (Encuesta Continua), Central Bank statistics as well as a series of administrative data.*

*The main findings of the analysis are: (i) similar to its growth performance, employment has shown modest but positive growth throughout the decade, closely tracking the growth trend of the working-age population; (ii) productivity and real earnings have stagnated, self-employment (with lower average earnings) has grown, and at the same time, unemployment for educated youth is around 30%, three times higher than average youth unemployment and four times higher than general unemployment; (iii) the overall pace of accumulation of human capital in Nicaragua has been slow and with significant heterogeneity—for instance, among the 25-39 age group 80% has only primary education or less, and this is even higher in rural areas, while 9% has at least some tertiary education, which is close to Costa Rica and 3 percentage points behind Panama. The labor market indicators for educated workers suggest that the resources invested in higher education are producing a large number of graduates that are not being efficiently utilized by the local labor market; (iv) so far, the Government has devoted considerable resources to strengthen access to primary education, and to provide training for workers in the formal sector, with some efforts to improve the productivity of the self-employed. On the other hand, there has been no focus yet on improving access to job opportunities for skilled workers.*

*Our findings have direct policy implications, which call for a concerted effort from various fronts, as well as from the private sector. While improving educational attainment is an imperative—especially ensuring completion of 9 years of basic education—without complementary policies to promote investment and job creation, efforts on the education front are likely to build up unemployment and low wages.*

*First, Nicaragua can raise the quality of employment, both in terms of earnings and protection against shocks, in the agriculture sector, which is the largest employer and export earner. This requires investing in modernizing the sector to raise productivity and at the same time improving the skills of farmers and agricultural workers. Better skills can be provided both via basic*

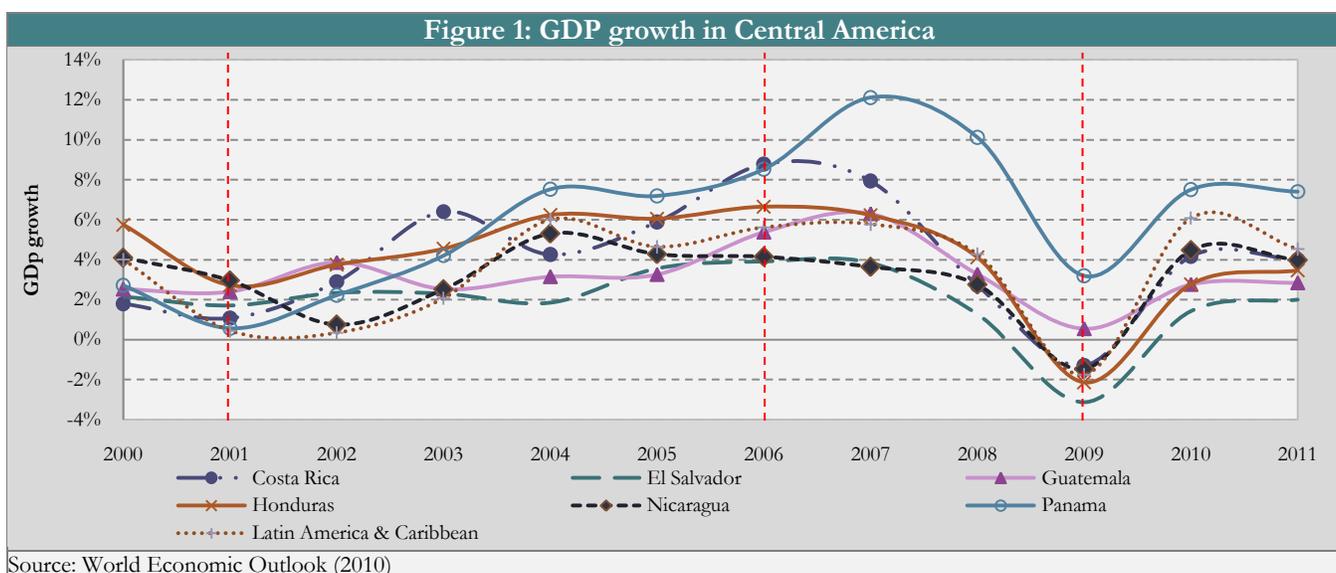
education, as well as training (which should be tailored to match the specific needs of the sector). It is also crucial to strengthen income protection mechanisms to guard against sector-specific risks such as weather shocks.

Second, Nicaragua can take advantage of its large pool of educated adults by taking initiatives to increase employment and self-employment in the knowledge-intensive services sector (e.g., call centers, business outsourcing, private education, etc.). At the same time, it is important that in the future the contents and careers offered by university programs be better aligned with labor market needs.

Finally, Nicaragua needs to continue its efforts in social protection to skill acquisition, but more needs to be done to facilitate transitions in the labor market. This can only be done successfully if there is sufficient information on how well current programs work, and where they should be expanded or rationalized.

## Economic performance of Nicaragua, 2001-2009

The first decade of the 21<sup>st</sup> century has been characterized by modest GDP growth. Between 2001 and 2009 Nicaraguan GDP grew on average at 3.3% per year, below the average rate of the rest of Central America and LAC (Error! Reference source not found.). The recovery phase from the 2001 coffee crisis peaked in 2004, and since then growth oscillated between 3% and 4% per year until 2009, averaging an annual growth of 2.72% over the 2001-2009 period (Table 1), which suggests that Nicaragua has not benefited as much as its neighbors from the opportunities created by the implementation of the CAFTA-DR.



**Despite positive GDP growth over 2001-09, GDP per capita has remained almost flat.<sup>1</sup>** To understand the evolution of GDP per capita growth we do a simple decomposition. We replace GDP per capita (column 4) by the product of GDP per worker (column 5) and the employment rate (ratio of workers to

<sup>1</sup> In order to decompose GDP per capita growth into growth of GDP per worker and growth of employment, we use working age population as the denominator to obtain GDP per capita.

working-age population—column 6).<sup>2</sup> We then compute the annual growth rates of each of these terms, which provide information on the shares of growth in GDP per capita due to labor productivity growth (GDP per worker) and due to growth in the employment rate. We find that labor productivity growth over the period was very low at 0.3% per year on average: after a period of positive growth of 1.25% on average between 2001 and 2005, labor productivity fell on average by 0.63% per year in the second half of the period. In addition, employment grew on average at exactly the same rate as the working age population, and therefore the employment rate stayed flat, which indicates that growth in GDP per capita is due exclusively to changes in labor productivity over this period. It is worth noting however that similar to labor productivity, the employment rate increased during the first half of the period, and fell in the second half. Taken together, these indicators suggest that Nicaragua experienced a relatively positive first half of the 2000s, but the trend changed mid-decade, leading to slower GDP and employment growth.

**Table 1: Growth rates of GDP, employment, and the working age population (WAP)**

	(1)	(2)	(3)	(4)	(5)	(6)
	GDP	WAP	Employment	GDP/WAP	GDP/Employed	Employed/WAP
Annual growth 2001-05	3.20%	1.01%	1.93%	2.17%	1.25%	0.91%
Annual growth 2005-09	2.25%	3.81%	2.90%	-1.50%	-0.63%	-0.88%
Annual growth 2001-2009	2.72%	2.40%	2.41%	0.32%	0.30%	0.01%

Source: EMNV (2001, 2005, 2009)

**Nicaraguans felt the effects of the crisis primarily through sharp increases in the prices of basic goods, which started to occur in 2007.** Like the other countries of the Central American region, Nicaragua was hit by the FFF (Food-Fuel-Financial) crisis that started in 2007-08, although the shock was relatively mild and the country began recovering quickly. GDP growth decelerated starting in 2008 and fell by 1.5% in 2009, but grew again at positive rates by 2010. At the same time, other macroeconomic aggregates, such as exports experienced slower, albeit still positive growth rates. Nevertheless, the cost of the basic consumption basket, which includes food products, non-durable household items (including imputed rent), and clothing, almost tripled between 2006 and 2009 (wages did also increase, so that the real effect was not as large). This is likely to have slowed the pace of poverty reduction, although it is difficult to know precisely as there are no data available between 2005 and 2009 that allow the assessment of the year-on-year evolution of poverty.<sup>3</sup>

**During the last decade, the productive structure of the economy remained roughly constant.** Agriculture is still the largest sector of the economy, producing around 22% of GDP, followed by Manufacturing (19%) and Retail (18% -Table 2).<sup>4</sup> These sectors have grown modestly in comparison with much smaller, but more dynamic sectors such as Transport and Financial services, which display annual

<sup>2</sup> The next chapter will provide a more detailed analysis of trends in the labor market.

<sup>3</sup> The poverty headcount fell between 2005 and 2009 from 48.3% to 42.5% (INIDE, 2011). One caveat is necessary throughout this study: for most of the variables, we only have three data points over the 2000s: 2001, 2005, and 2009. Since 2009 is a peculiar year in most countries, the evolution between these years has to be taken with some caution, as some of the changes could be cyclical rather than structural. We have tried to verify the nature of the changes with secondary sources, but this has not been always possible.

<sup>4</sup> The “other” category includes “other services”, which is likely to include the public sector, however this is impossible to determine with certainty from the latest EMNV.

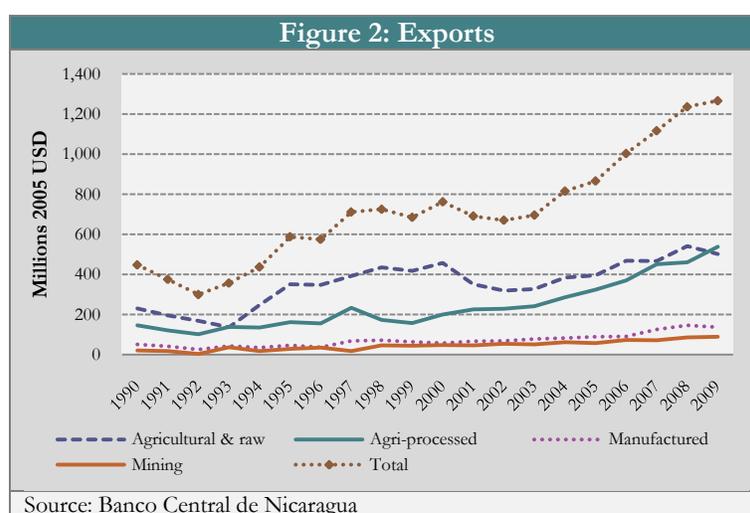
growth rates of 7% and 11%, respectively. Overall, GDP growth over the period was driven by agriculture, manufacturing, retail, and transport, storage and communications.

Table 2: Economic activity by sectors 2001-2009

	Share in 2001 (%)	Average annual sectoral GDP growth (%)	Contribution to GDP growth (%)	Change in the share of GDP (percentage points)
Agriculture	22.08%	2.44%	16.31%	-1.21%
Mining and quarrying	3.57%	1.42%	1.54%	-0.43%
Manufacturing	19.05%	4.32%	24.88%	1.22%
Construction	4.91%	-1.46%	-2.16%	-1.48%
Retail	18.15%	2.82%	15.45%	-0.57%
Transport, storage and communications	7.09%	6.67%	14.31%	1.51%
Financial services	2.74%	11.11%	9.21%	1.35%
Other	22.40%	3.02%	20.47%	-0.40%
<b>Total</b>		<b>3.31%</b>		

Source: Central Bank of Nicaragua

**A dynamic exports sector contributed positively to GDP growth in Nicaragua.**<sup>55</sup> Exports of goods have been steadily increasing since the coffee crisis of 2001, driven largely by fast-growing exports of manufactured goods and processed agricultural products (Figure 2). Nicaraguan exports are still dominated by agricultural products such as coffee, meat, and sugar. Among those, products with higher value added (sugar, meat, other processed agricultural products) have experienced the fastest growth (11.8% per year), whereas exports of raw agricultural goods (coffee, peanuts, fish and shellfish) have grown very slowly (1.9% per year), although they still represent the largest share of export products. Exports of manufactured products in general have grown very rapidly (14.8% per year), led by chemical exports, which grew on average at 21% per year since 2001. Nevertheless, the share of manufactured goods' exports remains very low relative to agricultural products.

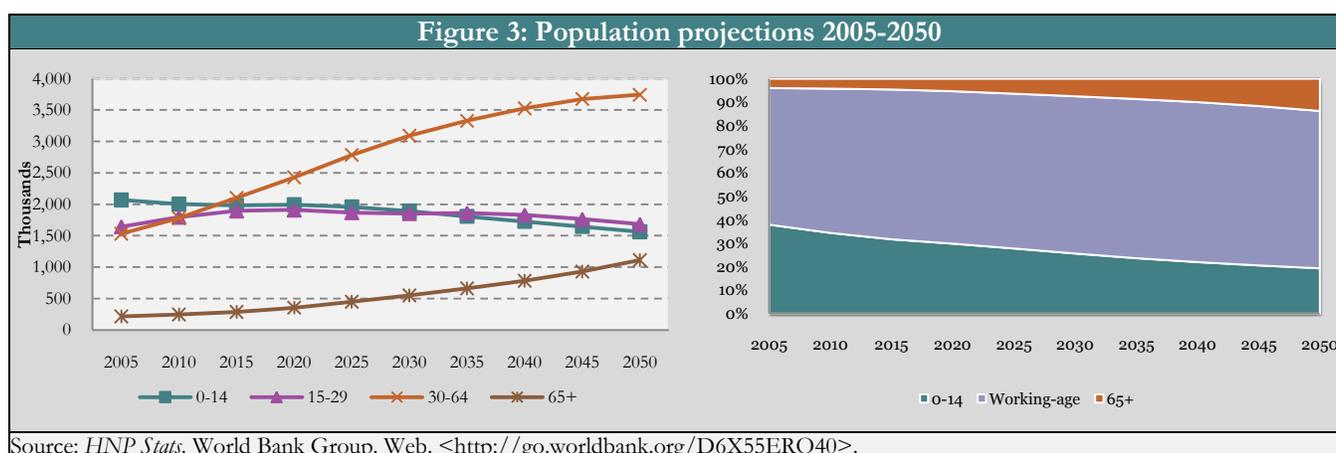


<sup>55</sup> These are non-maquila exports.

The macroeconomic landscape over the first decade of the 21<sup>st</sup> century in Nicaragua suggests that the performance of the economy, given regional trends and recent reforms, has been disappointing. Clearly, the performance in the first half of the decade was more successful, and this could be explained by the expectations over the implementation of DR-CAFTA but also by a general favorable global economic context. The second half of the decade, however, was marked by the FFF crisis and by a strong hurricane in 2007, which considerably slowed down GDP and employment growth, although the employment rate managed to stay constant. Nevertheless, there are a few signs of incipient dynamism in the economy that should be better understood, and that can potentially turn things around for the next decade.<sup>6</sup> In particular, export growth has been strong, and more so in sectors of higher value-added. The question is whether these sectors are large enough to operate significant changes in the structure of the economy, and of employment in the medium to long term.

## The labor market in Nicaragua, 2001-2009

**Nicaragua is still a young country, and will remain so in the near future.** In 2010, there were over two million children 0-14 years old, just under 35% of the total population, and the remaining 65% were almost entirely working age population 15-64 years old (there were only 246 thousand people 65 years and older; less than 5% of the population—Figure 3). The current demographic structure is expected to remain relatively unchanged, though there will be a slight aging of the population, as the share of children gradually declines and the share of elderly gradually increases. Still, the share of the working age population will remain at around 60%, even if its composition will change significantly towards older workers (30-64 years old). The share of young workers on the other hand, will increase slightly over the next 10 years to reach just below two million, and then will stabilize and decline slightly to a level similar to the one in 2005. Hence, population projections can be seen as favorable for Nicaragua, as no major changes are expected either in terms of a “youth bulge” massively entering the labor force, or in terms of a rapid aging process in which a shrinking labor force has to cope with the costs of supporting an increasing share of elderly people.

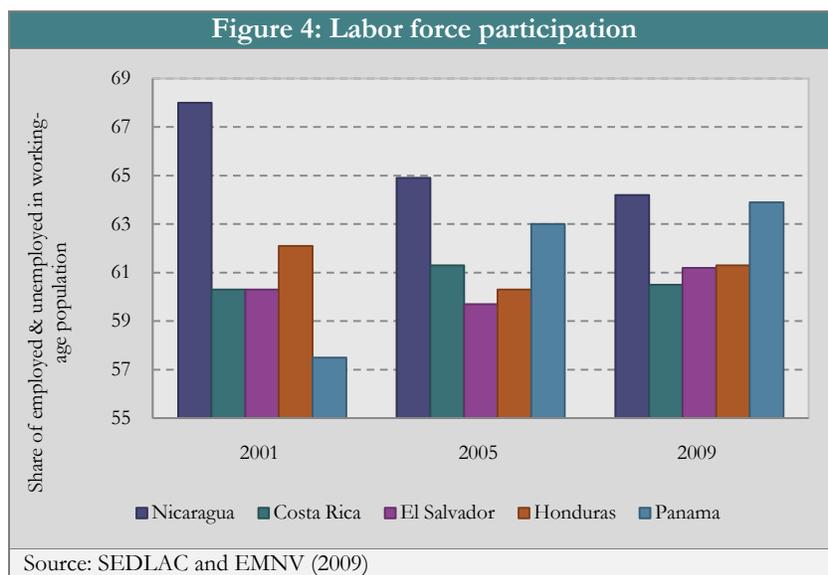


<sup>6</sup> The forthcoming Country Economic Memorandum will cover many of these areas for potential future growth.

## Entry and exit from the labor force

Over the last decade Nicaragua has had one of the highest labor force participation rates in the region. By 2009 participation was 64.2%, and although lower than earlier in the decade, it was still higher than in any other country in the region (Figure 4).<sup>7</sup> This high participation rate is explained on the one hand by the dominance of agriculture in economic activity, and on the other hand by a growing working-age population.<sup>8</sup>

However, there is a large gap in labor force participation rates as well as in labor force dropout rates between men and women, at all ages.<sup>9</sup> On average, only 45.8% of working-age women are either working or looking for a job, in contrast to 83.9% of men (Figure 5: A). This difference is even higher for younger age groups, but it is large for all age groups. There is greater movement of women into and out of the labor force (Figure 5: B). During a 3-month period in 2010, more than twice as many women dropped out of the labor force relative to men.<sup>10</sup> The largest dropout occurred among women in the 15-24 age-bracket (53%, against 29% for men), but older women also reveal dropout rates above 30%. At the same time, slightly less women than men entered the labor force within the same 3-month period, at all ages (60%, against 70% for men.)



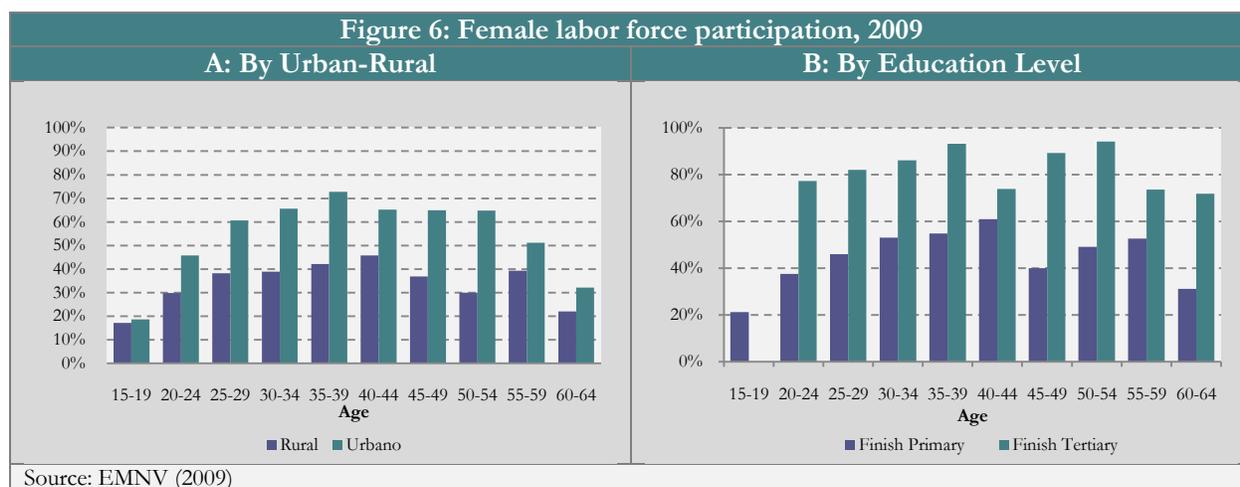
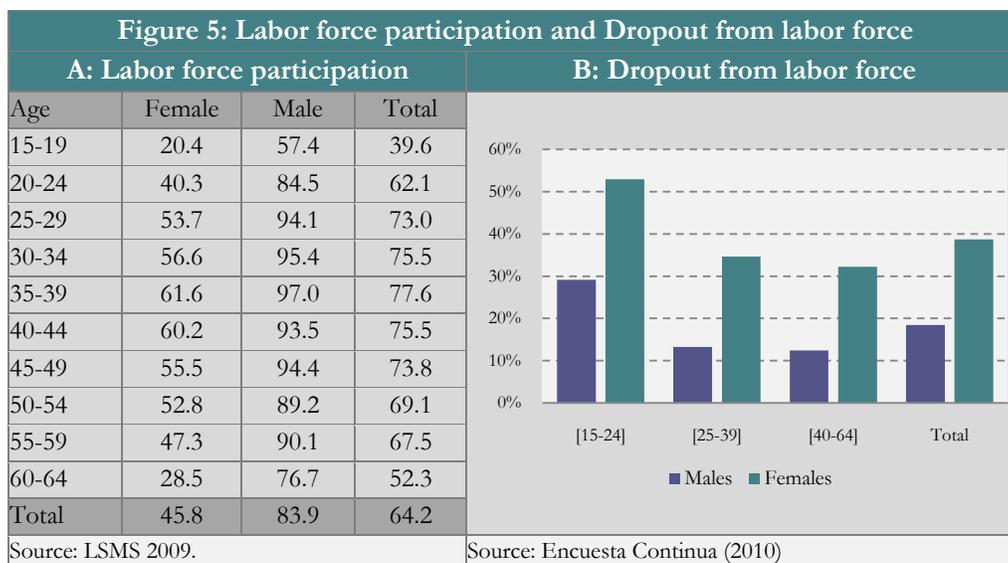
<sup>7</sup> Guatemala's participation has been high as well, but there are no data for the selected years, so it is not possible to compare.

<sup>8</sup> The ratio of working age population to total population has been steadily increasing, from 66.9% in 1990 to 76.7% in 2009. (Banco Central de Nicaragua).

<sup>9</sup> This is not particularly different from other Central American countries; however female participation is much lower than in more advanced economies.

<sup>10</sup> We define "drop out" from the labor force as a dummy variable that equals 1 if the person was in the labor force one period and out the immediate following period. The dummy variable "join" the labor force is equal to 1 if the person was out of the labor force one period and in the labor force the immediate following period.

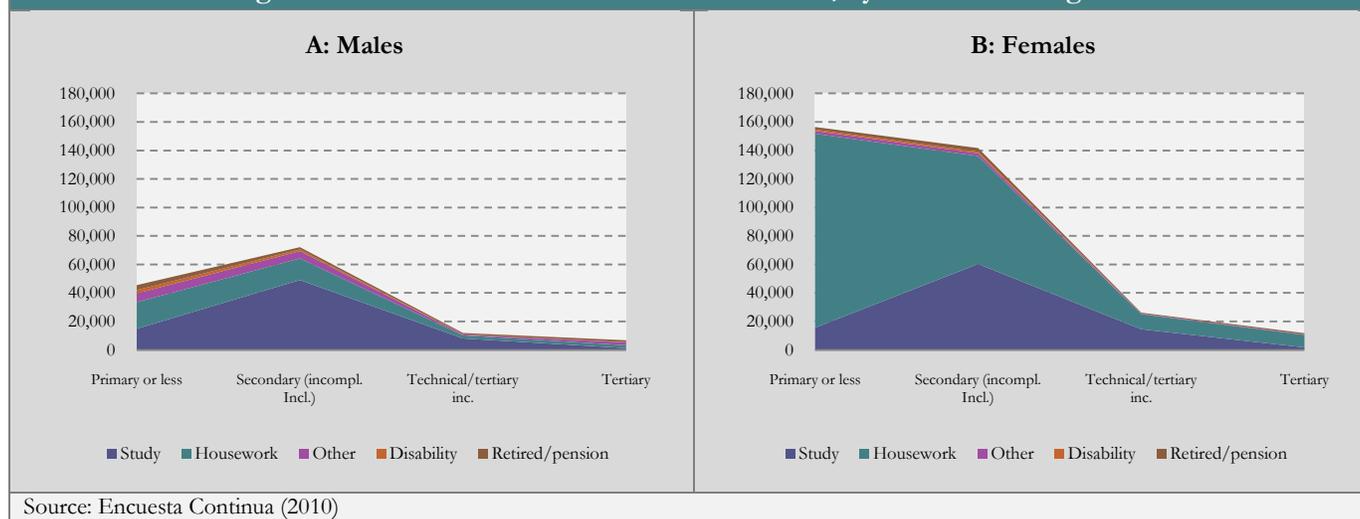
**Looking across rural-urban areas and education levels reveals great heterogeneity in female participation.** Figure 6 below shows that urban women 35-39 years old have a participation rate of 30 percentage points higher than their rural counterparts (72% against 42%). These differences tend to narrow at the ends of the age distribution, which is an indication of the diverging opportunities that young women face between rural and urban areas. Similarly, educated women (for instance, those who finished tertiary education) have much higher participation rates relative to those with little education (for instance with only primary education), and this is the case at all age levels.



**There are significant differences in the activities of men and women that are out of the labor force.** The bulk of men who are out of the labor force have (at least some) secondary education and their main activity is to study (Figure 7: A). Among those with little or no education, many devote their time to housework. In all, the number of men out of the labor force is still very low in absolute numbers, and the composition of their activities shows that many of them are preparing to enter the labor force. In contrast, most women who are not in the labor force devote their time to housework, and this is true among those

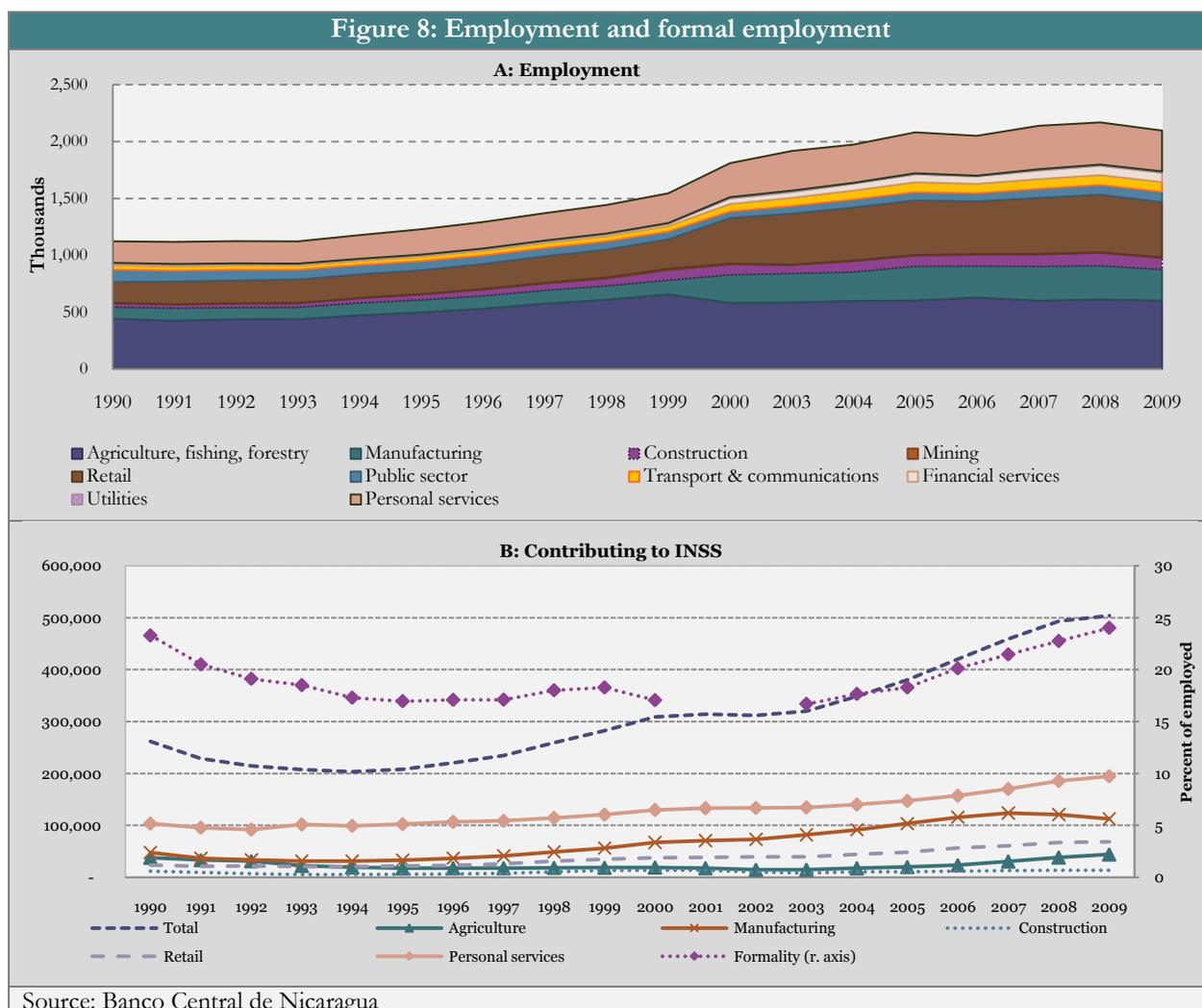
with little education as well as among those with more than secondary education (though in absolute numbers there is much fewer of them -Figure 7: B), and at all age levels. A significant portion of those with at least some secondary education are studying, but still the majority is devoted to housework. Not surprisingly, a large number of women in the [15-24] age bracket cite the lack of childcare options as the main reason for not being in the labor force.

Figure 7: Activities of those out of the labor force, by education and gender



## Employment

**Employment has been growing steadily in all sectors, but there was a slight decline during the 2009 crisis.** Over the last decade, employment grew at an annual rate of 2.41%, close to the GDP growth rate but with less fluctuation, which has contributed to maintaining the stability of employment rates (Figure 8: A). As mentioned before, employment grew more slowly than GDP and more slowly than the working age population during the first half of the decade, which resulted in positive labor productivity and employment rate growth. On the other hand, in the second half of the decade employment increased faster, but so did the working age population, while GDP growth slowed, resulting in declines both in labor productivity and in the employment rate. During the crisis of 2009 employment remained stable in agriculture and manufacturing, whereas retail, transport, financial services, personal services, and the public sector experienced minor declines.



**Formal employment has increased in absolute and relative numbers over the decade; however, the share of formal workers has barely changed relative to 1990.** There has been a positive trend over the last 10 years in the number of workers that contribute to the Nicaraguan Institute of Social Security (INSS-- Figure 8: B). It has been increasing steadily, reaching 500,000 workers in 2009, or a quarter of the employed workforce, a significant increase from the 17% of the employed in 2000. The share of formally employed workers remains low however, and has barely changed since 1990. In fact, the 1990s appear to have been a period of de-formalization of employment, as the number and the share of workers contributing to INSS declined steadily during the first half of the decade, and recovered slowly during the second half. In any event, Nicaragua continues to have a large portion of “informal” workers, and there is evidence that there are both *exclusion* and *exit* factors at play in explaining why this is the case (see Box 1).

**Box 1: The causes and costs of informality\***

The traditional view sees informal work (that is, neither contributing to, nor receiving social security protection) as the only alternative for a share of the labor force that lacks opportunities in the formal sector, and thus has no other option but to work in sub-standard conditions and for lower pay than they would get in the formal sector, and no additional benefits. As a result, the labor market becomes a segmented market, where the “insiders” in the formal sector have higher incomes and more secure jobs than those who are “excluded.” In Latin America, while there is substantial evidence of an element of exclusion for certain groups of workers – particularly young and old workers with little or no education, and women – there is also growing evidence that a large share of formal sector workers choose to quit their job to become self-employed or salaried in an informal business. These voluntary informal workers typically earn equal or higher incomes than formal salaried workers, they have the satisfaction of “being their own boss,” and they enjoy greater flexibility to balance their work and family responsibilities (“exit”). Moreover, the formal and informal sectors are best understood as complementary, rather than segmented sectors. Household data for Latin America show that workers move into and out of informal jobs several times over their lifetime.

While individuals’ motivations to become informal may differ, the common denominator in the informal sector is low scale and low productivity. Indeed, informal businesses are mostly very small (with five or fewer employees, often operating from the household); some with little or no intention of, or potential for growth, while others facing serious barriers to expansion due to excessive regulation and lack of access to resources such as capital. Similarly, self-employed and informal salaried workers typically have low human capital, by various measures of education and ability.

There is no definitive evidence about the costs of informal activity at the individual level, although it is clear that at the macro level a large informal sector is associated with – though does not necessarily cause – lower levels of income per capita. Many individuals seem to be better off self-employed than as formal-sector employees because social security contributions and taxes may be perceived mainly as taxation when the benefits they are tied to are mediocre or insufficient. Likewise, if formal-sector jobs do not offer any significant career progression perspectives, for example via training or other forms of skill-building, then workers have little incentive to stay in those jobs. If there are no formal opportunities for young people and mothers, who need flexibility to attend to their homes and work, then for them the only options left are informal salaried jobs or self-employment. In any event, there is ample evidence that informal firms are typically very small, and have low productivity, low profitability, and little growth potential. Whether these firms would survive as formal firms is unclear. Still, if some of these firms do have the potential to grow but lack the means, the economy as a whole loses if they remain informal and are unable to exploit this potential. For informal workers, lacking the basic protections offered by a social safety net leaves them unnecessarily exposed to risks and natural events such as illness, job loss, and old age, generally resulting in underinvestment in human capital at the societal level.

\* Extracted from Oviedo, A. M., Thomas, M. and Karakurum-Özdemir, K., 2009. “Economic Informality: Causes, Costs, and Policies—A Literature Survey,” World Bank Working Paper No. 167.

**The sectoral distribution of employment in Nicaragua has not changed.**<sup>11</sup> Most employment growth took place in traditional sectors such as agriculture, “other services,” which includes the public sector, retail, and manufacturing (Table 3: A). However, employment in the latter two sectors grew at a slower pace, causing a reduction in the share of employment in retail and manufacturing by 2009. On the other hand, small and more dynamic sectors like transport, and financial services, grew above average, but their share in total employment, and thus their potential to create abundant “good” jobs remains limited. Hence, the composition of employment remains similar to that of GDP, with a dominant role played by the agricultural sector, followed by retail, other services, and manufacturing. This remains true when we separate workers by

<sup>11</sup> Over the 2000-2009 period the average employment-to-population ratio in Nicaragua was 59.6%, second after Guatemala, with 64.8% (SEDLAC).

age group, with the difference that agricultural employment is even more predominant (and has increased) among youth 15 to 30 years old.

**Table 3: Evolution of employment, 2001-2009**

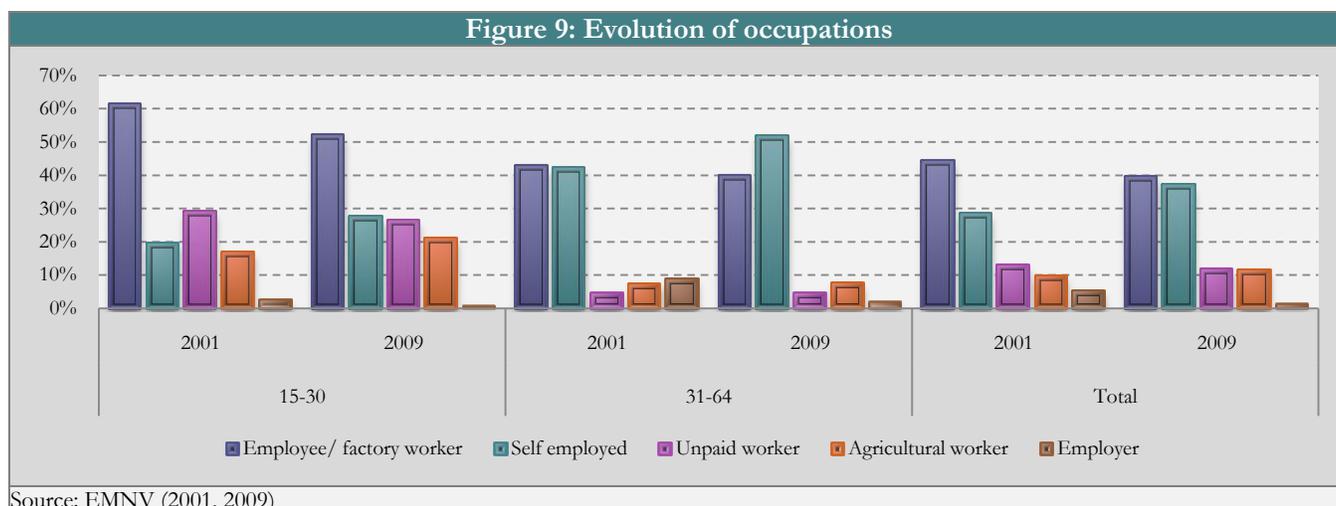
A: By sectors				
	Share in 2001 (%)	Average annual employment growth (%)	Share of total employment generation (%)	Change in share employed labor force (pct. pts.)
<b>Agriculture</b>	31.81%	3.51%	<b>34.06%</b>	0.47%
Mining	0.60%	-0.15%	-0.03%	-0.13%
Manufacturing	12.36%	2.56%	9.67%	-0.56%
Construction	5.21%	0.86%	1.37%	-0.80%
<b>Retail</b>	25.23%	1.50%	11.54%	<b>-2.84%</b>
Transport	3.86%	5.26%	6.21%	0.49%
Financial	0.82%	4.97%	1.24%	0.09%
<b>Other Services</b>	20.11%	5.85%	<b>35.94%</b>	<b>3.29%</b>
Total		<b>3.28%</b>		

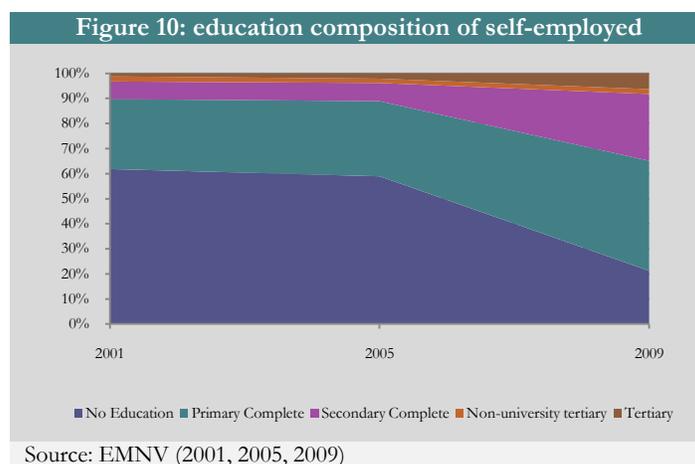
B: By age groups							
Age Group	Year	Agro-fishing	Other	Retail	Manufacturing	Construction	Transport
15-30	2001	35%	20%	20%	15%	5%	5%
	2009	38%	18%	22%	12%	5%	5%
31-64	2001	28%	25%	25%	10%	5%	5%
	2009	28%	25%	22%	10%	5%	5%
Total	2001	32%	22%	22%	12%	5%	5%
	2009	33%	22%	22%	12%	5%	5%

Data source: EMNV (2001, 2005, 2009)

However, there has been an important shift in the distribution of occupations in the work force towards more self-employment, at the expense of wage employment. As noted above, the shares of employment across sectors have remained roughly stable, with a small increase in agricultural employment. However, there has been a major shift in the occupational composition of the labor force: the share of self-employed has notably increased while the share of salaried workers and employers has fallen (Figure 9). The increase in self-employed workers occurred in all sectors of activity, but more dramatically in construction, retail, agriculture, and transport and communications, where it increased by more than 10 percentage points between 2001-2009. At the same time, all sectors experienced a decline in the shares of salaried workers and employers.

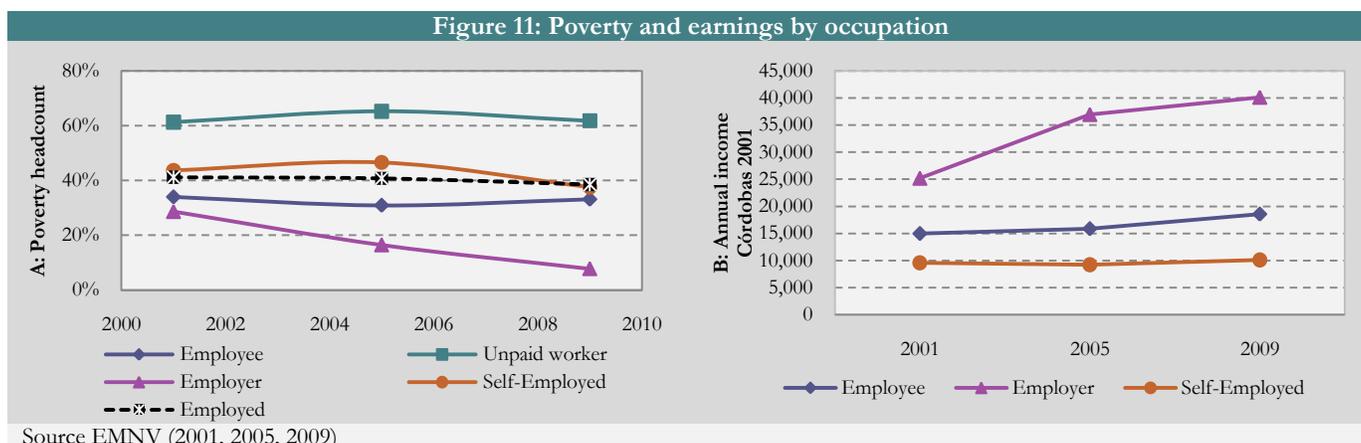


**At the same time, the education composition of the self-employed shifted towards more educated workers.** While in 2001 almost 90% of self-employed workers had primary education or less, in 2009 this share fell to 65.1% (Figure 10). At the same time, in 2009 27% had completed secondary and 6% had tertiary education (against 1.2% in 2001). This reflects partly the general positive trend in education attainment, but it cannot be solely explained by this trend. Instead, it could be the result of an increasing number of people graduating from the education system, who find few wage employment opportunities and hence turn to self-employment.



**Several characteristics of the self-employed suggest that there could be a shortage of salaried, formal jobs.** Despite the fact that self-employed workers are on average more educated than at the beginning of the decade, almost 38% are still poor, against 33% for wage employees and 8% for employers (Figure 11: A); in addition, median income for the self-employed is significantly lower than for wage employees and employers, and remained flat in the last decade, whereas real income for the other groups (particularly employers) increased (Figure 11: B). On the other hand, self-employment is more frequent among adult workers between 25 and 54 years old (73.5% of total self-employment), and less among young and elderly workers, which indicates that it is not necessarily an entry point into the labor market (or a last resort option for the elderly), but rather a suitable option for some, especially in sectors such as

construction, transport and communications, and financial services, where incomes tend to be higher, whereas it is the only option for many others who end up in sectors such as agriculture and retail (that combined constitute almost 70% of the self-employed), where median incomes are significantly lower.



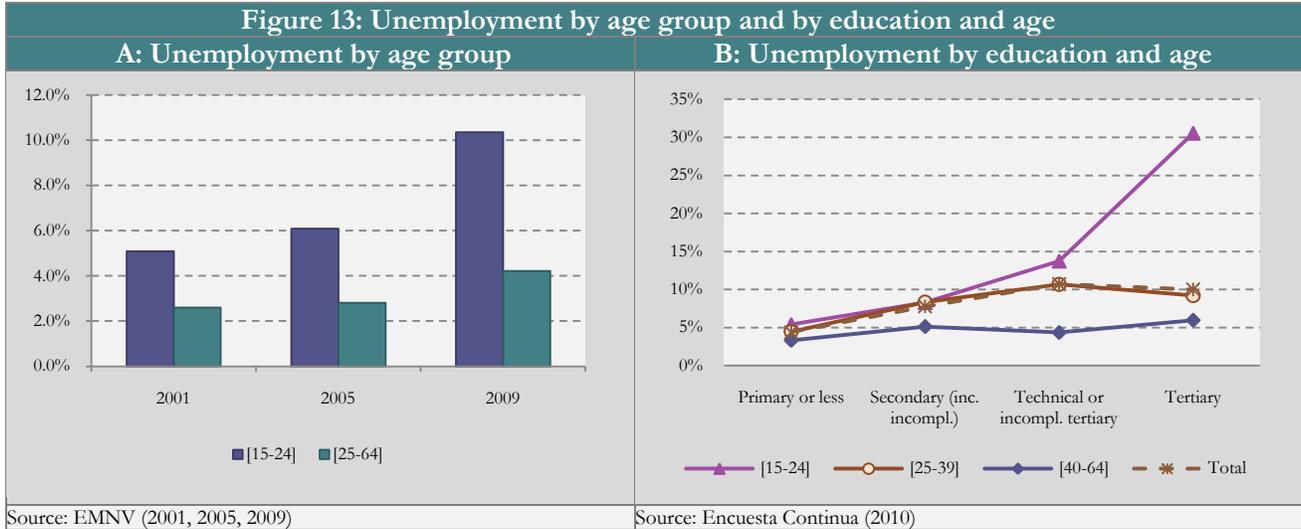
## Unemployment

Nicaragua has had a decade of low and roughly stable unemployment. The high levels of unemployment registered in the 1990s started falling after 1993 and have remained below the 10% mark throughout the 2000s (Figure 12). In the second-half of the decade unemployment increased, from a low point of 5.2% in 2006 to 8.2% in 2009. Given the modest economic growth of the last decade and the steadily rising working-age population, unemployment may not easily return to a level similar to that in 2006.

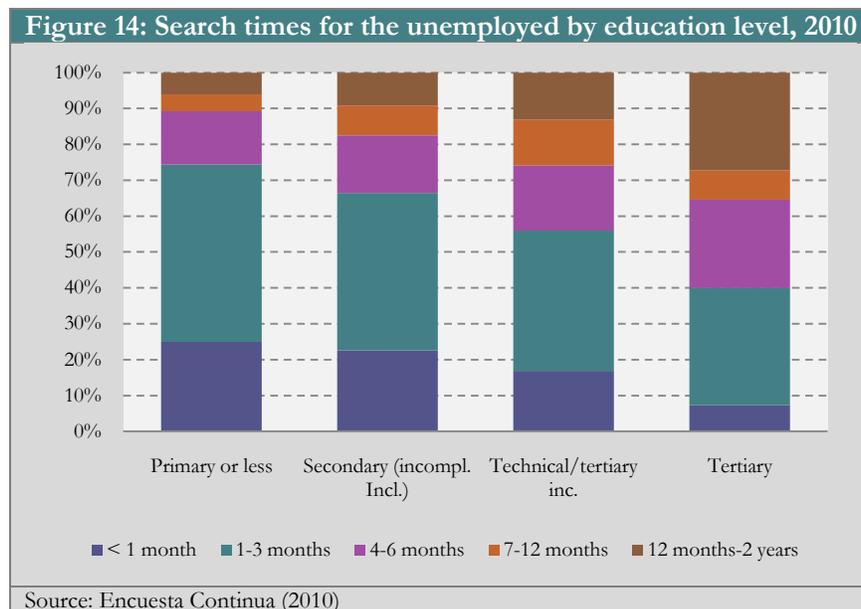


Although average unemployment remained below 10% even during the crisis, youth unemployment was significantly higher, especially among educated youth. As in most countries, a large proportion of the unemployed in Nicaragua are youth. However, in the last decade youth unemployment increased much faster than adult unemployment, so that by 2009 almost 65% of the unemployed were under 30 years old (Figure 13: A). Moreover, youth unemployment was driven mostly by the alarming unemployment of those with tertiary education (around 30%, half of which have been unemployed for over a year), which is even more worrisome given the fact that (as discussed above) a large proportion of unemployed youth end up dropping out of the labor force (Figure 13: B). As will be discussed later, the lack of change in the

productive structure of the economy, combined with a growing supply of educated workers, may be causing an imbalance in the labor market, where unskilled workers mostly turn to self-employment (mainly in agriculture), whereas skilled workers lack sufficient job opportunities, creating an oversupply of skilled workers and driving down skilled wages.



**In addition, among the unemployed, those with higher education spend more time searching for a job.** More than 90% of unemployed with tertiary education have been searching for a job for more than a month, and almost 40% have been searching for more than 6 months (Figure 14). In contrast, among those with secondary, more than 20% have been searching for less than a month, and more than 60% searched for up to 3 months. While this may reflect differences in reservation wages, it may also indicate a higher relative scarcity of wage employment for skilled workers, resulting in increased “queuing” for the limited pool of available jobs.



## Characteristics of employment

This section examines the nature of employment in Nicaragua. Although there is no consensus on the definition of what makes a “good job”, and whether there should be any standard international measure of “good jobs”, several studies propose alternative, more or less flexible, measures (see Box 2). Here, we look at several job characteristics that could be considered indicators of job quality.

### Box 2: What is job quality and how to measure it

Although there is no clear consensus on the definition of “job quality,” it is reasonable to argue that a “good job” should at least be able to provide sufficient income for the individual and her dependents to live above poverty, and provide a certain financial stability that will reduce the household’s vulnerability in case of unforeseen shocks. Nevertheless, there are several measures of job quality that capture some or all of these elements, the most comprehensive being the definition of “decent work” proposed by the ILO.<sup>1</sup> The characteristics of a “decent job according to the ILO are many, from the wage level to the number of hours, job stability, access to labor unions, presence of child labor, etc.; however, there is no clear guidance on how to measure many of these aspects at the individual level. Therefore, the literature has opted for simpler measures, focusing exclusively on earnings, for instance the poverty status of workers (the *working poor*), or the level of wages, defining a “low wage” as a wage that pays an hourly rate that is insufficient for a household of average size and participation rate to reach a per capita income of US\$2 per day in PPP terms.<sup>2</sup>

<sup>1</sup> [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/meetingdocument/wcms\\_115402.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/meetingdocument/wcms_115402.pdf)

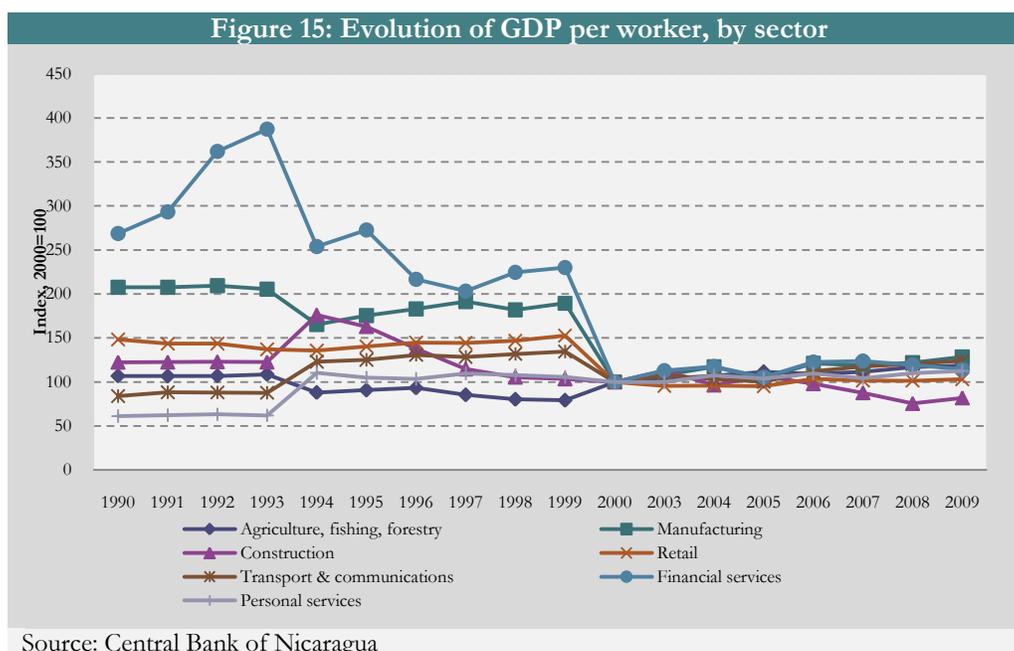
<sup>2</sup> See Pagés, C., Pierre, G. and Scarpetta, S., 2009. *Job Creation in Latin America and the Caribbean: Recent Trends and Policy Challenges*, The World Bank and Inter-American Development Bank, Palgrave Macmillan.

## Productivity

As the forthcoming World Development Report “*Jobs*” proposes, jobs should lead to higher productivity and thereby stimulate economic development. In this study we measure two aspects of the productivity of a job: we look at average product per worker, and we also look at the *skill content* of each job, that is, the type of tasks that people do in their sector of activity, and how this has evolved over the decade. As noted earlier, average product per worker is a rough measure of the productivity of a job, since it may change simply because of employment changes that are unrelated to production; in addition, product per worker can also change as a result of changes in capital or due to technological progress, so that it is important to look also at product per worker within the context of the productive structure.

**The lack of significant changes observed in the structure of GDP and employment is also revealed in the evolution of GDP per worker (labor productivity).** As is clearly shown in , output per worker has barely increased since 2000, with minor variations across sectors. This stands in strong contrast to the 1990s, when there was much larger sectoral variation in output per worker, with an overall higher level in the 1990s than in the 2000s. This is explained by the strong growth in employment (and the mirroring decline in unemployment) that took place with the economic stabilization of the 1990s, which was not followed by a strong growth in output, leading to a decline in output per worker.

This result is consistent with the conclusions of Gutiérrez et al. (2008).<sup>12</sup> Decomposing the change in output per worker in the 2001-2005 period into changes in the capital-to-worker ratio, changes in Total Factor Productivity (TFP), and employment shifts across sectors, they find that changes in the capital-to-worker ratio and in the sectoral composition of employment contributed positively to growth in output per worker, but these positive changes were outweighed by a strong *decline* in TFP, thus resulting in overall negative growth in output per worker. Since TFP is measured as a residual, it is not possible to pinpoint the cause of the decline in TFP; however, one plausible explanation proposed by Gutierrez et al. is the shift in occupations towards less-skilled occupations. As noted before, the trend towards less skilled occupations (notably the relative increase in self-employment) continued until 2009, and this adds to the explanation of the lack of productivity growth over the period.



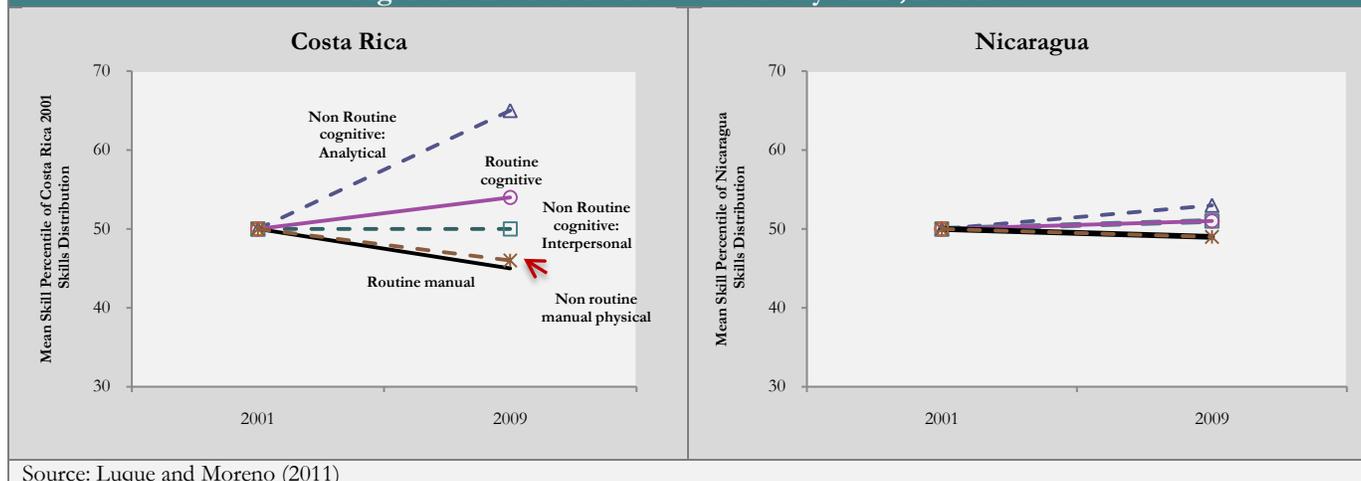
Furthermore, there was almost no change in the *skill content* of jobs in Nicaragua. The *skill content* of employment classifies occupations within a sector (for instance, production workers, clerical staff, etc.) according to the set of specific tasks entailed by the occupation and their degree of analytical complexity. Looking at the evolution of these occupations over time is one way to understand whether the level of complexity of tasks, and therefore the skills required by them are increasing or not. Using the methodology developed in Autor, Levi and Murnane (2003) the panels of Figure 16 divide the evolution of jobs in Costa Rica and Nicaragua into five categories of occupations:<sup>13</sup> three higher-skill “new economy” occupations (non-routine cognitive analytical, non-routine cognitive interpersonal and routine cognitive) and three

<sup>12</sup> They find that product per worker in Nicaragua fell by 1.78% between 2001 and 2005; the discrepancy with our result comes from the fact that they look at all sectors of the economy, including Government and services, while we focus only on three. Gutiérrez, Catalina, Pierella Paci and Marco Ranzani. *Making work pay in Nicaragua: employment, growth, and poverty reduction*. The World Bank, Washington DC, 2008.

<sup>13</sup> Autor, D., F. Levy and R. Murnane (2003). “The Skill Content of Recent Technological Change: An Empirical Exploration.” *Quarterly Journal of Economics*, 118(4), November 2003, 1279-1334.

lower-skill “old economy” occupations (routine manual and non-routine physical).<sup>14</sup> Then individuals’ occupations are rated according to their skill content and the base year is normalized in order to be able to track the changes over time. In the case of Nicaragua, there was almost no change in the skill content of occupations between 2001 and 2009, which stands in strong contrast to the evolution in Costa Rica, where “new economy skills” increased significantly.

Figure 16: Evolution of New Economy Skills, 2001-2009



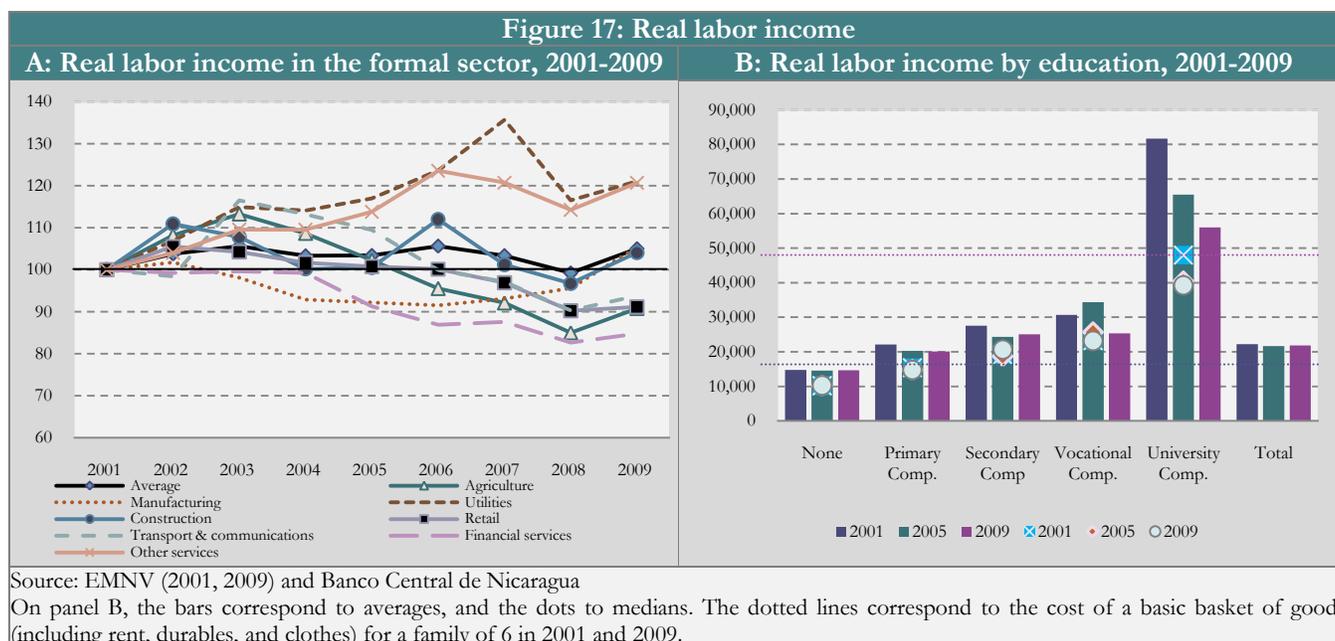
## Earnings

**Overall, real earnings remained constant between 2001 and 2009, with a modest increase for the formal sector.** Real labor earnings for formal workers increased on average by only 5% in the last decade, but there is large heterogeneity across sectors (Figure 17: A).<sup>15</sup> Formal earnings in the main sectors of agriculture and retail fell by around 10%, whereas in manufacturing they improved slightly and in other services and utilities they increased by 20%. On the other hand, when all earnings are included, both formal and informal, we find that in fact real earnings have remained flat; moreover, they have declined substantially for educated workers (Figure 17: B). Indeed, average real earnings remained virtually unchanged overall (mean and median), yet, when we look at real earnings by education category we find they fell on average for most categories, most significantly for those with completed university (they slightly increased for secondary educated workers, but only with respect to 2005), which has narrowed the earnings gap between unskilled and skilled workers. This can be explained by the fact that workers have become increasingly more educated since 2001 (for instance, the share of workers with less than primary education

<sup>14</sup> Examples of occupations using “new economy” non-routine cognitive skills include teachers, medical professionals, lawyers, programmers, and training and development managers. Examples of occupations using “new economy” routine cognitive skills include telephone operators, bus drivers, bookkeeping, accounting, auditing clerks, meter readers and cashiers. Examples of occupations using low-technology manual and physical skills include construction carpenters, industrial truck operators, show machine operators and tenders, cutting and slicing machine setters, operators and tenders, and food cooking machine operators and tenders. (Jessica include complete reference: Luque and Moreno, 2011).

<sup>15</sup> We refer to “labor income” rather than wages as we consider all workers, not just salaried workers. Labor income refers to the full compensation received from the main activity, and that add to the base salary, including social contributions, additional wages, etc.

fell from 53% to 43% between 2001 and 2009) so that even if within category earnings fell, there are now more workers earning at higher-wage categories, which compensates in the aggregate for the declines in earnings within categories. This also reflects the fact that while the supply of educated workers has increased steadily, the demand for these workers has not followed, which caused a likely downward pressure on skilled worker earnings. Moreover, taking a broader measure of the cost of living, we find that purchasing power fell for all workers: in 2001, an average annual income was just sufficient to cover the cost of a basic basket of goods for a family of 6 (including food, non-durable household items, rent, and clothes). By 2009, an average annual income could buy less than half of the basic basket.



### Returns to education and experience

**Consistent with the evidence on earnings presented above, returns to education fell by 80% between 2001 and 2009, as education expanded, so that only higher years of education cause large increases in earnings.** In 2001, an additional year of education meant additional earnings of 5.5%; in 2009 the additional earnings for an extra year of education amounted to an extra 1% (Table 4). Moreover, increasing returns to education have become more pronounced, which suggests that the additional earnings of education only become important after tertiary education has been completed. As mentioned before, this decline in returns to education is explained by the important increase in average years of education in the labor force, as younger cohorts have replaced older (less educated) ones. However, looking at younger workers who live with their parents, we control for the income of the household head and find that while returns to education have fallen since 2001, the effect of parents' income has become more important, reflecting the effect of other characteristics of these workers (such as better networks) that makes them achieve higher earnings in the market.

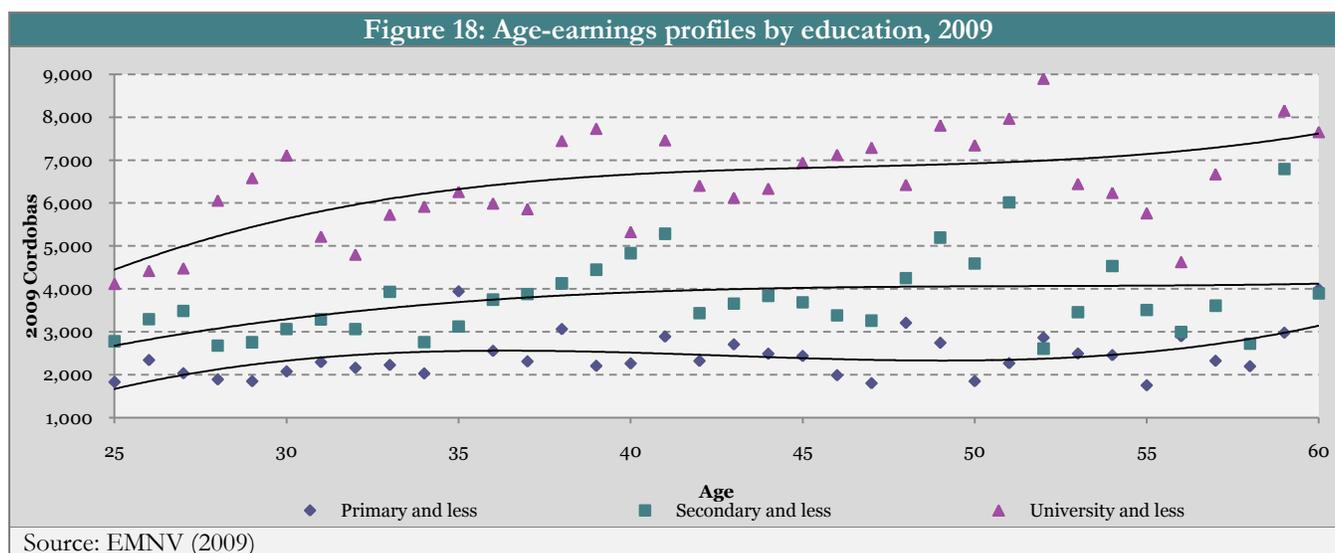
Table 4: Returns to Education

Dependent variable: (log) income				
Employed population 20-64 years old				
	I		II	
	2001	2009	2001	2009
Years education	<b>0.070</b>	<b>0.054</b>	<b>0.055</b>	<b>0.010</b>
Years education <sup>2</sup>			<b>0.001</b>	<b>0.003</b>
Age	<b>0.015</b>	<b>0.045</b>	<b>0.015</b>	<b>0.045</b>
Age <sup>2</sup>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
Attending school	-0.067	<b>-0.052</b>	-0.075	<b>-0.053</b>
Urban	<b>0.270</b>	<b>0.076</b>	<b>0.280</b>	<b>0.100</b>
Constant	<b>8.610</b>	<b>8.477</b>	<b>8.650</b>	<b>8.610</b>
R <sup>2</sup>	0.190	0.240	0.190	0.250
Employed population 20-30 years old living in the parents' home				
	I		II	
	2001	2009	2001	2009
Years education	<b>0.060</b>	<b>0.050</b>	<b>0.050</b>	<b>0.040</b>
Income HH head			<b>0.070</b>	<b>0.130</b>
Education HH head			0.010	0.000
Age	-0.090	0.110	-0.110	-0.180
Age <sup>2</sup>	0.000	0.000	0.000	0.000
Attending school	<b>-0.220</b>	<b>-0.090</b>	<b>-0.250</b>	-0.040
Urban	0.050	<b>0.140</b>	0.080	0.110
Constant	<b>10.210</b>	<b>7.620</b>	<b>9.780</b>	<b>9.850</b>
R <sup>2</sup>	0.140	0.190	0.166	0.220
Estimated by OLS. Bold denotes statistically significant coefficient (at least at the 10% level)				
Source: authors' calculations based on EMNV (2001, 2009)				

**Another indication of the weak labor market prospects is the limited evolution of income as workers age.** International evidence shows that experience significantly increases workers' productivity, and therefore their income.<sup>16</sup> In Nicaragua the experience premium seems to be modest for most workers, as is shown by the earnings profile of workers with different levels of education (Figure 18). In particular, for workers with primary or less, the earnings profile curve is slightly upward-sloping, indicating that experience has a minimal impact on income. For workers with secondary and more, the earnings profile curve increases slightly at the beginning but then is essentially flat after age 40, while workers with tertiary education can expect to increase their earnings by roughly 30% between the ages of 25 and 60. This is a very heterogeneous progression relative to the one observed in advanced countries, where earnings profiles are essentially parallel, rising rapidly in the first 10 years, then rising at a slower pace, and finally declining slightly in the last years of activity.<sup>17</sup> In fact, these earnings profiles suggest that experience (or more likely seniority) is only valued for educated workers.

<sup>16</sup> See for example: Buchinsky, Moshe; Denis Fougère; Francis Kramarz and Rusty Tchernis, "Interfirm Mobility, Wages, and the Returns to Seniority and Experience in the U.S.," IZA Discussion Paper No. 1521, March 2005.

<sup>17</sup> See for example: Murphy, Kevin and Finis Welch, "Empirical Age-Earnings Profiles," *Journal of Labor Economics*, Vol. 8, No. 2, April 1990.



### Skills for the labor market

**An analysis of labor demand in the formal sector suggests that Nicaraguan firms have a high demand for skills relative to other countries in Central America.** Data from the World Bank’s Enterprise Surveys from 2010 show that the median Nicaraguan (formal) firm in manufacturing and retail has 15% of tertiary educated workers among its full time, permanent workers. This is above the median firm in the rest of the region, which has 12% of tertiary educated workers. This gap grows wider when we look at the median percentage of workers with tertiary education by firm size: while small firms tend to use less skilled labor in Nicaragua relative to the rest of Central America (10% of workers have tertiary education, against 15% in the rest of Central America), medium and large firms use almost twice as much skilled labor in Nicaragua (Table 5).

**Table 5: Use of skilled labor in formal firms  
(Percentage of full time, permanent workers with at least a bachelor degree)**

Source: Enterprise Surveys

	Rest of Central America		Nicaragua	
	MEDIAN	MEAN	MEDIAN	MEAN
Firm size				
Total	12	20.1	15	23.8
[5-19] workers	15	22.4	10	18.3
[20-99] workers	12	19.0	20	30.4
[100+] workers	10	15.0	20	28.3

Source: Enterprise Surveys (2010)

**Evidence also suggests that formal firms have significant worker turnover.** Among formal firms in Nicaragua, 20% have unfilled vacancies, two percentage points above the average for the rest of Central America, and although on average firms in Nicaragua have fewer unfilled vacancies per firm (one less), they expect to have a higher number of unfilled vacancies in the future (Table 6). This could be the result of many factors, which cannot be easily identified (for instance higher expected sales growth, higher expected labor turnover, etc.). At the same time, they can fill these vacancies faster than in the rest of the region, since more than 75% of vacancies fill in less than four months, against less than 60% in the rest of Central America. Together, these indicators suggest that formal firms in Nicaragua could experience higher worker turnover, so that they have to fill a large number of vacancies and they do so in a relatively short period, in part due to a large relative supply of educated workers.

**Table 6: Unfilled vacancies in the formal sector**

	Percentage of establishments with unfilled vacancies	Average number of unfilled vacancies	Expected number of unfilled vacancies in next 12 months	Percentage of unfilled vacancies vacant for more than four months
Rest of Central America	17.9	3.6	5.2	42.6
Nicaragua	20.1	2.7	7.5	23.8
Total	18.0	3.6	5.4	41.1

Source: Enterprise Surveys (2010)

**In turn, high worker turnover could be the result of difficulties in finding the right skills for the job.**

Among firms that have unfilled vacancies, more than 61% of them find that social skills such as communication skills are the most difficult to find in a candidate, in contrast to 52% in the rest of Central America (Table 7). This suggests that the education system is not really successful in providing those skills that employers need the most, which in turn generates inefficiencies in the labor market as workers have difficulties in finding employment that rewards investment in education, while employers have to replace frequently workers who cannot perform successfully.

**Table 7: Most difficult skill to find when filling vacancies (% firms)**

	Rest of Central America	Nicaragua	Total
Social skills (inter-personal relations, etc.)	51.66	61.34	52.31
Technical skills	48.34	38.66	47.69

Source: Enterprise Surveys (2010)

The analysis of the evolution of the main characteristics of the Nicaraguan labor market in the last decade reveals that, while employment growth has been positive, and participation and unemployment have remained relatively stable, there is insufficient employment creation, in particular for educated workers. As a result, unemployment, in particular for educated youth, is alarmingly high, and the numbers of educated workers turning to self-employment (which pays less than salaried employment) has been growing. At the same time, there is evidence that the productivity of labor has stagnated as most jobs continue to involve low-skill tasks, and this is reflected in the meager growth of real incomes.

These challenges highlight several policy areas that deserve attention. First, it is crucial to raise the productivity of workers, both current and future. This can be done through the formal education system, but it should also be continued by the vocational training system, and by specific entrepreneurship training for the self-employed, especially in the agriculture sector. The evidence provided by analysis of enterprise

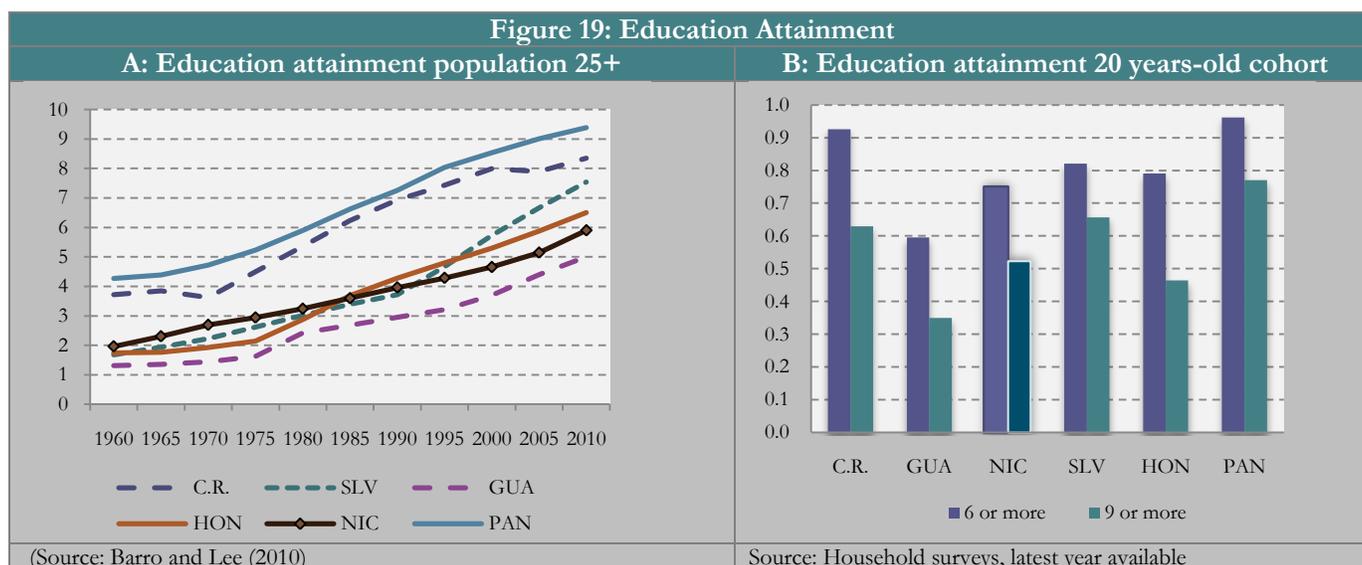
surveys suggests also that there is a deficit in the *soft skills* of workers, which can be addressed at all levels of education and training. In addition, it is necessary to facilitate the matching process between job seekers and firms by implementing intermediation services, especially for educated workers. The next two sections will focus specifically on the quantity and quality of skills, and the current available services for workers to access better opportunities in the labor market.

## Supply of skills among Nicaraguan workers

### Education attainment<sup>18</sup>

**On average, Nicaraguans in 2010 had three times more education (measured in years) than 50 years ago, however the progress is mixed.** Average attainment reached 5.8 years in 2010 for the population 25 years and older (Figure 19: A); however, this does not mean that an “average Nicaraguan” in 2010 was three times more educated than the same Nicaraguan 5 decades ago. Rather, this progress is explained by the fact that younger cohorts (which have the largest weight in total population) are marginally more educated.

**Indeed, gains in years of education at the cohort level have been small.** For example, in 2009 the 20-25 year-old group had only half-a-year more of education than the 25-30 year-old group, a small gain for a 5-year period, considering the young age group. And within the 20 years-old cohort, 75% has finished primary education and only 50% has completed the first cycle of secondary education, placing Nicaragua behind Costa Rica, Panama, and El Salvador, and at a similar level to Honduras (Figure 19: B). Hence, Nicaraguan youth are ill-equipped to face the demands in terms of skills of the labor market in the 21<sup>st</sup> century.

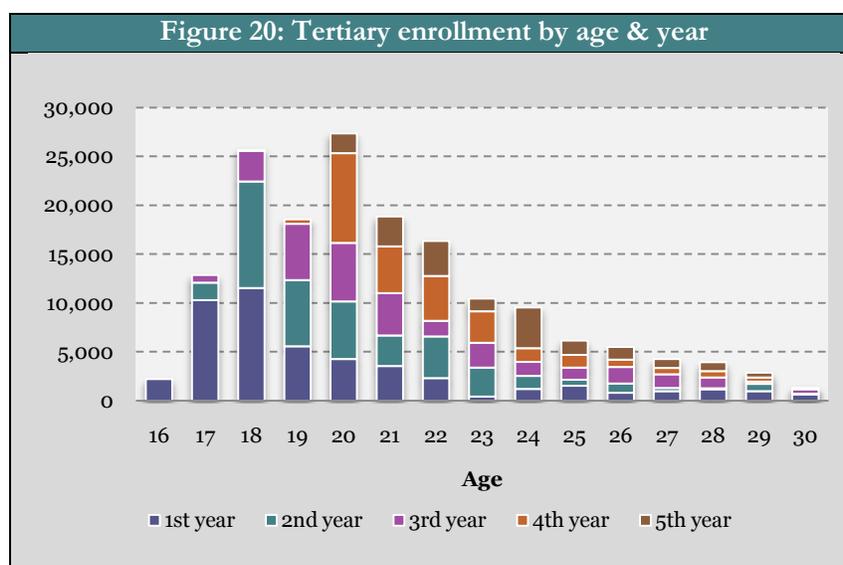


<sup>18</sup> As is standard in the literature, education attainment is measured in years of education (excluding repeated years).

**On the other hand, the proportion of the population with (at least some) tertiary education is high by regional standards, revealing growing inequality in attainment.** Nicaragua is just behind Costa Rica and Panama in the shares of the population with (at least some) tertiary education (Table 8). At face value, this is a positive outcome as it is likely to build a strong “critical mass” of educated Nicaraguans that can raise overall productivity and foster growth; however, these shares mask an important problem of dropout. Indeed, the shares of those with complete tertiary are 30% below the share with some tertiary education. What is even more striking is that the share of those with complete secondary falls by almost 50%, showing that Nicaragua has the second lowest share after Guatemala with complete secondary (only 11.6%). These numbers reveal that human capital accumulation in Nicaragua is unequal and inefficient, with most of the population falling short of even starting secondary education, and some people being able to go all the way to tertiary, but few in fact completing it (Figure 20). This raises questions for policy as the share of resources per student going to tertiary education are far greater than those devoted to primary and secondary.

	Secondary	Secondary complete	Tertiary	Tertiary complete
Costa Rica	36.3	19.4	17.3	13.2
El Salvador	32.3	16.8	11.5	8.5
Guatemala	15.2	9.7	2.9	2.2
Honduras	27.8	13.4	6.3	4
Nicaragua	21.7	11.6	15.9	10.1
Panama	39.4	24.6	22.7	16.4

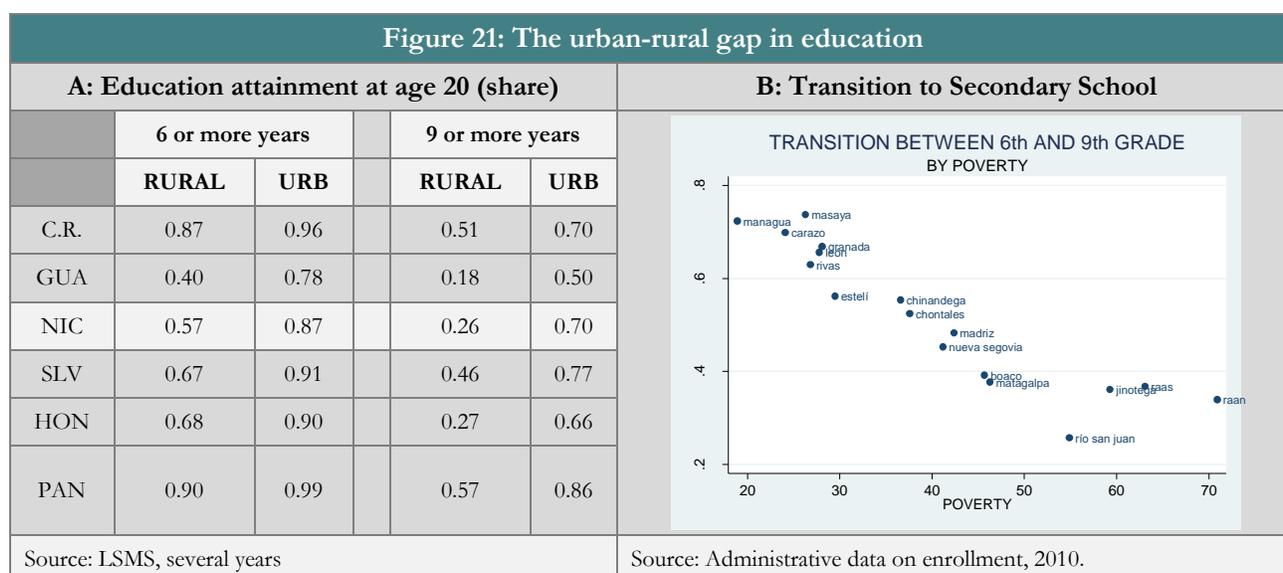
Source: Barro and Lee (2010)



**A similar divide appears when comparing attainment in urban and rural areas.** Indeed, the education attainment for the rural 20 year-old cohort is the second worst in Central America, and the urban-rural education gap is the largest in the region (Figure 21:A).<sup>19</sup> Students in rural areas face particularly high barriers to finish the first cycle of secondary (Figure 21: B). For example, in the RAAS (a sparsely populated

<sup>19</sup> Measured as the share with complete lower secondary (grade 9) by age 20.

area in the Caribbean coast) there is only one public secondary school. The limited road infrastructure and population dispersion those areas pose great challenges for increasing attendance, as the cost per student turns out to be higher than in more economically advantaged areas.



**The modest progress in attainment for the majority is the result of persisting barriers to enrollment and completion at the primary and secondary levels.** An analysis of the reasons why school-age children are not enrolled in school indicates that economic (fees) and supply (lack of schools) barriers are still significant, even at the primary level. In addition, school relevance (i.e. lack of interest) turns out to be important in explaining the (lack of) transition from primary to secondary for almost one-third of those not enrolled, suggesting a mismatch between what is learned in school and future employment opportunities, especially for the most disadvantaged (Table 9).

**Table 9: Reasons for not being enrolled in school (for corresponding age-groups)**

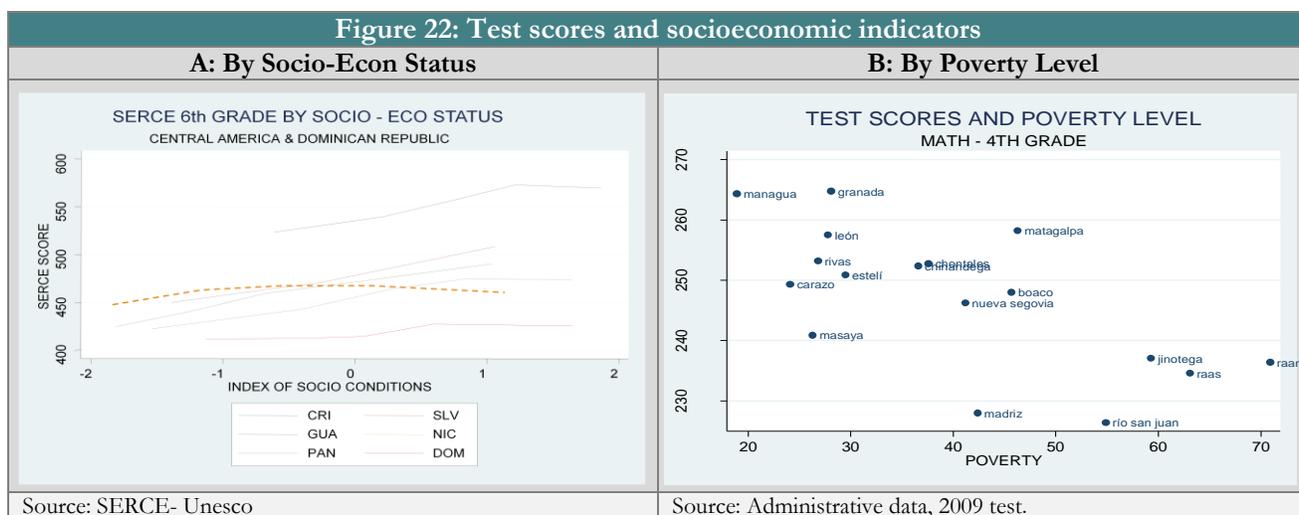
Percentages	Primary		Secondary		Tertiary
	Start	Finish	Start	Finish	Start
	Not interested	0.00	<b>30.29</b>	<b>27.61</b>	23.14
Has to work	0.21	11.97	15.56	24.52	35.35
No school	<b>35.14</b>	9.89	<b>18.84</b>	0.63	1.96
Too expensive	<b>29.15</b>	<b>38.77</b>	<b>28.06</b>	<b>27.58</b>	<b>31.77</b>
Other	35.50	9.08	9.93	24.13	16.61

Source: EMNV(2009)

## Education quality

Education quality indicators in Nicaragua (as measured by test scores) are similar to most other Central American countries, but in contrast to its neighbors, test scores are not strongly related to the student's socio-economic level. Quality indicators are low by international standards, and below the

level predicted by its GDP when compared to a big sample of countries. Nonetheless, there is an important difference between Nicaragua and its Central American neighbors: the relationship between socioeconomic conditions and test scores is weak, that is, the gap in test performance between the wealthy and the poor is very small, indicating that even those more privileged students fare poorly by international standards (Figure 22:A). Moreover, performance varies considerably between areas of similar poverty levels: for example, in the national 4<sup>th</sup> grade mathematics assessment, results in Granada, León, and Masaya were very different, suggesting that school factors may play an important role in performance (a similar pattern is seen in the 6<sup>th</sup> grade SERCE scores –Figure 22: B).



The analysis of the evolution of skills over the last decade in Nicaragua reveals that while the overall pace of accumulation of human capital in Nicaragua has been slow but positive, there is large heterogeneity between groups in the country; in particular, there is a large divide in access and quality of education between urban and rural areas. Overall, there are significant deficiencies in quality, as in other Central American countries. Hence, to improve the quality of its workforce, Nicaragua needs to focus on expanding access to and improving completion of basic education (9 years), especially in rural areas. The next section will focus on the current efforts that the Government of Nicaragua is making to improve the overall skills of the population, and to improve access to better opportunities in the labor market.

### Improving skills and access to better jobs

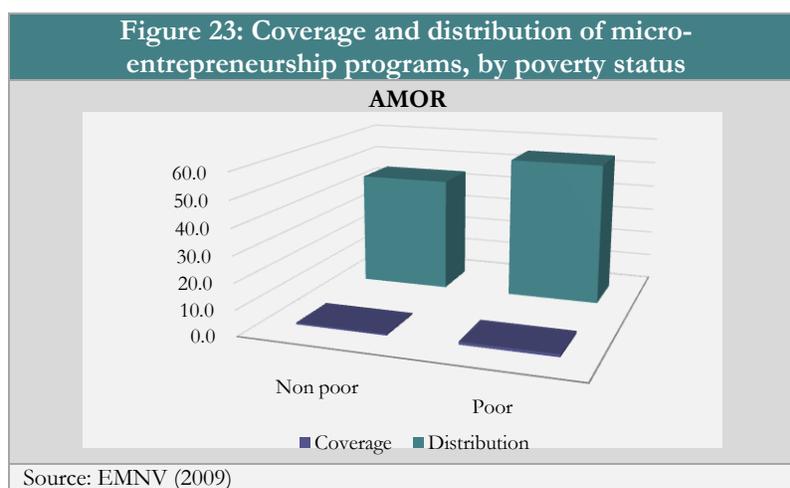
The diagnostics of the labor market and the stock of skills in Nicaragua provided in the previous sections highlight several key areas for policy intervention. First, although the workforce has become more educated over the last decade, many gaps remain in terms of access to education for the poor, and quality is low. In addition, there is evidence that even educated workers do not have the right “skills for the job.” On the labor market side, employment has been growing slowly but steadily, however, productivity and earnings have stagnated and skilled labor demand has not been sufficient to absorb the growing share of skilled workers entering the market, causing high unemployment among educated youth, and lowering real earnings for educated workers.

These findings imply that policymakers in Nicaragua should focus attention on improving the skills of the population both through the formal education system and through training systems for out-of-school workers, in order to improve their productivity and the labor market relevance of their skills in the long run. At the same time, there should be policies in place to facilitate the transition of workers, especially educated workers, into the labor market, and to raise the productivity of the self-employed, so that they can accelerate their transition out of poverty. This section reviews Nicaragua's programs and policies to improve access to "better jobs," focusing on the areas described above.

## Skills accumulation

### Early Childhood Development

**AMOR.** Under the new National Social Welfare System (*Sistema Nacional Para el Bienestar Social*, SNBES), created in 2008, the Government of Nicaragua has put in place an umbrella program, called AMOR, to provide comprehensive protection and support to the development of the most vulnerable children. This program takes about 11% of total social assistance spending and includes several interventions in the areas of early childhood development (ECD), early childhood education (ECE), and nutrition and maternal health in rural areas (Figure 23). However coverage remains low, with less than 2% of the population covered (1.1% of the poor – Figure 23). This program has been gaining strength in recent years; for example, Phase III of PAININ (a comprehensive maternal-ECD program) is under execution and targets children under the 6 years old in the 66 poorest municipalities, including six in the Atlantic Region.<sup>20</sup> Moreover, a new urban welfare program for children in extreme poverty will focus on urban areas with a strategy basically adapted from PAININ. Finally, the AMOR Program has helped rehabilitate the Community Child Development Centers (CDI-*Comunitarios*) in rural areas as well as the Child Development Centers (CDI) in urban areas.

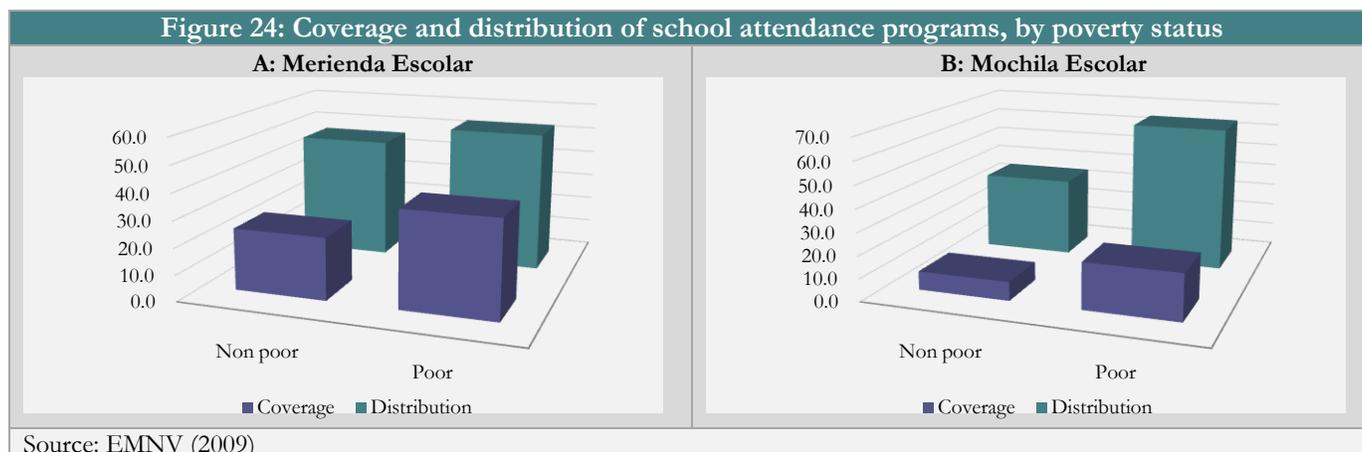


### Access to and quality of basic education

**Merienda Escolar & Mochila Escolar.** The most important programs directly related to increasing school attendance (and indirectly student performance) are a school-feeding program (Merienda Escolar) and an in-kind transfer of school supplies (Mochila Escolar) at the primary school level. Merienda Escolar

<sup>20</sup> The amount invested in this program increased from C/79 million in 2008 to C/130 million in 2009.

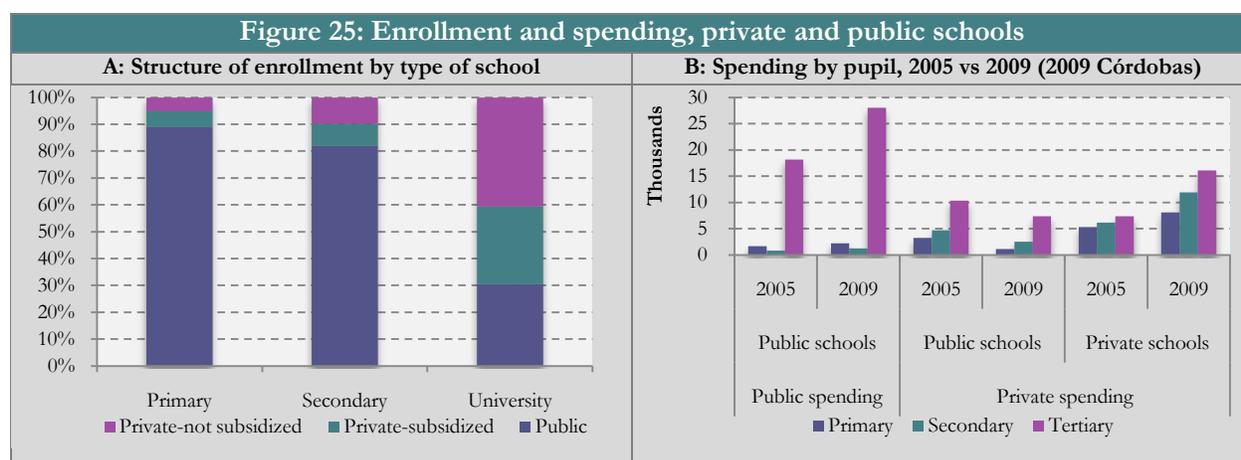
accounts for about 6% of total social assistance spending (in 2009) and is supported by various donors and by the World Bank. Among the six main social assistance programs captured by the EMNV 2009, only Merienda Escolar and Mochila Escolar reach more than 5% of the Nicaraguan population (29% for Merienda Escolar and 13.5% for Mochila Escolar –Figure 24). The rest of the programs reach between 1% and 34% of the population.<sup>21</sup>



In addition, there are other small programs, both under the AMOR program and others run by the Labor Ministry and the Ministry of Education to increase school attendance of out-of-school youth and to reduce child labor. However these constitute only 1.1% of total social assistance spending. Counting major programs that support the implementation of the *Plan Nacional de Educación* (PNE), the Government devotes a quarter of social assistance spending to increase and maintain school attendance at the primary level; however, **financial barriers are still binding for many households, which suggests that more must be done on the demand-side** (e.g., with scholarships) to stimulate participation in primary education and increase enrollment in secondary education.

**In addition, the Government has recently introduced a policy of free basic education (*gratuidad de la educación*), which aims to reduce access barriers for the poorest.** However, in the absence of a well financed and sustainable *gratuidad*, the decrease in private spending in the public school system could further strain the finances of the education sector and pose risks for the progress achieved so far. Although the large majority of students in primary and secondary education attend “free” public schools, towards the mid-2000s parents were disbursing considerable sums to these schools. But these disbursements have been falling on public schools while they have increased substantially in the private sector (Figure 25: B). At the same time, we do not know if public spending in public education has been sufficient to fill the gap left by the reduction of private spending. The risk of imposing *gratuidad* without providing sufficient resources to public schools is that recent progress could be reversed if quality declines, leading to increased absenteeism, dropout and lower attainment in the future.

<sup>21</sup> This number does not correct for the size of the eligible population, therefore coverage is likely higher if we only consider the eligible population.



**The Government is taking concrete actions to ensure all children complete a primary education of quality.** These actions include redefining curriculums, providing students with textbooks, expanding teacher training, setting clear evaluation standards, and implementing diagnostic tests. In addition, partnerships with donors such as USAID are leading to additional efforts to improve teacher effectiveness, increase access to quality education, and promote community participation in education, for instance with the construction of the Institute of Academic Excellence (*Instituto de Excelencia Académica*, IDEA).

### Training

**INATEC, established in 1991, is the largest technical and vocational training institution in the country, providing training for formal employees who contribute with a 2% payroll tax (which finances the institution), as well as to people in situation of unemployment or underemployment, including out-of-school youth.** It also conducts special training program for unemployed women micro-entrepreneurs and people with special needs. INATEC has two main programs (Technical Education, and Professional and Special Training) and a large number of institutes, technical centers, and workshops across the country, including two in the RAAN and three in RAAS. Of a total of about 140,000 trainings delivered between 2006 and 2009 almost 100,000 consisted of vocational training, training to formal employees, and training to beneficiaries of the *Usura Cero* program, while the number of trainings for the most vulnerable was considerably smaller (Table 10).

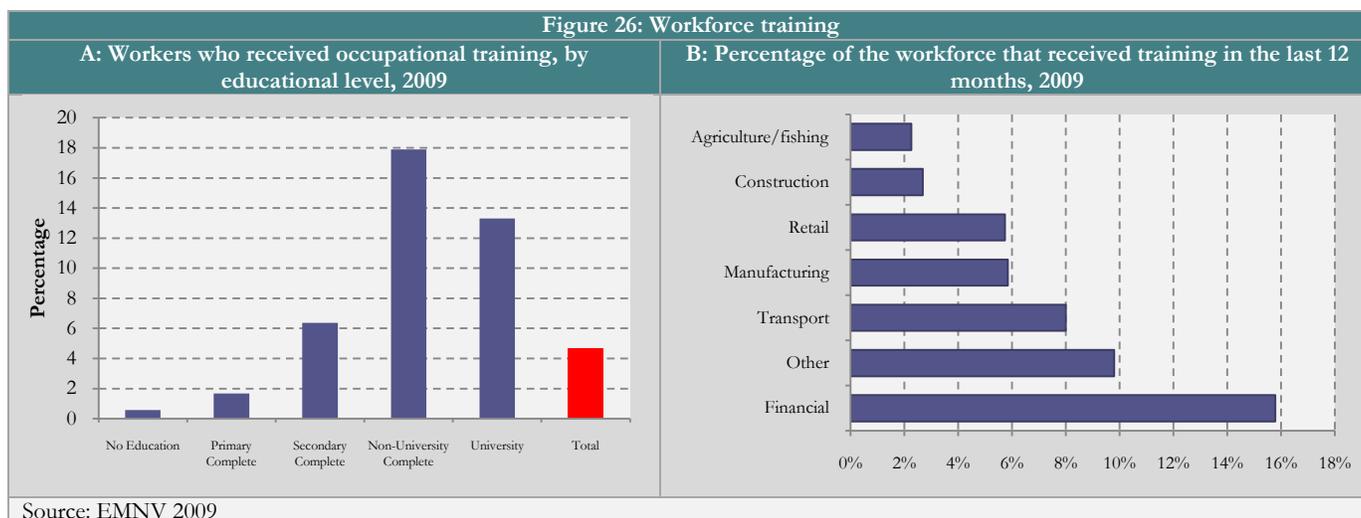
**Table 10: INATEC training courses delivered, 2006-2009**

(Persons)	2006	2007	2008	2009	Projected 2010
Trainings	74,337	72,921	131,636	156,611	139,894
Vocational training in training centers	16,292	20,141	27,835	42,405	25,151
Technological Kiosks	7,497	-	-	-	-
Mobile Units	-	-	-	16,823	18,000
Workshops	-	-	844	1,070	1,920
<i>Aulas Net</i> (CPCI) Open computing courses	-	-	-	3,600	1,040
Formal employees contributing 2%	49,529	40,741	33,116	52,527	40,000
Special programs (disabled, single mothers, at-risk youth)	454	1,169	1,211	6,679	8,090

Professional sports players	-	-	1,500	1,188	1,060
SME owners	565	519	1,509	3,222	3,000
Occupational training	-	-	216	519	1,250
<i>Usura Cero</i> program	-	9,906	65,000	27,546	39,502
<i>Hambre Cero</i> program	-	445	405	528	722
Technical assistance for entrepreneurs	-	-	-	504	119
Training for beneficiaries of <i>Proyecto Semilla Certificada</i>	-	-	-	-	40
Scholarships	1,873	8,500	20,000	100,000	100,000

Source: ICEFI, using data from INATEC

**More than one-fifth of social protection spending is directed to training programs, and the large majority covers training for workers who have completed secondary education, while out-of-school youth receive only marginal support.** Overall, about 4.7% of the workforce received occupational training of any kind in 2009, however the training is directed mostly towards workers with more education: while 18% of workers with non-university (tertiary) education and 13% of workers with university education received training, only 1.7% of workers with primary education received any training in the last 12 months (Figure 26: A). This is confirmed by the breakdown of training received by sector: higher value added sectors such as financial services tend to provide more training, although the share of workers remains low compared to other countries (Figure 26: B). There is insufficient information to understand whether the coverage of training is insufficient or whether there are gaps in the relevance and quality of training that could be reducing the potential positive impact of training on worker productivity.



## Labor Market Policies and Programs

There is a broad typology of labor market institutions that exist to provide employed workers with safe and decent worker conditions, and to help smooth incomes in case of job loss or retirement. In addition, Active Labor Market Programs (ALMPs) support employed and self-employed workers in acquiring better skills for their current job or to change jobs. For workers who are entering the labor market or for the unemployed, another category of ALMPs can be implemented to reduce information gaps by facilitating the matching

process via intermediation programs, job fairs, etc., and emergency income protection can be provided through workfare programs, among others. In Nicaragua these programs make over 50% of total social protection spending.

## Policies for Employed Workers

### *Labor Market Regulation*

**Minimum wages increase periodically in Nicaragua, but they do not appear to cause distortions in the wage distribution.** By law, minimum-wage increases are negotiated every six months. In October 2008, the Government approved an increase of 18% in the minimum wage of all public and private sector employees (annual inflation to October of 20.3%). In January 2009, all public teachers and health workers received pay raises of up to 16%. In February 2010, the minimum wage for all employees was further increased by 6%, and another 6% in the second semester of 2010; on May 1, 2010 the President announced an increase of 10% in salaries of public employees earning less than C/5,500 per month through a “*bono solidario*”. Although frequent and substantial, these increases mostly compensate for inflation, leaving real wages almost flat.

**Nicaragua’s firing regulations are flexible by region standards.** According to the Doing Business report, formal workers who are dismissed do not need to receive prior notice and are entitled to receive a severance pay that is on average equivalent to less than 4 months of salary, which is similar to the case of Costa Rica, but significantly lower than in other countries of the region (Table 11). Still, a disadvantage of this sort of income protection is that it creates perverse incentives, both on the part of the employer and of the employee. The employer sees this as a cost of having a formal worker, which could potentially reduce formal labor demand, while the worker has no mobility incentives, especially when formal employment opportunities are scarce. Many countries are reforming their systems to implement unemployment insurance accounts that allow workers to transition from one job to another without a complete loss of income, and that effectively create more risk-sharing face to layoffs between the employer and the employee. Clearly this is a more desirable outcome as long as it does not raise formal labor costs. Currently Nicaragua does not have unemployment insurance.

**Table 11: Protection against dismissals in Nicaragua and Central America, 2011**

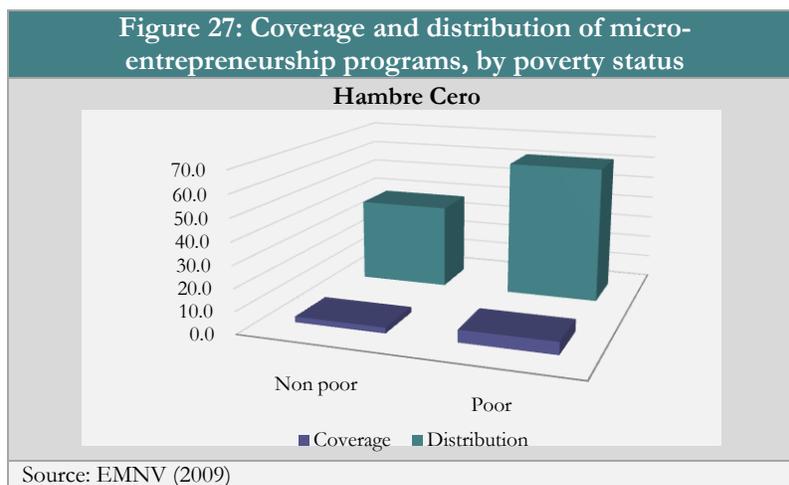
	Notification & approval of a third party required if 1-9 workers dismissed?	Notice period for redundancy dismissal (average for workers with 1, 5 and 10 years of tenure, in salary weeks)	Severance pay for redundancy dismissal (average for workers with 1, 5 and 10 years of tenure, in salary weeks)
<b>Costa Rica</b>	No	4.3	14.4
<b>El Salvador</b>	No	0.0	22.9
<b>Guatemala</b>	No	0.0	27.0
<b>Honduras</b>	Yes	7.2	23.1
<b>Nicaragua</b>	<b>No</b>	<b>0.0</b>	<b>14.9</b>
<b>Panama</b>	Yes	0.0	19.0

Source: Doing Business 2011

### **Microentrepreneurship and support to agricultural workers**

**Usura Cero.-** To improve the income-generating capacity of poor women in urban areas, the Government launched the *Usura Cero* program in August 2007, which provides credit to poor urban women 18 years and older, to establish or expand micro businesses through the modality of “solidarity groups” of between 5 and 10 women.<sup>22</sup> INATEC provides training to enable the beneficiaries to develop their business plans and learn basic principles of administration. As noted previously, this program covers mostly non-poor women, as they have higher capacity to start entrepreneurial activities and hence the probability of success with this group is higher. (Figure 27: A)

**Hambre Cero.-** The *Hambre Cero* umbrella program seeks to combat chronic malnutrition, extreme poverty, and unemployment among rural households. Several programs integrate this effort, for example the *Programa Productivo Alimentario* (PPA), launched in 2007. The program supports 75,000 rural families through a productive voucher (or *bono productivo*) given directly to women, who also receive complementary training in administrative and technological aspects (provided by INATEC). The productive voucher consists of in-kind transfers such as animals, equipment, seeds, and bio-digester to produce energy for cooking. A complementary program (*Programa Agroalimentario de Semilla*, PAS) distributes improved seeds (and fertilizers) to farmers. In 2008, 19,554 families received the productive voucher and over 110,000 farmers received improved seeds; in 2009, 31,709 families received the voucher and over 190,000 received improved seeds. (Figure 27: B)



## Policies for Unemployed Workers

### **Intermediation**

Nicaragua has no specific intermediation program to facilitate the job search process between employers and employees, but there are some initiatives that could be further developed. The Ministry of Labor offers several services including legal advice on labor issues, standards of hygiene and

<sup>22</sup> The loan amount varies between US\$ 100 and US\$ 300; the repayment period between 3 and 8 months; and the interest rate is 4 percent. The program goal is to reach 60,000 women during 2007/10. Unfortunately, no allocation was made for this program in the 2010 budget. Data from the EMNV 2009 suggest that this program is benefiting mostly the non-poor population (81%).

safety in the workplace, and a public employment service (Servicio Público de Empleo, SEPPEM). In addition, the Ministry of Labor is implementing four small projects for labor insertion of youth, women, and returning migrants. The absence of larger intermediation efforts (both public and private), combined with the limited job opportunities, result in job search methods that are mostly informal. Indeed, in 2009, most unemployed workers used very “traditional” job search methods, such as asking friends and relatives or enquiring with employers directly. Only a few workers (less than 20%) with tertiary education resorted to more formal methods such as looking at internet and newspaper ads (Figure 28).

### Workfare

After Hurricane Felix hit the coast of the Autonomous Northern Atlantic Region of Nicaragua (RAAN) in 2007, with devastating consequence for the local population, the Government established an Emergency and Reconstruction Fund (a public works program) to assist the affected population. The World Food Program (WFP) implemented a food-for-work (FFW) program for 80,000 individuals, while FISE, Ministry of Public Works, Local Government, and other entities started the execution of the Felix Reconstruction Program, which invested C/98 million in 2008 and C/13.4 million in 2009.

### Fiscal Implications

**Despite substantial fiscal efforts made in the last decade to provide better social protection for Nicaraguans, most major programs still have very low coverage.** Nicaragua is only below Panama in Central America in terms of resources allocated to social protection (7.7 % of GDP in 2009), and it ranks at the top in social assistance spending (at 3.2% of GDP – Table 12).<sup>23</sup> Still, the evidence discussed above suggests that the current level of spending is insufficient to provide the support that Nicaraguans need to access better jobs in the future. The fact that most (non-pension) social protection spending is devoted to improving skills acquisition is a positive thing, however, more must be done to create and expand ALMPs to provide assistance to unemployed workers (especially skilled workers) with better information and ways to access job opportunities.

**Table 12: Social Protection Spending (% GDP)**

	Social Insurance	Social Assistance <sup>24</sup>	Total Social Protection	Year
Nicaragua	4.8	3.2	7.7	2009
Honduras	1.8	1.8	3.6	2009/07
Dominican Republic	0.7	1.7	2.4	2004
Costa Rica	4.3	1.5	5.8	2004
Panama	6.6	2.8	9.4	2009
El Salvador	3.8	0.4	4.3	2008
Belize	2.8	2.9	5.7	2009

Source: Márques (2010) and World Bank (2010)

<sup>23</sup> A large fraction of spending in this category (18%) corresponds to programs to support the Ministry of Education in the implementation of the National Education Plan (PNE). Excluding these programs spending on social assistance would equal 2.6% of GDP, still one of the highest shares in the region.

<sup>24</sup> “Social assistance” refers broadly to pure assistance programs as well as social services and protection programs delivered by the social sector, which are excluded from the “social insurance” category.

## Conclusions

The analysis of this note reveals that the evolution of employment in Nicaragua over the last decade has been mildly positive, but important challenges remain, while new challenges are emerging. Employment has grown steadily, but there has been little progress in improving either labor productivity or earnings. Moreover, there is an apparent excess of educated workers, who suffer high unemployment and spend a long time searching for work. This is not to say that Nicaragua suffers from an absolute abundance of skilled workers; in fact, the absolute supply of skills in Nicaragua is still very low and uneven, both in terms of quantity (years of education) and quality (competencies).

To foster good quality job creation it is necessary to create appropriate conditions to stimulate labor demand by improving the investment climate, particularly in sectors related to agriculture and knowledge-intensive services. At the same time, investing in a skilled workforce is a pre-condition for having better jobs in the future, as investment in these sectors depends on the availability of qualified workers able to fill those jobs.

This note highlights three main policy areas that deserve particular attention: first, providing better skills through the formal education system and through training. This is already taking place to a certain extent; however, there is insufficient information on the relevance and quality of the training provided by INATEC (and by private providers), so that it is not clear that the investment in training is delivering the desired results in terms of better skills. Second, it is necessary to provide more support for self-employed workers to raise their productivity and earnings. Some efforts are already under way (through *Hambre Cero* and *Usura Cero*) but these are still small and there is no solid evidence of their results. Third, educated workers could benefit from intermediation services and more access to programs such as *Usura Cero*, to explore entrepreneurship opportunities. Finally, workers (especially in the agriculture sector) need better protection against shocks. These policy areas are reviewed in more detail in the Annex.

## Acknowledgements

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## Annex: Improving Skills and Fostering Good Quality Job Creation in Nicaragua: Policy Recommendations

EDUCATION AND SKILLS		
Current Status/Programs	Policy Actions and Phasing	International Experience
<ul style="list-style-type: none"> <li>The AMOR program focuses on maternal and infant well-being, but coverage is low</li> <li>The Plan Nacional de Educacion is expanding coverage and improving quality.</li> <li>The Policy of free access to education (Gratuidad) should help to decrease financial barriers, however this could put pressure on quality</li> <li>The school feeding and supplies programs Merienda Escolar and Mochila Escolar have large coverage and could help ease financial barriers to attendance. However they lack evaluations so we don't know about impact or cost-effectiveness.</li> </ul>	<p><i>Policy Action:</i> Achieve universal primary education, by continuing to implement the <i>Plan Nacional de Educación</i>.</p> <p><i>Short-Term:</i></p> <ul style="list-style-type: none"> <li>Reduce financial barriers through scholarships and other incentives.</li> <li>Ensure fiscal sustainability of <i>Gratuidad</i></li> </ul> <p><i>Medium-Term:</i></p> <ul style="list-style-type: none"> <li>Improve quality of primary education (including school infrastructure.)</li> <li>Continue and expand the implementation of ECD in rural areas, and ensure the transition from childcare to primary school.</li> </ul>	<p>Full time schools are being implemented in other Central American countries (e.g., El Salvador)</p>
<ul style="list-style-type: none"> <li>Large heterogeneity in supply of secondary education</li> </ul>	<p><i>Policy Action:</i> Expand enrollment in lower secondary education.</p> <p><i>Short-Term:</i></p> <p><i>Medium-Term:</i> Improve labor market relevance of secondary education, provide better financial incentives, and increase access for rural population.</p>	<ul style="list-style-type: none"> <li>Panama's expansion of secondary schools to rural areas.</li> </ul>
<ul style="list-style-type: none"> <li>INATEC offers mostly formal worker training</li> </ul>	<p><i>Policy Action:</i> Ensure a smooth transition from school work.</p> <p><i>Short-Term:</i> Expand training for out-of-school youth and unskilled adults, both urban and rural, but especially rural.</p> <p><i>Medium-Term:</i></p> <ul style="list-style-type: none"> <li>Partner with the private sector to provide on-the-job training for unemployed youth.</li> <li>Reorient the services provided by INATEC to make them more relevant to labor market demand and to build skills useful for strategic activities and sectors.</li> </ul>	<ul style="list-style-type: none"> <li>DR: <i>Youth Development Program</i></li> <li>Panama and Honduras: <i>Mi primer empleo</i></li> </ul>

LABOR MARKET POLICIES		
Current Status/Programs	Policy Actions and Phasing	International Experience
The <i>Hambre Cero</i> program provides income and in kind support to farmers, but coverage is low and impact unknown	<p><i>Policy Action:</i> Focus on increasing productivity in large employer sectors to generate skilled labor jobs: agriculture, retail, and manufacturing.</p> <p><i>Short-Term:</i> Evaluate and improve current programs to continue supporting the agriculture sector by providing inputs to it.</p> <p><i>Medium-Term:</i> Design policies and programs to increase productivity in these sectors and to help producers and workers move up the value chain.</p>	Vietnam, see World Development Report 2008; Agriculture for Development, The World Bank, pp. 73-74.
The <i>Usura Cero</i> program provides micro-finance to small scale entrepreneurs in urban areas, mostly reaches non-poor beneficiaries. No impact is known.	<p><i>Policy Action:</i> Increase options and productivity of micro-entrepreneurs.</p> <p><i>Short-Term:</i> Evaluate <i>Usura Cero</i> and strengthen INATEC micro-entrepreneurship training.</p> <p><i>Medium-Term:</i></p> <ul style="list-style-type: none"> <li>• Create comprehensive grant-training-capital schemes to raise farm productivity or to generate self-employment opportunities. (This strategy has proven successful at a small scale in a recent pilot project --see Macours, Premand and Vakis, 2011).</li> </ul>	<ul style="list-style-type: none"> <li>• Ecuador (local development projects)</li> <li>• CGAP is also implementing this type of pilots in many other poor countries with interesting results.</li> </ul>
Difficult school to work transition: There is a large share of tertiary educated people, but they have no job opportunities. Search times are long, especially for educated workers, which suggest that there are information asymmetries in the labor market.	<p><i>Policy Action:</i> Take advantage of large supply of tertiary-educated workers.</p> <p><i>Short-Term:</i> Remediate possible information gaps in the market by providing intermediation services.</p> <p><i>Medium-Term:</i></p> <ul style="list-style-type: none"> <li>• Partner with private sector to explore strategic investment in areas where there is a large supply of skilled workers.</li> <li>• Review spending priorities in education, especially in tertiary</li> <li>• Partner with universities and the private sector to provide better information on career opportunities to secondary students before they make their education decisions.</li> </ul>	<p>Bolsa de Empleo</p> <ul style="list-style-type: none"> <li>• Honduras</li> </ul>

	<ul style="list-style-type: none"> <li>• Create a labor market observatory</li> </ul>	
There are limited workfare programs, mostly related to recent disaster recovery, but no systematic readiness plan	<p><i>Policy Action:</i> Create or strengthen programs to be ready to respond to aggregate shocks in the economy and to contribute to short term employment creation.</p> <p><i>Short Term:</i> Evaluate the targeting of current workfare programs.</p> <p><i>Medium-Term:</i> Strengthen the programs to respond to natural disasters and other aggregate shocks.</p>	Honduras, El Salvador
Coverage of social insurance is extremely low with respect to spending and by regional standards	<p><i>Policy Action:</i> Improve access to social insurance.</p> <p><i>Short Term:</i> Review the incentives for people to contribute to the pension system.</p> <p><i>Medium-Term:</i> Introduce changes that increase incentives for contributing and improve service delivery.</p>	