

Cruces, Guillermo; Fields, Gary; Jaume, David; Viollaz, Mariana

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The growth-employment-poverty nexus in Latin America in the 2000s: Ecuador country study

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The growth-employment-poverty nexus in Latin America in the 2000s

Ecuador country study

Guillermo Cruces,¹ Gary Fields,² David Jaume,³ and Mariana Viollaz⁴

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Abstract: Ecuador experienced moderate economic growth during the 2000s. The economy suffered a mild recession during the international crisis of 2008, but returned to pre-recession GDP per capita level in 2010. Most labour market indicators improved over the period. The only indicator that worsened was the employment structure by occupational position. Most labour market indicators were affected negatively by the international crisis but recovered their pre-crisis levels by 2012. The only exception was labour earnings for some employment categories. With the onset of the crisis of 2008, the poverty rate stopped falling, but it regained its downward trend from 2011 onwards.

Keywords: Ecuador, Latin America, inclusive growth, labour market, poverty

JEL classification: O15, J01, J30

Figures and tables: Provided at the end of the paper.

¹CEDLAS, Universidad Nacional de La Plata, CONICET, and IZA; ²Cornell University, IZA; corresponding author: gsf2@cornell.edu; ³Cornell University, CEDLAS, Universidad Nacional de La Plata; ⁴CEDLAS, Universidad Nacional de La Plata.

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UNU-WIDER, Katajanokanlaituri 6 B, 00160 Helsinki, Finland, wider.unu.edu

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1 Introduction

Latin America in the 2000s witnessed an unprecedented period of growth with poverty and inequality reduction. The region also suffered from the economic crises in Europe and the United States from 2007/08 onwards.

Economic development has been defined as a widespread improvement in the material standards of living of a country's individuals. Economic growth is defined as an increase in the total amount of goods and services produced in an economy.

This paper on labour markets and growth in Ecuador since 2000 is one of sixteen studies of Latin American countries, each of which aims to answer the following broad questions: Has economic growth resulted in economic development via improved labour market conditions in Latin America in the 2000s, and have these improvements halted or been reversed since the Great Recession? How do the rate and character of economic growth, changes in the various labour market indicators, and changes in poverty relate to each other?

More specifically:

- What was the country's economic growth experience?
 - Characteristics of economic growth: breakdown by sector (agriculture, industry, services).
- How have the following indicators of labour market conditions changed in the course of each country's economic growth?
 - 1. Employment and unemployment:
 - a. Unemployment rate, using International Labour Organization definition.
 - b. Employment-to-population ratio.
 - c. Labour force participation rate.
 - 2. Employment composition:
 - a. Occupational group—professional, managerial, and clerical, etc.
 - b. Occupational position—wage/salaried employee, self-employed, unpaid family worker, etc.
 - c. Sector of employment—agriculture, manufacturing, services, etc.
 - d. Education level—low, medium, high.

- e. Registered/unregistered with the nation's social security system.
- 3. Labour market earnings, real:
 - a. Overall.
 - b. Disaggregated by gender.
 - c. Disaggregated by age (youth/non-youth).
 - d. Disaggregated by occupational group.
 - e. Disaggregated by occupational position.
 - f. Disaggregated by sector (agriculture etc.).
 - g. Disaggregated by education level (low, middle, high).

The answers to the preceding questions are by no means obvious. Claims have been made that economic growth in Latin America has been jobless, that productivity has grown at the expense of employment, and that Latin America, having even greater economic inequality than the United States, may have been following the US's course of rising incomes for those at the very top of the income distribution and stagnating or even falling incomes for the great majority, especially the poor. It has also been claimed that Latin America is caught in a middle-income bind, squeezed between the advanced economies on the one hand and emerging economies, especially China, on the other.

Recent evidence has shown that economic growth generally leads to an improvement in labour market conditions and reductions in poverty within developing countries (Fields 2012). The relatively scarce evidence for Latin America, however, indicates some heterogeneity at the country level. In the case of Argentina, the strong growth that followed the economic meltdown of 2001–02 was accompanied by large employment gains and increases in labour earnings, with higher gains (in relative terms) for less skilled workers. This process led to a large reduction in poverty in the 2003–06 period (Gasparini and Cruces 2010). In Brazil, economic growth during the period 1996–2004 was relatively low. In this context, unemployment remained high and labour earnings low, while poverty increased (Fields and Raju 2007). Nicaragua also experienced economic growth during the period 2001–06, and although there were increases in employment levels, overall poverty did not fall significantly (Gutierrez et al. 2008). The 2000–06 period of economic growth in Mexico was accompanied by improvements in employment composition, rising real labour earnings, and falling poverty, although the country also experienced rising unemployment levels in those years (Rangel 2009). The relatively long period of economic growth in Costa Rica (1976–2000) took place with increases in labour income, a reduction of employment in agriculture, and improvements in education, with a reduction in poverty levels (Fields and Bagg 2003). Finally, the period of economic growth in Colombia between 2002 and 2011 led to a reduction in unemployment and poverty levels (Ham 2013). This mixed evidence indicates that the growth-employment-poverty nexus is fairly complex and the experiences of Latin American countries are far from homogeneous.

Limited evidence is available on the mechanisms underlying the growth-labour markets-poverty nexus in Latin America. For instance, a World Bank (2011) study finds that the increase in men's labour income was higher than that of women's in the 2000s, and that this was the most important factor in lifting households out of poverty, even though World Bank (2013) shows that the increase in the labour force over this period was mainly led by women. Inchauste (2012) reports that job-related events were the main escape route from poverty for Latin American households over the same period, and these events included household heads getting a new job, other family members starting to work, and those employed achieving higher labour earnings than before.

Overall, previous studies generally show a positive association between economic growth, improvement in labour market indicators, and reduction in poverty in Latin American countries. However, the tightness of these relationships is not always clear from these studies. Moreover, these regional aggregates mask the heterogeneity at the country level, which implies that little can be said about the underlying mechanisms at play. This paper on Ecuador is one of sixteen case studies which, taken together, will allow us to separate and identify country-specific from region-wide factors in the relationship between the economy's overall performance and labour market outcomes in the decade of 2000s.

2 Data and methodology

All the statistics in this paper are obtained using microdata from the Encuesta de Empleo, Desempleo y Subempleo (ENEMDU) for the years 2003 to 2012. The nationwide surveys were incorporated into the SEDLAC—Socio Economic Database for Latin American and the Caribbean (CEDLAS and the World Bank 2014); three of the authors of this paper were involved in this project at CEDLAS (Center for Distributive, Labor, and Social Studies), Universidad Nacional de la Plata in Argentina. The ENEMDU has national coverage. The survey's sample size has been largely unchanged over time; it surveyed 18,959 households and 82,317 persons in 2003, and 19,840 households and 73,686 persons in 2012 (Table 1). The ENEMDU surveys have always been representative of the total population of the country.

For this study, we processed the microdata from Ecuador to construct time series of comparable data for a wide range of labour market and income distribution indicators. The resulting indicators are compiled into a large number of tables and figures, provided at the end of the paper, which form the basis for the text that follows.

Several definitions and classifications are used in order to assess whether the labour market has improved or deteriorated. Unemployment is defined as usual, i.e. the share of unemployed persons over the economically active population. A person is unemployed if s/he is 15 years old or more and during the reference period (four weeks in the Ecuadorean survey), s/he was without work, available for work and seeking work. Youths are those between 15 and 24 years old, while adults are those between 25 and 65 years old.

Occupational groups are defined according to the following classification:¹ management; professionals; technicians and associate professionals; clerical; service and sales workers; agricultural, forestry and fishery workers; craft and related trades workers; plant and machine operators and assemblers; elementary and armed forces. Ecuador has made use of the *Clasificación Nacional Uniforme de Ocupaciones 88* (CNO-88) and *08* since 2012 (CNO-08). The main groups of these two classification systems match the classification system endorsed by the authors. An improvement in the labour market would be implied by a decrease in the share of low-earning occupations and an increase in the share of high-earning occupations.

The occupational position is classified into four categories: employer, wage/salaried employee, self-employed, and unpaid worker. Given the nature of labour markets in Latin America, the analysis of the employment structure according to occupational positions will identify a decrease in self-employment and an increase in wage/salaried employees as an improvement in the labour market.

The sector of employment was divided into: primary activities; low-tech industry; high-tech industry; construction; commerce; utilities and transportation; skilled services; public administration; education and health; and domestic workers. When looking at the sectoral distribution of employment, an improvement in the labour market is implied by an increase in the share of the sectors with higher earnings.

Turning now to the educational level of employed workers, we define three categories for the analysis: low (eight years of schooling or less); medium (from nine to thirteen years of schooling); and high (more than thirteen years of schooling). An increase in the education level of the employed population is considered as an improvement in the labour market as the share of workers that are expected to receive high levels of earnings increases and the share of workers with low levels of earnings decreases.

We also classify employed workers according to whether they are registered with the social security system or not. Household surveys of Ecuador ask about enrolment in the social security system to wage/salaried worker only. We assume that it is better for employed workers to be registered, so an increase in this indicator will be interpreted as an improvement in the labour market.

Labour earnings are expressed on a monthly basis in 2005 purchasing power parity (PPP) dollars, and higher earnings represent an improvement in the labour market. We use the per capita household income to compute poverty and inequality statistics. Household income is the sum of labour income plus non-labour income; included in non-labour incomes are capital income, pensions, public and private transfers, and the imputed rent from own-housing.

Poverty rates are estimated considering the national lines for moderate and extreme poverty. We compute the poverty headcount ratio for each. We also calculate the share of working poor households (those with at least one member employed and a per capita family income below the moderate poverty line), and the poverty rate according to the international poverty lines of 4 dollars-

¹ This is the International Standard Classification of Occupations of 2008 (ISCO-08) at one digit level.

a-day and 2.5 dollars-a-day. Income inequality is calculated using the Gini coefficient of per capita household income and labour earnings.

3 Empirical results

Ecuador experienced moderate economic growth during the 2000s. The country suffered only a mild recession as a consequence of the international crisis of 2008 but the Ecuadorean economy returned to pre-recession GDP per capita level in 2010 (Figures 1 and 2).

During the period 2000 to 2012, Ecuador experienced moderate economic growth by Latin American standards. GDP per capita increased by 33.9 per cent, while the average for the eighteen Latin American countries was 36.2 per cent during the same period. GDP (measured at PPP dollars of 2005) grew by 62.3 per cent, and GDP per employed person exhibited a rise of 24.7 per cent. The annual growth rate of GDP per capita was 2.4 per cent, and it varied from a minimum of -1.1 per cent in 2009 to a maximum of 6.2 per cent in 2004 (Table 2). At the beginning of the 2000s, Ecuador's GDP growth rate was low (1.1 per cent in 2000) and its GDP per capita growth rate negative (-0.9 per cent in 2000) due to the economic and political crisis the country suffered at the end of the 1990s. That crisis was related to negative external shocks like El Niño, the sharp decline in the price of oil—Ecuador's largest export—and the tightening of international credit following the financial crises in Russia and Brazil. The recovery was fuelled by the adoption of the US dollar as the official currency in 2000 (IMF 2006), the increasing oil revenues, and by governmental measures such as the Fiscal Responsibility and Transparency Law that was passed in 2002, which mandated saving extra resources from increased petroleum revenues and placed limits on the growth of expenditures to provide resources for priority programmes (Giugale et al. 2012). The government also passed a series of laws that increased the flexibility of markets and allowed for greater private-sector participation in certain economic activities. One of these measures was the financing of a heavy crude oil pipeline that facilitated an increase in oil exports from around 20,000 barrels per day in 1998 to around 350,000 barrels per day in 2005 (Giugale et al. 2012). The strong expansion of the oil sector was not accompanied by a similar economic dynamism in the rest of the economy, which made the economy even more dependent on oil production and exports than it had been before (León et al. 2010). Dollarization and supporting policies ushered in a period of macroeconomic stability from 2000 to 2004. In 2004, Ecuador exhibited the largest growth rates of the period: the GDP and GDP per capita growth rates were 8.2 per cent and 6.2 per cent respectively. A slowdown in GDP and GDP per capita growth ensued between 2004 and 2007 as a result of some macroeconomic imbalances led by the dollarization, such as the current account deficit and the lack of credit (Larrea Maldonado 2007). The average GDP growth rate was 4.0 per cent during this period, while GDP per capita grew at 2.1 per cent annually. The economy recovered significantly in 2008 with a GDP growth rate of 7.8 per cent, due in part to high petroleum prices around the world. The global recession, though, significantly diminished Ecuador's main sources of foreign earnings, mainly petroleum exports and remittances from abroad (Ray and Kozameh 2012). Ecuadorean exports are concentrated on a few commodities and a few markets. Exports of oil, bananas, shrimp and fish, and flowers represented approximately three-quarters of total exports of the country between 2004 and 2008. Moreover, over half of total exports went to developed markets such as the US and the European Union. The global economic crisis led to an important reduction in the value of total exports (a fall of 26.0 per cent between 2008 and 2009) through the fall in oil export prices

and the international demand for Ecuadorean products (Wong 2012). The international crisis also brought about a fall in remittances (drop of 12.0 per cent in 2009). Nonetheless, the country lost only 1.1 per cent of its GDP per capita in 2009, while the GDP growth rate for that year was 0.6 per cent. Ecuador recovered quickly and returned to pre-recession output levels in 2010 thanks to the implementation of expansionary fiscal policies and the use of the, albeit limited, monetary policy instruments available in a dollarized economy, such as adjusting the interest rate (Ray and Kozameh 2012). Despite the negative impact of the fall in oil prices on government finances, the country saw its budget alleviated due to the reduction in the world price of fuel as Ecuador imports fuels. That, jointly with the placement of internal debt with entities such as the Ecuadorean Social Security Institute (IESS) and the acquisition of new external credit in the form of prepayment for future oil sales, allowed the government to keep social programmes, infrastructure spending, and subsidies (Wong 2012; Naranjo 2013).

The shares of the service and industry sectors in the economy increased, while the share of the agriculture sector diminished between 2000 and 2012. The share of the service sector—the largest in the Ecuadorean economy—increased from 48.0 per cent in 2000 to 53.3 per cent in 2012 (Table 2). The share of the industry sector exhibited a smaller increase, from 35.7 per cent to 36.9 per cent over the period, with a maximum of 39.3 per cent in 2008 due to high petroleum prices. On the other hand, the share of the agricultural sector diminished from 16.3 per cent in 2000 to 9.9 per cent in 2012. The agricultural sector was affected by several factors over the period, such as an overvalued real exchange rate, credit restrictions to local producers, a declining international demand, and increasing import tariffs in European countries (Larrea Maldonado 2007). The agricultural and service sectors continued growing even during the international crisis of 2008, but at a slower pace. The industrial sector stopped increasing during the crisis due to the fall in oil exports. However, it recovered the upward trend in its value added in 2010.

The unemployment rate decreased substantially from 2003 overall and for all population groups. The international crisis of 2008 led to a mild increase, but in 2010 the unemployment rate was below the pre-crisis level (Figure 3).

The unemployment rate (measured as the ratio of unemployment to labour force) followed the business cycle and fell from 13.2 per cent in 2003 (805,663 unemployed persons) to 4.4 per cent in 2012 (295,398 unemployed persons). The reduction in the unemployment rate was not monotonic and occurred jointly with a reduction in the labour force participation rate. The unemployment rate decreased from 2003 to 2008, increased slightly during the international crisis (38,796 new unemployed persons between 2008 and 2009), and recovered the downward trend to reach the low point of 4.4 per cent in 2012. The recovery was quick and, by 2010, the unemployment rate was lower than the pre-crisis level. Both the number of persons in the labour force and the number of employed persons increased between 2008 and 2009 by 158,637 and 119,841 respectively. These figures suggest that the increase in the unemployment rate during the international crisis was brought about by the entry of new persons into the labour market that could not find a job.

Unemployment trends for men, women, youth, and adults mirror the behaviour of the aggregate rate and fell over the period. The unemployment rate decreased from 20.2 per cent in 2003 to 12.0 per cent in 2012 for young workers, from 11.1 per cent to 3.2 per cent for adult workers, from 7.4 per cent to 3.9 per cent for men, and from 21.3 per cent to 5.4 per cent for women over the same period. The increase in unemployment between 2008 and 2009 was small and affected adult workers

more than young workers (rises of 0.7 and 0.2 percentage points for adults and young workers respectively) and men more than women (increase of 0.7 percentage points for men and no change for women). All population groups recovered the downward trend immediately and by 2010 had an unemployment rate below the pre-crisis level.

The composition of employment by occupational group improved between 2003 and 2012 as workers moved from elementary, and craft and trades occupations to better paying occupations, like professional jobs. All demographic groups—young and adult workers, men, and women—benefited from the improvement in the composition of employment by occupational group over the period. The international crisis of 2008 led to a worsening in the employment structure by occupational group in the aggregate and for adult workers and men, while young workers and women were not negatively affected (Figure 4).

The share of the following occupations shrank between 2003 and 2012: elementary (drop of 4.8 percentage points); crafts and trades occupations (drop of 0.9 percentage points); technical and associate professional occupations (drop of 0.8 percentage points); and management (drop of 0.6 percentage points) (Table 3). The share of the following occupations grew: professionals (increase of 2.5 percentage points); clerical (increase of 1.7 percentage points); services and sales jobs (increase of 1.6 percentage points); and plant and machine operators (increase of 1.1 percentage points). The share of the other occupational groups remained largely unchanged. These changes in the occupational composition of employment can be interpreted as an improvement since low-earning occupations (elementary, agricultural, forestry and fishery occupations, and craft and trades occupations) reduced their share in total employment by 5.5 percentage points between 2003 and 2012, while mid-earning (technicians, clerical occupations, services and sales, and plant and machine operators) and high-earning occupations (management, professionals, and armed forces) gained share in total employment (increase of 3.6 and 1.9 percentage points respectively) (Table 6).

The improvements in the occupational composition of employment between 2003 and 2012 were observed for young and adult workers, men, and women. The decrease in the rate of employed workers in low-earning occupations was larger among young compared to adult workers (drop of 6.1 percentage points for youth versus 5.2 for adults). The increase in the share of high-earning occupations in total employment was larger for adult workers compared to young workers (1.8 and 0.7 percentage points respectively for adults and youth). When the analysis is broken down by gender, women experienced a larger reduction in the share of employment in low-earning occupations compared to men (drop of 6.9 and 4.2 percentage points respectively). The increase in the rate of working in high-earning occupations in total employment was also larger for women in comparison to men (increase of 3.8 and 0.6 percentage points respectively).

The international crisis of 2008 impacted adversely on the composition of employment by occupational group overall and for adult workers and men. Young workers and women continued with the improving trend in their employment structure by occupational group even during the Great Recession. Between 2008 and 2009, the share of low-earning occupations in total employment increased by 0.5 percentage points in the aggregate, 0.8 percentage points for adult workers, and 1.0 percentage point for men. The increase in the share of low-earning occupations was driven by the rise in agricultural occupations that over-compensated for the decline of elementary occupations in total employment—the occupational group where most workers of the oil subsector are employed. The share of high-earning occupations fell by 0.2 percentage points in the aggregate, and by 0.3

percentage points for adult workers and men over the same period. By 2010, the composition of employment by occupational group returned to the pre-crisis structure overall and for adult workers and men.

The employment structure by occupational position deteriorated between 2003 and 2012. The percentage of high-earning categories decreased overall, for youth and adults, and for both men and women. Most of the change took place during and after the international crisis of 2008 (Figure 5).

The share of wage/salaried employees in total employment—the largest category—decreased by 1.0 percentage points over the period, from 55.1 per cent in 2003 to 54.1 in 2012. The share of the self-employed, on the other hand, increased by 1.9 percentage points, climbing from 31.3 per cent in 2003 to 33.2 per cent in 2012. The share of unpaid workers grew slightly (just 0.3 percentage points), while the share of employers decreased by 1.1 percentage points between 2003 and 2012. Insofar as the share of low-earning categories (self-employment and unpaid employment) increased by a total of 2.1 percentage points and the share of high-earning categories (paid employees and employers) decreased, these changes can be characterized as a worsening of the employment structure in terms of occupational position (Table 4).

The employment structure by occupational position deteriorated for young workers, men, and women, while it remained unchanged for adult workers. Between 2003 and 2012, young workers exhibited an increase in the share of low-earning categories in total employment of 0.6 percentage points. The share of high-earning categories in total employment decreased, indicating deterioration in the employment structure by occupational position over the period for young workers. For adult workers, their employment composition remained unchanged between 2003 and 2012. For both men and women there was an increase in the share of low-earning categories over the period 2003–12 (2.2 and 1.5 percentage points respectively), and a reduction in the share of high-earning categories.

The deterioration in the employment structure by occupational position in the aggregate and for young workers, men, and women occurred mainly during and after the international crisis of 2008. Adult workers were also affected negatively by the international crisis but they recovered quickly. Between 2003 and 2008 the share of low-earning positions fell by 1.1 percentage points in the aggregate, while it increased by 3.2 percentage points during and after the international crisis (from 2008 to 2012). The worsening in the structure of employment by occupational position is striking considering that the unemployment rate suffered a slight increase during the crisis but recovered the downward trend immediately, and that the labour force participation rate was falling during the entire period. A closer examination of the changes indicates an increase in the share of self-employed workers and a corresponding reduction in the share of employers, with an essentially unchanged share for wage/salaried employees. These changes can be related to the changes in the employment structure by occupational groups analysed previously. Between 2008 and 2012, management was among the occupations that exhibited the largest shares' reduction of total employment and employers have a high relative weight in this occupational group. On the other hand, services and sales jobs, and agricultural occupations were among the occupations with the largest shares of increases in total employment, and self-employed workers have a high relative share of these occupations. For men, the share of low-earning categories in total employment fell by 2.4 percentage points between 2003 and 2008, while it increased by 4.7 percentage points between 2008

and 2012. For women, the share of low-paying positions increased before and after the international crisis, but the increase was larger after the Great Recession (0.6 percentage points from 2003 to 2008 and 1.0 percentage points from 2008 to 2012). For young and adult workers, there was an increase in the share of low-earning positions in total employment of 0.8 and 2.8 percentage points respectively between 2008 and 2009, but that share began a downward trend in 2010 both for young workers and adults. By 2012, the share of low-earning positions in total employment was similar to the level of 2003 for adult workers, but was above that level for youth.

The employment composition by economic sector improved over the course of the period studied overall and for all population groups. The international crisis of 2008 led to a worsening in the employment structure by economic sector in the aggregate and for adult workers, men, and women, while young workers were not negatively affected (Figure 6).

The period from 2003 to 2012 witnessed a reduction (from 42.4 per cent to 37.9 per cent) in the share of workers in low-earning sectors (domestic workers, primary activities, and low-tech industry). Workers employed in the oil subsector are included in the primary activities sector in our classification. The increase in the employment share of the oil subsector over the period in Ecuador was counteracted by the reduction in the employment share of the agricultural subsector. There was, during the same period, an increase (from 11.2 per cent to 13.1 per cent) in the share of high-earning sectors (public administration, skilled services, and high-tech industry) in the total. These changes resulted in an increase in the share of mid-earning sectors in total employment (utilities and transportation, education and health, construction, and commerce) which climbed from 46.4 per cent in 2003 to 49.0 per cent in 2012 (Tables 5 and 6).

The employment composition by economic sector improved between 2003 and 2012 for young and adult workers, men, and women, as they moved from low-earning sectors to high-earning sectors. For young workers, the share in low-earning sectors dropped from 48.7 per cent in 2003 to 41.1 per cent in 2012. For adult workers, the share in low-earning sectors fell from 38.6 per cent in 2003 to 34.4 per cent in 2012. At the other end of the scale, the share of young and adult workers in high-earning sectors increased from 9.6 per cent in 2003 to 11.3 per cent in 2012 and from 12.3 per cent to 14.5 per cent respectively. For both genders, the share working in low-earning sectors fell: from 42.9 per cent in 2003 to 39.6 per cent in 2012 for men, and from 41.6 per cent to 35.4 per cent for women. The share of high-earning sectors in total employment grew from 13.4 per cent to 15.3 per cent for men and from 7.7 per cent to 9.8 per cent for women.

The international crisis of 2008 led to a worsening in the employment structure by economic sector overall and for adult workers, men, and women. Between 2008 and 2009, the share of low-earning sectors in total employment increased by 0.2 percentage points, while the share of high-earning sectors fell by 0.6 percentage points. The increase in the share of low-earning sectors in total employment during the international crisis was brought about mainly by the increase in the share of the agricultural subsector. The presence of contractual arrangements and the resilience of export demand for certain Ecuadorean agricultural products explain the increase in the share in total employment of the agricultural subsector between 2008 and 2009 (Wong 2012). By 2010, the pre-crisis shares were recovered. Adult workers and men exhibited an increase in the share of low-earning sectors between 2008 and 2009 of 0.1 and 0.6 percentage points respectively. The share of high-earning sectors fell by 0.6 and 0.7 percentage points for adults and men. Both population groups recovered the improving trend in their employment structure by economic sector in 2010.

For women, the share of low-earning sectors continued to decrease between 2008 and 2009, but the share of high-earning sectors fell by 0.5 percentage points. In 2011, women surpassed the pre-crisis share of high-earning sectors in total employment. Young workers continued with the improving trend in their employment composition by economic sector even during the international crisis.

The educational level of the employed population in Ecuador improved steadily between 2003 and 2012 for all population groups, and especially among young workers. The improving trend continued even during the international crisis of 2008 (Figure 7).

The share of employed workers with low educational levels (eight years of schooling or less) dropped from 54.6 per cent in 2003 to 45.6 per cent in 2012, while the share of workers with medium and high educational levels (nine to thirteen years of schooling and over thirteen years of schooling) grew from 27.0 per cent in 2003 to 32.2 per cent in 2012 and from 18.4 per cent to 22.2 per cent respectively.² We interpret this result as an improvement for the employed population as the level of education is an important predictor of labour earnings. Consequently, the changes in the employment structure by educational level implied an increase in the share of workers that tend to have high levels of earnings and a decline in the share of workers with low earnings' levels.³ This pattern of increased educational level of the employed population continued even during the Great Recession. The improvements in the educational level of the employed population are closely related to the recovery of real public spending in education since the 1990s and the cash transfer programmes of the 2000s, which helped increase access to education (Ponce and Vos 2012).

The educational level of the employed population improved between 2003 and 2012 for all groups and especially for young workers. For the youth population, the share of employed persons with low educational levels dropped from 54.1 per cent in 2003 to 30.4 per cent in 2012 (a drop of 23.7 percentage points). The share of employed youth with medium and high educational levels grew by 18.7 and 5.0 percentage points respectively. This improvement in the educational level of young workers can be explained, in part, by the *Bono de Desarrollo Humano*, an unconditional cash-transfer programme launched by the government of Ecuador in 2003 and targeted at poor families with children. Oosterbeek et al. (2008) and Araujo and Schady (2008) found that this programme had significant and positive effects on school enrolment. The reduction in the share of adult employed workers with low educational levels was smaller compared to young workers—only 8.3 percentage points over the period. There was, over the period, an increase in the share of adult employed persons with medium and high educational levels of 4.6 percentage points and 3.7 percentage points respectively. Disaggregating by gender, the reduction in the share of employed workers with low educational levels was 9.1 percentage points for men and 8.7 for women, while the share of workers with medium and high levels of education climbed by 6.3 and 2.8 percentage points respectively for men, and by 3.5 and 5.2 percentage points for women.

² The most frequent value of years of education for employed workers in Ecuador was 6 during the entire period (around 26.8 per cent of employed workers had six years of education).

³ The improvement in the employment structure by educational level is related to changes in the relative demand and supply of workers with high educational levels with corresponding implications for the wage gap by educational group and the unemployment rate of each educational level. We introduce a discussion about the role of these factors in Ecuador in the paragraph on labour earnings.

The pattern of improvement in the level of education of the employed population in Ecuador continued even during the international crisis of 2008, overall and for all population groups.

The overall share of wage/salaried employees registered with the social security system increased significantly between 2003 and 2012. The improvement also took place among all population groups. The international crisis of 2008 did not affect the upward trend of the registration rate (Figure 8).

Social security in Ecuador is provided by five types of institutions which serve different segments of the population. The Ecuadorian Social Security Institute (IESS) is a decentralized agency and the main provider of social security for public and private workers in the country; the Social Security Institute of the Armed Forces (ISSFA) is an autonomous agency of the Armed Forces, which provides social security for military personnel; the Social Security Institute of the National Police (ISSPOL) is an autonomous agency of the National Police, which provides social security for members of the police force; private clinics which provide emergency medical care that cannot be handled by the IESS; and private insurance companies (Naranjo 2013). These institutions provide pension insurance, rural insurance, health insurance, and occupational hazard insurance. The Ecuadorian social security system combines contributory and non-contributory schemes. Under the contributory scheme, social security benefits are financed through contributions from employees, employers, and the government. The non-contributory scheme is implemented through cash and non-cash transfers under specific programmes and is totally funded by the government.

Social security records show an increase in the percentage of wage/salaried workers registered with the system's contributory scheme between 2003 and 2012, from 33.0 per cent in 2003 to 54.7 per cent in 2012. The number of registered workers increased from 963,452 to 1,899,153 over the period. Before the onset of the international crisis, from 2003 to 2007, the percentage of wage/salaried workers registered with the social security system was stable at around 33.4 per cent. Between 2008 and 2011, the rate of registration grew annually by 10.0 per cent, though the pace of that increase dropped to 2.6 per cent in 2012. The sharp increase beginning in 2008 occurred because in 2007, the government of Ecuador instituted a set of labour policies designed to improve working conditions. Those measures included the elimination of several forms of precarious employment, such as labour subcontracting and hiring by the hour. They also included an active minimum wage policy and policies to ensure that employers comply with the obligation to register their workers in the social security system. In addition, registering with the social security system was made more attractive by increased benefits (ILO 2014). These incentives included: the expansion of health insurance for children under the age of eighteen and spouses of registered workers; the reduction from six to three months of the waiting period to obtain health insurance benefits related to the social security system; and changes in management models (health benefits rendered by clinics, hospitals, and private medical centres).

The rate of registration with the social security system increased for all population groups (young and adult workers, men, and women). The share of registered wage/salaried workers increased from 17.0 per cent in 2003 to 36.1 per cent in 2012 for young workers and from 39.6 to 59.9 per cent for adults. The increase in the share of wage/salaried workers registered over the period was larger for women compared to men. The percentage increased from 38.8 to 63.9 per cent between 2003 and 2012 for women, while for men the increase was from 30.1 in 2003 to 49.7 per cent in 2012.

The overall percentage of workers registered with the social security system continued to grow during the international crisis of 2008. Disaggregating by population group, the rate of registration with the social security system also continued to increase for young and adult workers, men, and women.

Labour earnings increased between 2003 and 2012. Within the period, labour earnings moved erratically. Labour earnings increased overall, for young and adult workers, and for men and women. The evidence of earning changes by employment categories over the period is mixed, with low-earning categories having larger earning increases compared to high-earning categories in some cases (economic sectors and educational levels), and high-earning categories having larger earning increases compared to low-earning categories in others (occupational positions and occupational groups). Labour earnings were negatively affected by the international crisis of 2008 overall, for adult workers, men, and women, and most employment categories, and not all of them recovered their pre-crisis level of earnings by the end of the period (Figure 9).

Average monthly earnings, expressed in dollars at 2005 purchasing power parity (PPP), increased by 28.8 per cent, from US\$458 in 2003 to US\$590 in 2012 (Table 6). Labour earnings increased between 2003 and 2004, fell between 2004 and 2005, and recovered the upward trend starting in 2005. The period from 2007 to 2009 witnessed a decrease in labour earnings, which partly reflects the variations in the country's economic performance. In 2009, Ecuador had the lowest GDP and GDP per capita growth rates of the period studied. The following years—from 2010 to 2012—witnessed an average annual increase in income from labour of 4.6 per cent, which meant a return to pre-crisis levels by 2010. This latter increase in total labour earnings was due mostly to an annual increase of about 4.5 per cent in average hourly wages from 2010 to 2012 (Table 7). In fact, wage policy went through two distinct phases over the period. Up to 2006, wage increases were based solely on inflation. Since 2007, the government's wage policy has explicitly been aimed at improving workers' wages by more than inflation in order to achieve a 'decent' wage (Naranjo 2013).

Most population groups and employment categories experienced an increase in labour earnings over the period. Between 2003 and 2012, labour earnings increased by 28.0 per cent for men and by 31.6 per cent for women. The increase for young workers was 40.5 per cent over the period, while the increase for adult workers was 24.4 per cent. Disaggregating by occupational groups, labour earnings increases were larger for high-earning groups compared to low-earning groups (49.8 and 34.1 per cent respectively). Among occupational positions, low-earning categories experienced an average increase of 12.6 per cent between 2003 and 2012, while high-earning categories had an earnings gain of 46.6 per cent. When broken down by economic sectors, labour income gains were larger for low-earning sectors compared to high-earning sectors (48.7 and 27.5 per cent respectively). Among educational levels, earnings increases were larger for less educated workers. Labour earnings increased by 2.2 per cent for workers with high educational levels, 32.8 per cent for workers with medium educational levels, and 39.0 per cent for workers with low educational levels.

The evidence of larger labour earnings increases for workers with low educational levels compared to those with medium and high educational levels can be interpreted in light of previous findings of improving employment structure by occupational group and economic sector over the period, and improving educational levels of the employed population. The improving employment structure by occupational group and economic sector implied an increase in the share of occupations and sectors that can be expected to employ workers with high and medium educational levels, such as

professional occupations and the skilled services sector, and a reduction in the share of occupations and sectors that employ workers with low educational levels, such as elementary, craft and related trade jobs, domestic workers, primary activities, and low-tech industry sectors. This evidence indicates that the demand for workers with high and medium educational levels relative to those with low educational levels increased between 2003 and 2012. It is interesting to notice that workers employed in the oil subsector—the main economic activity of Ecuador—have 9.8 years of education on average and as such, are workers with medium levels of education. On the other hand, the educational level of people in the labour force improved over the same period, indicating an increase in the relative supply of workers with high and medium levels of education (Table 8). The prediction of a supply and demand analysis is that the relative wages of workers with high and medium educational levels relative to those with low educational levels will rise or fall depending on which effect dominates (increase in the relative demand versus increase in the relative supply). In the Ecuadorian labour market the relative wages of workers with high and medium educational levels relative to those with low educational levels fell over the period, and the relative wages of workers with high educational levels relative to those with medium educational levels also decreased (Table 7). The adjustment process also led to a reduction in the unemployment rate of all educational groups with larger reductions for workers with low and medium levels of education (Table 9).

The international crisis of 2008 led to a reduction in labour earnings overall, for adult workers, men, and women, and for most employment categories, and not all of them recovered their pre-crisis level of earnings by the end of the period. Between 2008 and 2009, labour earnings decreased by 5.7 per cent overall. The reduction was of 5.7 per cent for adult workers, 6.3 per cent for men, and 4.3 per cent for women. Labour earnings of young workers were not impacted negatively by the international crisis. The aggregate labour earnings level was recovered in 2012. Women returned to their pre-crisis level of labour earnings in 2010, and adult workers in 2012. On the contrary, men never recovered their pre-recession level of earnings. Among occupational groups, workers in management, agricultural, and clerical jobs were affected the most by the international crisis. Their labour earnings fell by 13.0 per cent, 9.7 per cent, and 8.3 per cent respectively. Workers in agricultural and clerical jobs recovered their pre-recession levels of earnings in 2011 and 2012 respectively, while workers in management occupations never returned to their pre-crisis level of labour incomes. Disaggregating by occupational position, employers were hit hardest by the crisis compared to the self-employed (drop of 21.9 per cent and 6.7 per cent respectively), while wage/salaried employees did not suffer an earnings reduction. The self-employed recovered their pre-crisis level of earnings in 2011, while employers never returned to that level. When broken down by economic sector, the evidence indicates that workers in skilled services, construction, and high-tech industry sectors suffered the largest reduction in labour incomes after the international crisis (drop of 17.0 per cent, 13.4 per cent, and 8.2 per cent respectively). Workers in the high-tech industry sector returned to their pre-crisis level of earnings in 2010, while workers in the skilled services and construction sectors never recovered their previous level of earnings. The reductions of labour earnings after the international crisis were larger for workers with higher educational levels. The reductions were 7.0 per cent for workers with medium and high levels of education, and 1.8 per cent for workers with low levels of education. Workers with low and medium educational levels returned to their pre-crisis level of earnings in 2010 and 2011 respectively, while workers with high levels of education had not fully recovered by 2012.

The poverty rate and the rate of working poor households decreased substantially between 2003 and 2012. Within the period, the poverty indicators fell in the early years of the period, stopped decreasing between 2006 and 2009, and resumed the downward trend in the following years (Figure 10).

The moderate poverty rate (measured by the country's official poverty line) fell from 46.6 per cent in 2003 to 23.7 per cent in 2012, the extreme poverty rate dropped from 23.8 per cent to 8.6 per cent, and the percentage of the working poor (defined as the proportion of persons in the population living in poor households where at least one member works) decreased from 37.0 per cent to 17.0 per cent over the same period. A closer look at the evolution of these indicators reveals a steady downward trend at the beginning of the period, stabilization between 2006 and 2009, a period when the growth in GDP was slow, and a recovery of the downward trend in the following years. The analysis of trends based on the 2.5 and 4 dollars-a-day PPP international poverty lines shows the aforementioned trends. The poverty rate based on those measures decreased from 2003 to 2006, then levelled off until 2009 when the downward trend resumed.

The poverty patterns exhibited by Ecuador can be understood by examining incomes from various sources as well as government programmes. Between 2003 and 2012, income from labour, pensions, and government transfers, all of them measured at the household level, increased in real terms, while remittances were largely unchanged (Figure 11). Incomes from pensions and government transfers showed the largest increases. In fact, between 2006 and 2010 there was an important increase in social expenditure as a percentage of GDP, which went from 4.8 to 9.8 per cent. Mideros and O'Donoghue (2014) estimated that in 2012 the *Bono de Desarrollo Humano*, a cash transfer targeted at poor households, reduced the extreme and moderate poverty rates measured by the country's official poverty line by 20.8 per cent and 9.0 per cent respectively. Similar results were found by Naranjo (2008). Azevedo et al. (2013) provided additional evidence on the poverty-reducing role of government transfers. The authors broke down the observed reduction in poverty to find that the combination of cash-transfer programmes and higher pensions was more responsible for the drop in extreme poverty in Ecuador, measured according to the 2.5 dollars-a-day poverty line, than changes in labour income. Remittances from abroad, which are an important source of income for poor households, also help to explain the reduction of poverty between 2003 and 2012. During the first half of the 2000s, the amount of remittances received by Ecuador was comparable to oil revenues and allowed poor households to recover from the crisis at the end of the nineties. Emigration also generated scarcity of labour in some economic sectors, wage increases, and poverty reductions (Larrea Maldonado 2007).⁴

Household per capita income and labour earnings inequality diminished over the period studied, although erratically (Figure 12).

Household per capita income and labour earnings inequality decreased as GDP increased over the period. The Gini coefficient of household per capita income fell from 0.545 in 2003 to 0.462 in 2012. The Gini increased from 0.529 to 0.539 from 2006 to 2007 as GDP growth slowed. A new, albeit minor, increase in the Gini was observed from 2011 to 2012. Throughout the period, the Gini

⁴ The cumulated net migration between 1996 and 2004 reached 858,374 individuals, which is very large compared to the size of the Ecuadorean labour force (Larrea Maldonado 2007).

coefficient of labour earnings among employed workers was below that of household per capita income and the decline occurred from 0.515 in 2003 to 0.431 in 2012. There was a significant increase in the Gini of labour earnings from 2006 to 2007 (0.489 to 0.524), though the downward trend resumed after that period and continued until 2012. This reduction in labour earnings inequality over the period is in keeping with our previous evidence of larger earnings gains for workers with low educational levels compared to those with high educational levels.

The reduction of income inequality during the 2000s is explained mainly by the expansion of cash transfer programmes, especially in the second half of the decade, and by rising real wages and falling unemployment. The *Bono de Desarrollo Humano* is a progressive programme and its redistributive effect has strengthened towards the end of the decade. The role of cash transfer programmes in reducing income inequality in Ecuador was reinforced by the pattern of economic recovery based on primary exports, which weakened the push for greater demand for skilled workers which were in place since the 1990s. The continued growth in the supply of workers with high levels of education coming out of the schooling system coupled with a weakened demand for their skill level, pushed down the wage gap between skilled and unskilled workers (Ponce and Vos 2012). The same conclusion was reached by Gasparini et al. (2011), who defined skilled workers as those with some college education and unskilled workers as those up to complete secondary education, and used the Katz and Murphy (1992) framework to find that the relative supply of skilled labour increased steadily while, for certain values of elasticity of substitution between skilled and unskilled workers, the relative demand fell over the period 2003–10.⁵ The trend of reducing income inequality during the 2000s was counteracted by the rise of remittances which have tended to increase income inequality (Olivici et al. 2009).

4 Conclusions

By Latin American standards, Ecuador experienced moderate economic growth during the 2000s. The country underwent a mild recession as a consequence of the international crisis of 2008, but the Ecuadorean economy returned to pre-recession GDP per capita level in 2010.

The evidence regarding the changes in labour market indicators indicated that most of these improved between 2003 and 2012. The unemployment rate fell. The composition of employment by occupational group improved between 2003 and 2012 as workers moved from elementary, and craft and trades occupations to better paying occupations, like professional, clerical, and services and sales jobs. Employment composition by economic sector improved over the course of the period studied through a reduction in the share of workers in low-earning sectors such as domestic workers, primary activities, and low-tech industry, and an increase in the share of high-earning sectors like skilled services. The educational level of the employed population improved steadily over the period as the share of wage/salaried employees registered with the social security system. Finally, labour earnings increased between 2003 and 2012. The only labour market indicator that did not improve over the period studied is the employment structure by occupational position that deteriorated

⁵ According to the educational level classification used by the authors, most workers employed in the oil sector are unskilled workers.

between 2003 and 2012. The moderate and extreme poverty rates, the rate of working poor households, and the Gini coefficient of per capita household income and labour earnings all decreased over the period.

Looking specifically at the international crisis of 2008, most labour market indicators were affected negatively by the crisis. The unemployment rate increased but then fell, recovering the pre-recession level by 2010. The employment composition by occupational group and economic sector worsened during the crisis but the pre-recession structures were recovered in 2010. Most of the worsening in the employment structure by occupational position took place after the international crisis. Labour earnings fell during the crisis overall and for most population groups and employment categories and not all of them recovered the pre-crisis level of earnings by the end of the period. The poverty indicators stopped decreasing during the international crisis, but recovered the downward trend immediately.

Young workers had worse labour market outcomes over the period compared to adults, but they do not seem to be more vulnerable to macroeconomic crises. Men and women exhibited a balanced situation in their labour market outcomes, but men were most affected by the negative impacts of the crisis. The unemployment rate was higher for young compared to adult workers, the shares of young employed workers in low-earning occupational groups and economic sectors were larger than the shares of adult workers, the percentage of young workers registered with the social security system was lower when compared to adults, and labour earnings of young workers were below those of adults. On the other hand, the share of young workers in low-earning occupational positions was lower compared to adults and their educational level improved more than that of adults. Despite the generally inferior situation of young workers in the labour market compared to adults, adult workers were more affected by the international crisis of 2008 in all labour market indicators. Disaggregating by gender, we found that men were better than women in some cases, e.g. the male unemployment rate was lower, the share of male workers in low-earning positions was lower compared to women, and labour earnings of men were higher than labour earnings of women; in other cases, the opposite occurred, e.g. the percentage of workers registered with the social security system was larger for women compared to men, the share of workers in low-earning occupations and sectors was lower for women compared to men. The negative impacts of the crisis affected men more than women in all labour market indicators.

In summary, labour market conditions in Ecuador were generally in a better situation in 2012 than they were in 2003 despite the international crisis of 2008. All population groups were affected negatively by the international crisis, but adult workers and men were more vulnerable than young workers and women.

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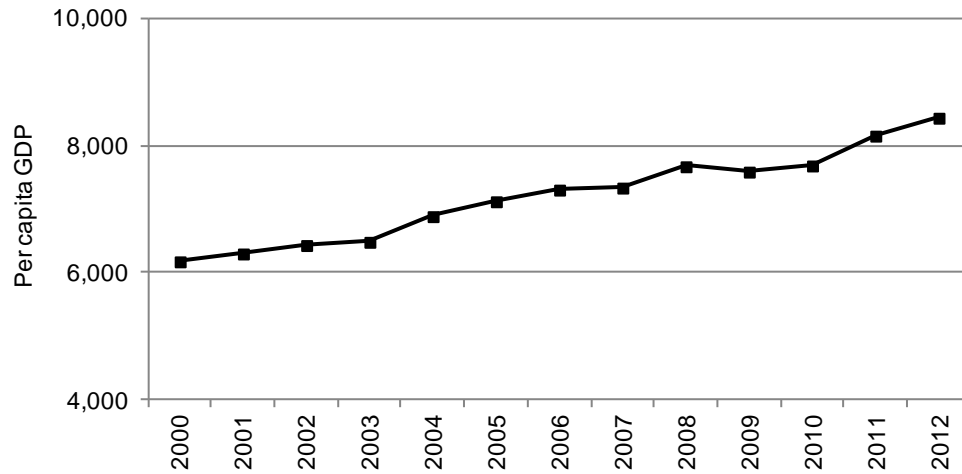
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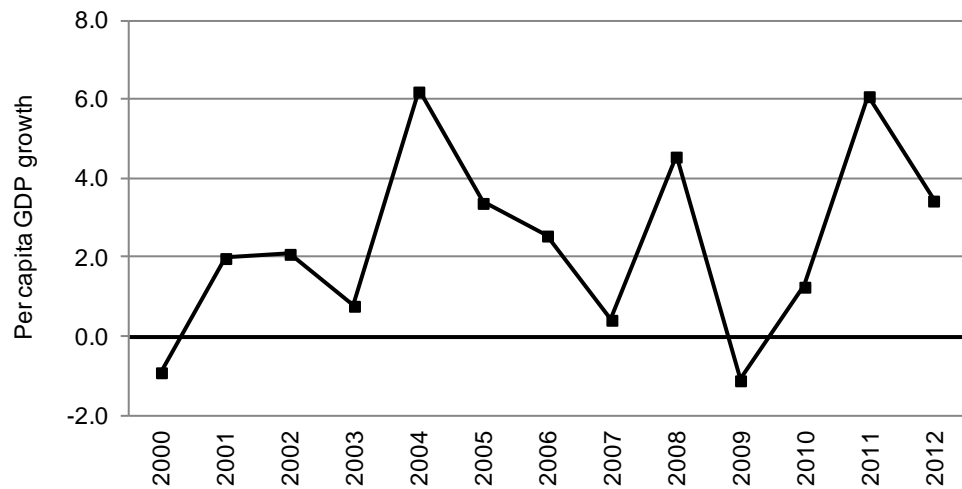
Figures

Figure 1: GDP per capita at PPP dollars of 2005, 2000–12



Source: World Development Indicators (the World Bank 2014).

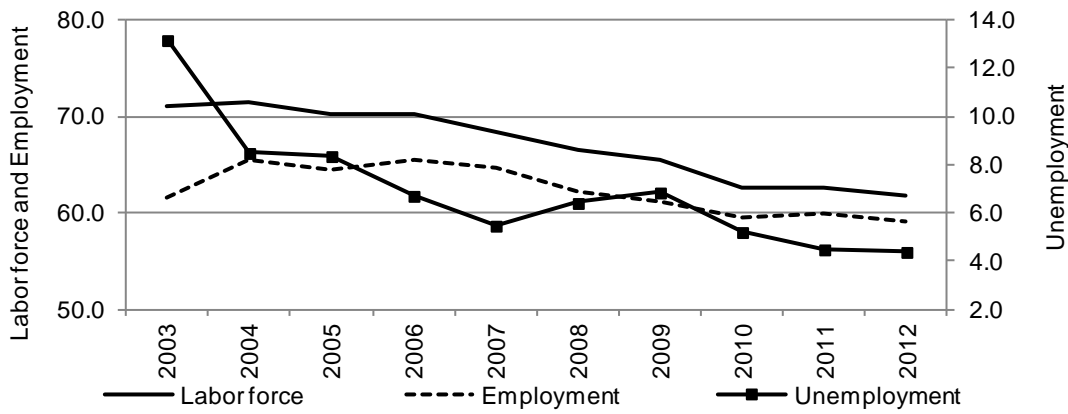
Figure 2: Annual growth of GDP per capita at PPP dollars of 2005, 2000–12



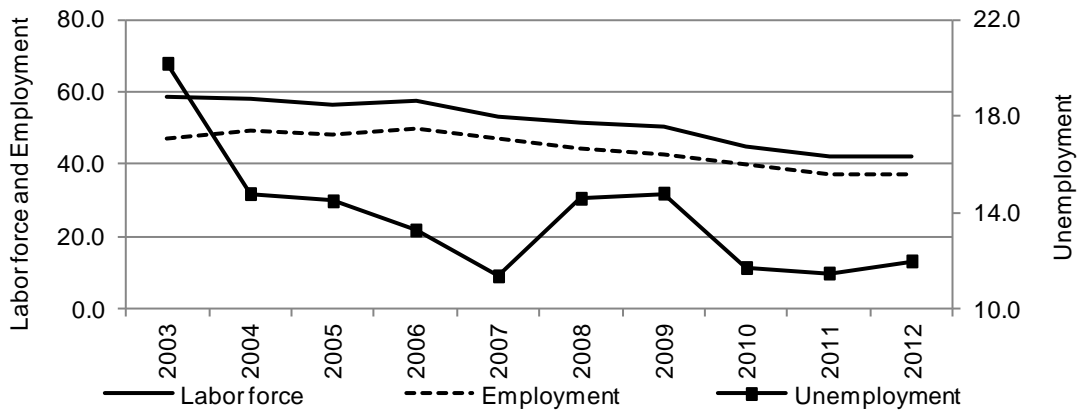
Source: World Development Indicators (the World Bank 2014).

Figure 3: Labour force rate, employment-to-population rate and unemployment rate: population 15 years old or more, 2003–12

(a) All



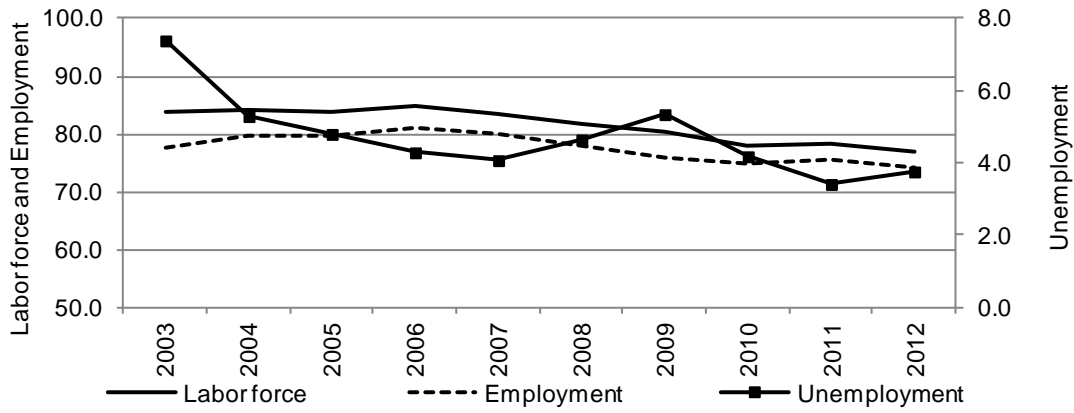
(b) Youth (15 to 24 years old)



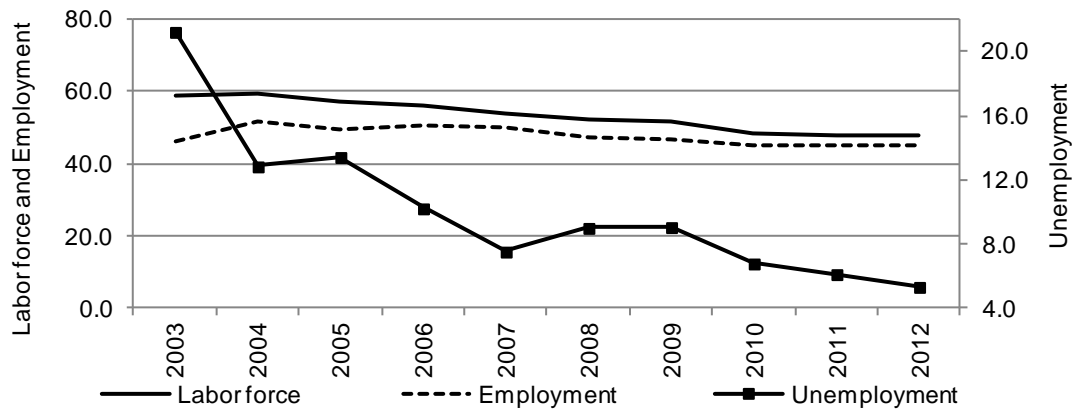
(c) Adults (25 to 64 years old)



(d) Men

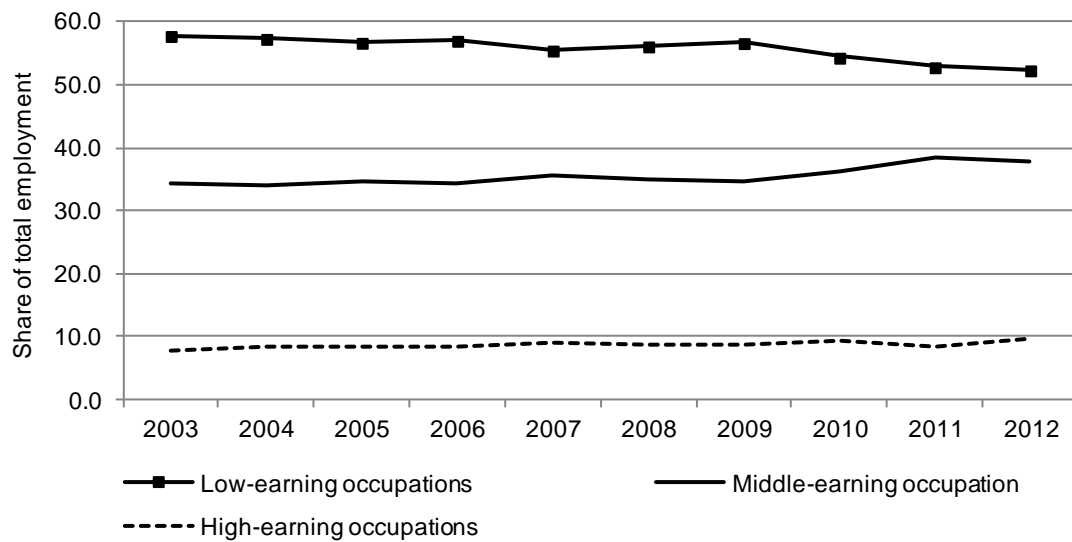


(e) Women



Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

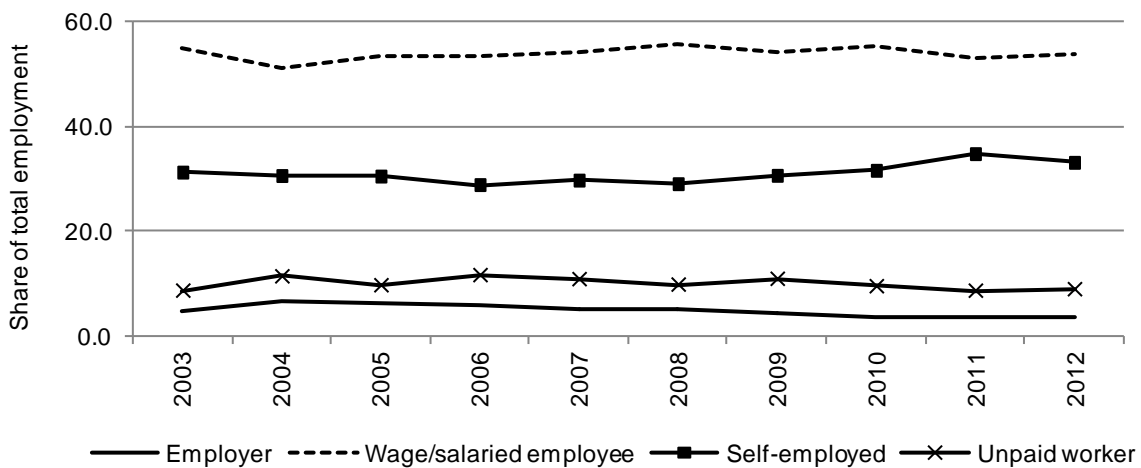
Figure 4: Share of employment by occupational group (categories grouped by earning levels): all employed workers, 15 years old or more, 2003–12



Note: Low-earning occupations: elementary, agricultural, forestry and fishery occupations, craft and trades jobs. Medium-earning occupations: services and sales, plant and machine operators and assemblers, clerical, technicians and associate professionals. High-earning occupations: management, professionals, armed forces.

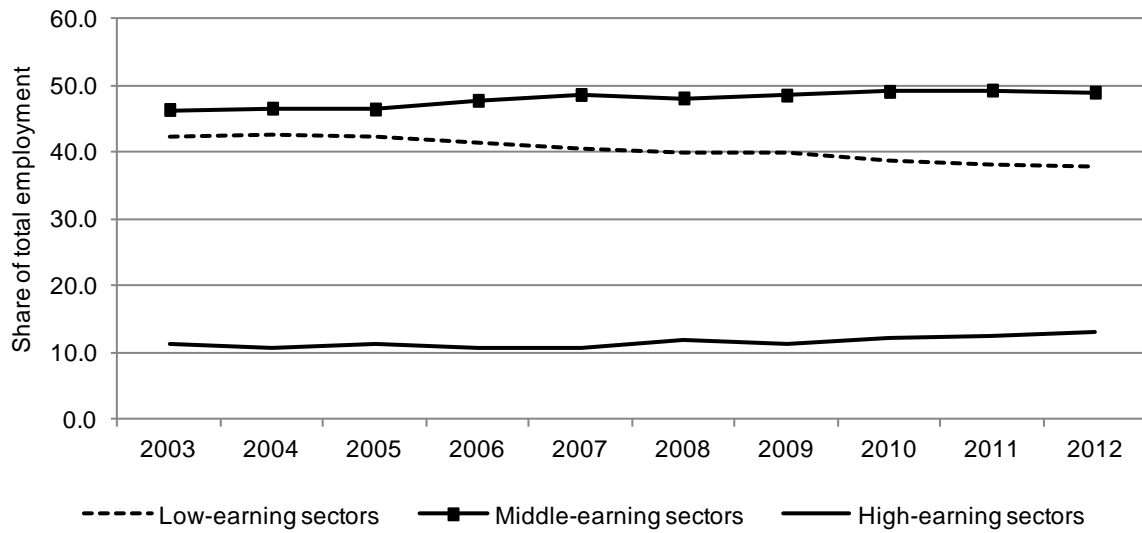
Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 5: Share of employment by occupational position: all employed workers, 15 years old or more, 2003–12



Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 6: Share of employment by economic sector (categories grouped by earning levels): all employed workers, 15 years old or more, 2003–12

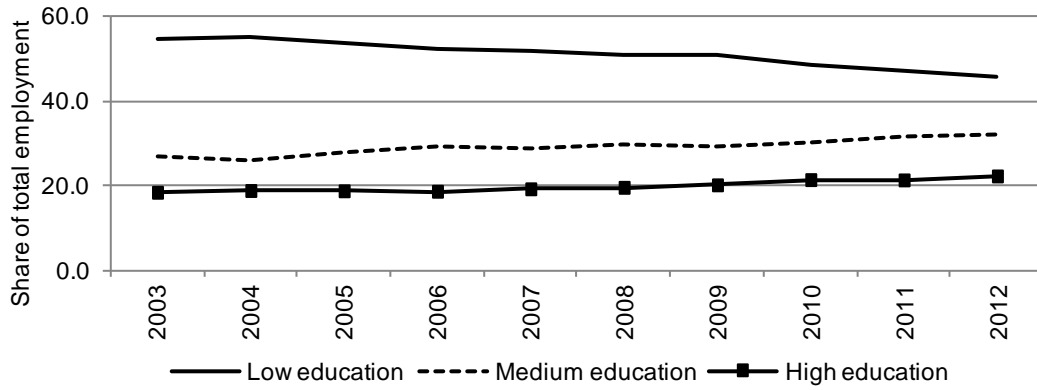


Note: Low-earning sectors: domestic workers, primary activities, low-tech industry. Middle-earning sectors: commerce, construction, education and health, utilities and transportation. High-earning sectors: public administration, skilled services, high-tech industry.

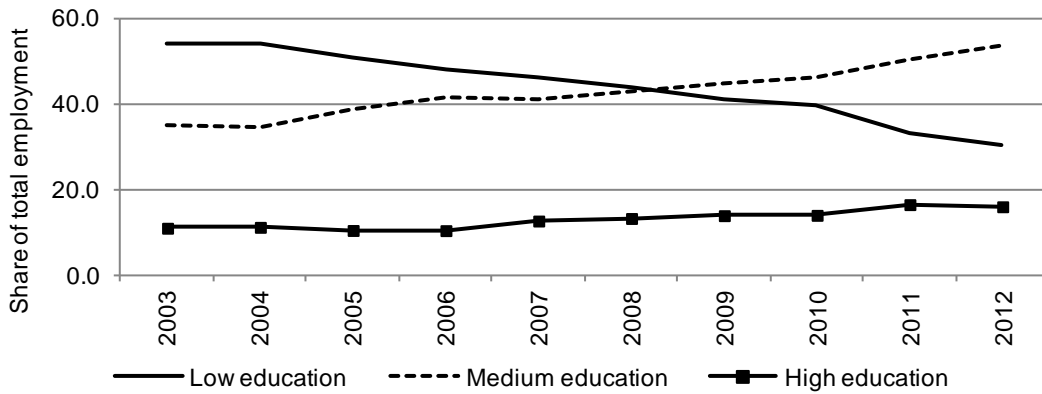
Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 7: Share of employment by educational level: employed workers, 15 years old or more, 2003–12

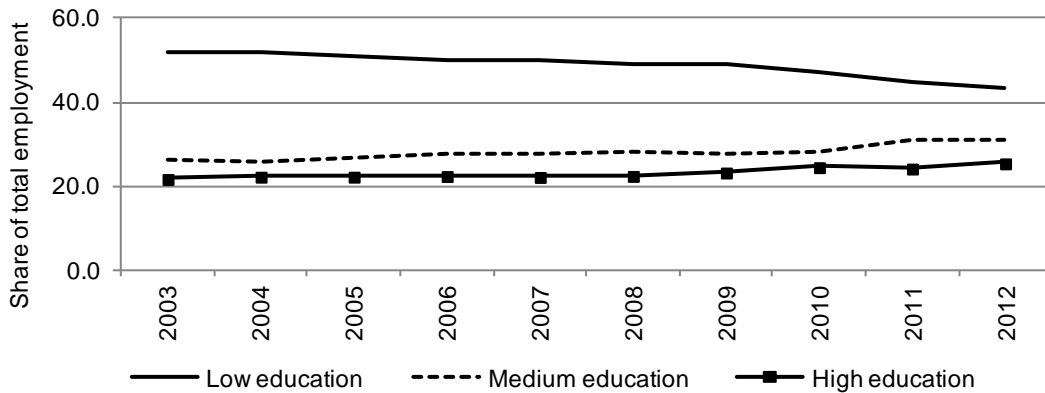
(a) All employed workers



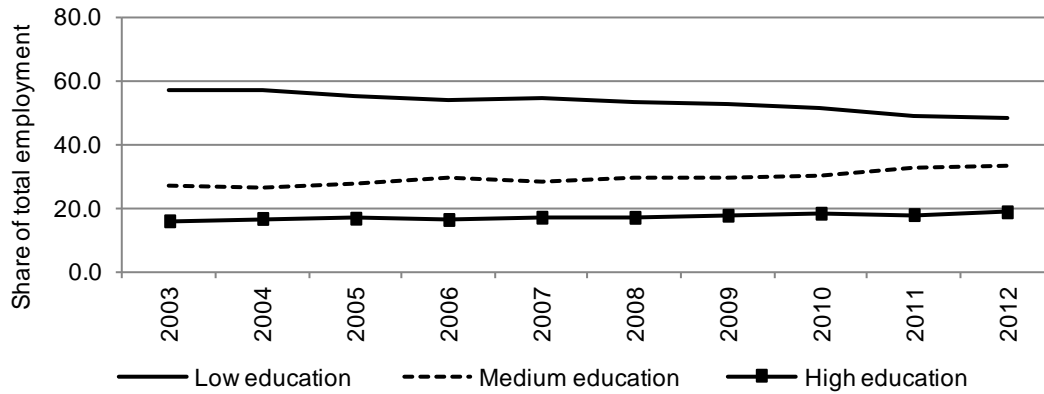
(b) Youth (15 to 24 years old)



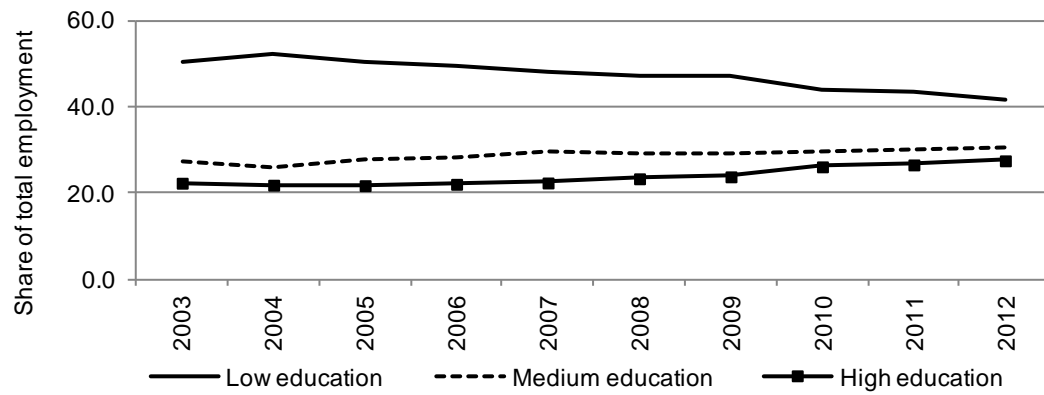
(c) Adults (25 to 64 years old)



(d) Men



(e) Women

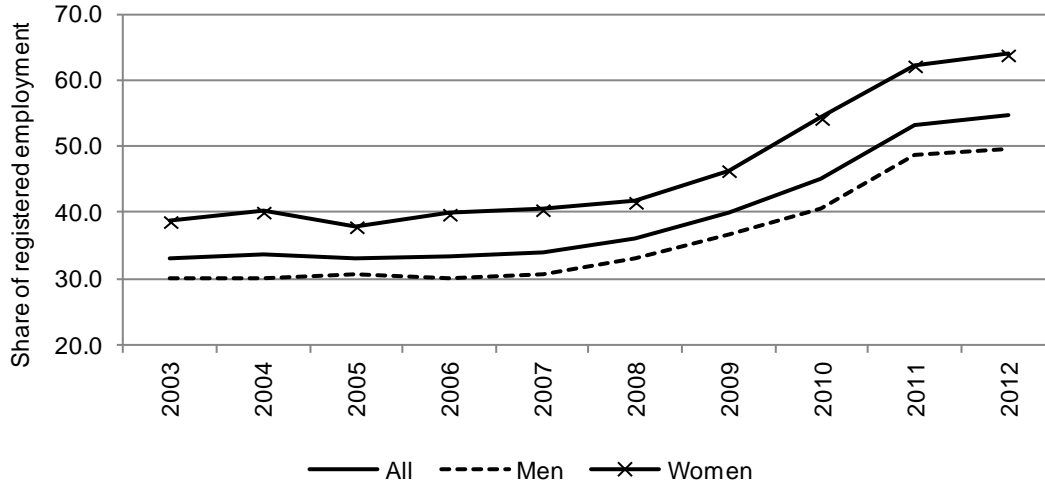


Note: Low: eight years of schooling or less. Medium: from nine to thirteen years of schooling. High: Over thirteen years of schooling.

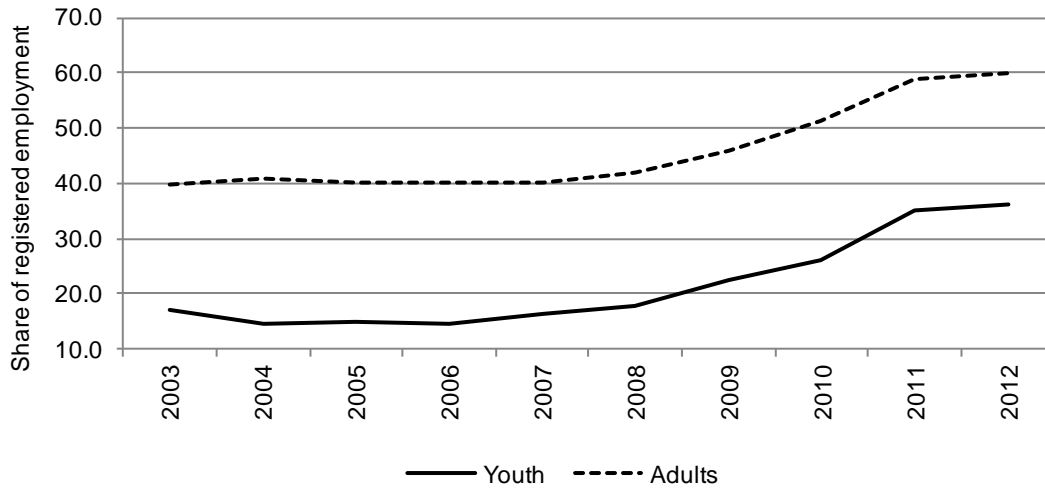
Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 8: Share of employment registered with the national social security system: employed workers, 15 years old or more, 2003–12

(a) Overall and by gender



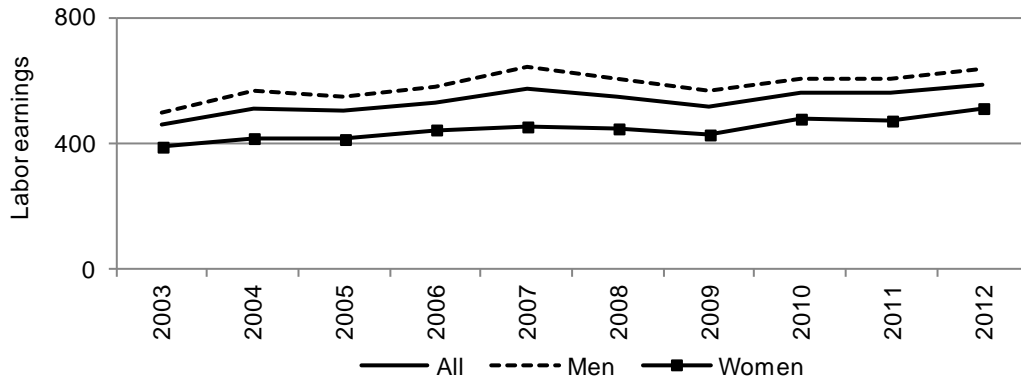
(b) By age group



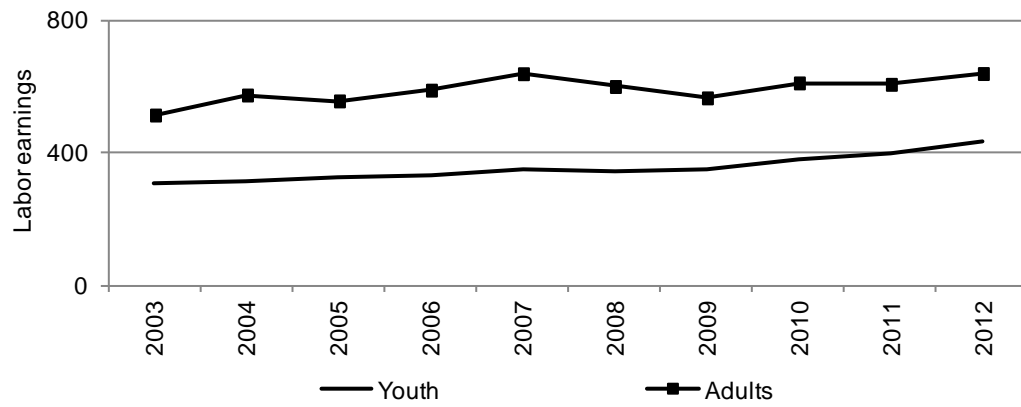
Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 9: Monthly labour earnings at PPP dollars of 2005, 2003–12

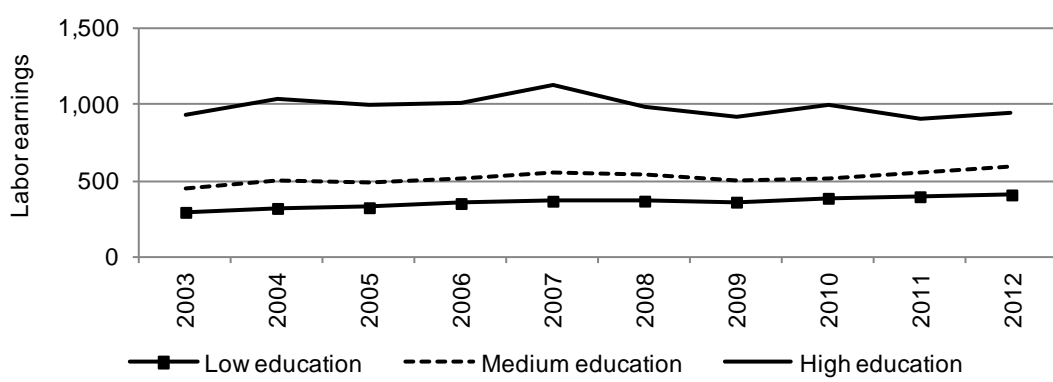
(a) Overall and by gender



(b) By age



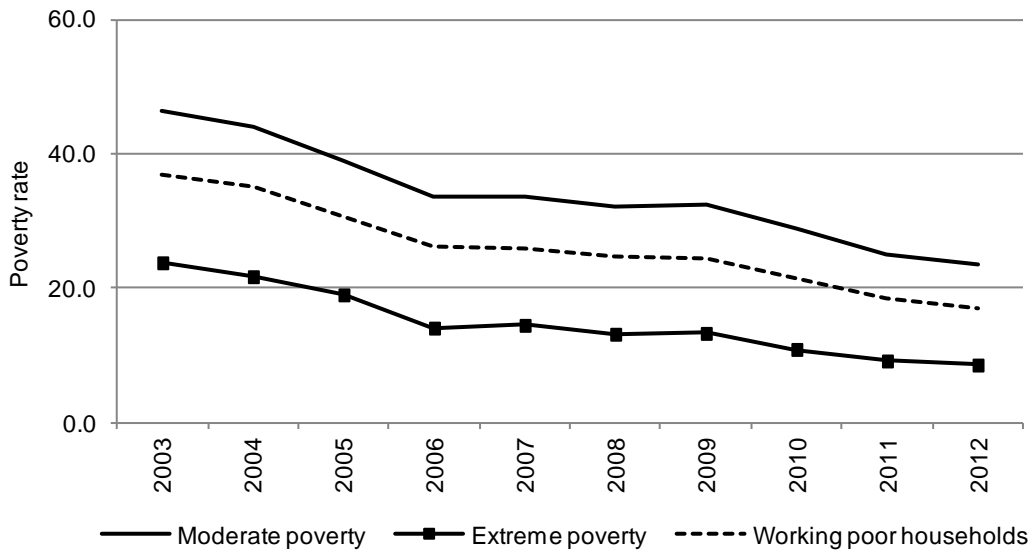
(c) By educational level



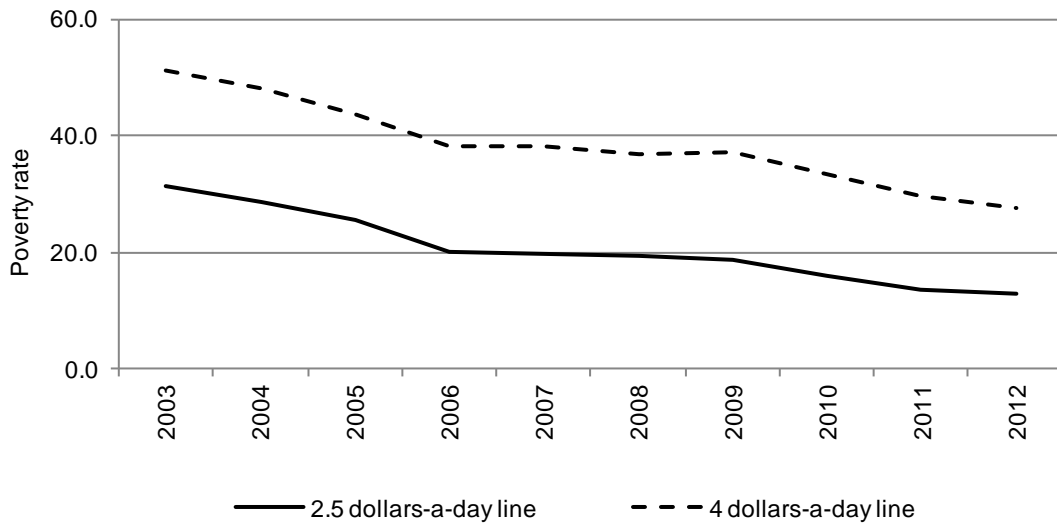
Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 10: Poverty rates and working poor households, 2003–12

(a) Official lines

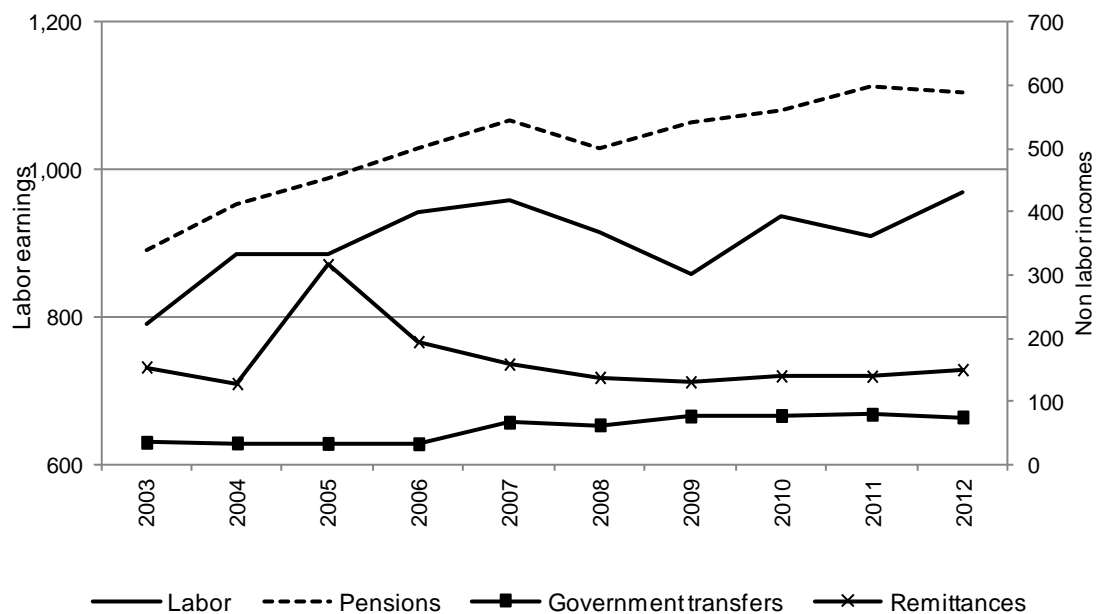


(b) International lines



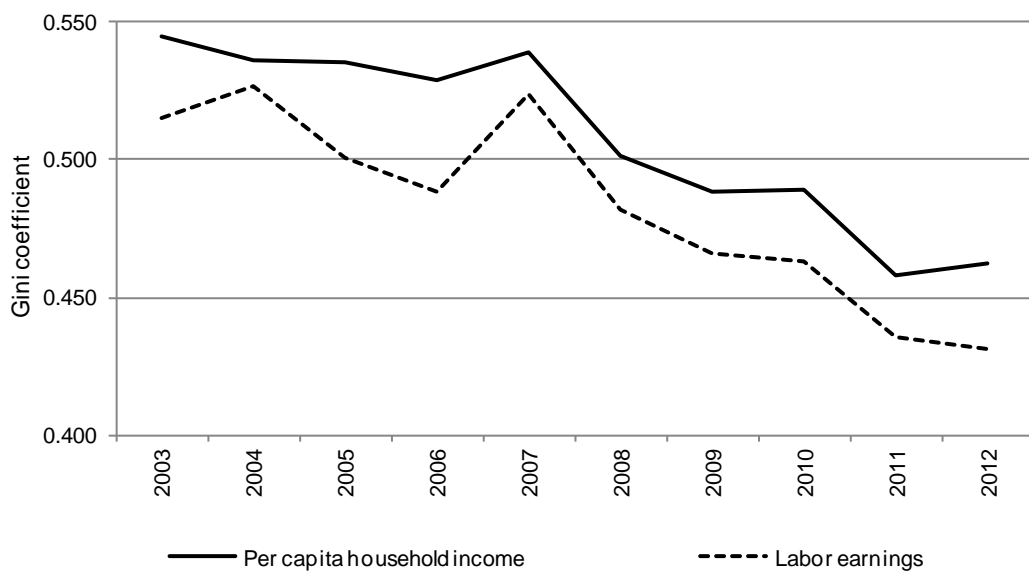
Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 11: Sources of monthly household total income at PPP dollars of 2005, 2003–12



Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Figure 12: Gini coefficient of household per capita income and labour earnings, 2003–12



Note: Gini coefficients of household per capita income and labour earnings are calculated among persons with positive household per capita income and positive labour earnings respectively.

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Tables

Table 1: Household surveys' description

	Number of households	Number of persons
2003	18,959	82,317
2004	19,392	83,043
2005	18,357	77,050
2006	18,484	77,964
2007	18,933	76,922
2008	19,386	78,725
2009	19,432	78,865
2010	20,670	82,759
2011	18,772	69,643
2012	19,840	73,686

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Table 2: Macroeconomic variables, 2000-2012

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP ^{1,2}	77,499	80,611	83,914	86,199	93,276	98,212	102,537	104,782	111,443	112,075	115,384	124,424	130,799
GDP per capita ¹	6,184	6,307	6,440	6,491	6,895	7,129	7,312	7,344	7,679	7,595	7,692	8,161	8,443
GDP per person employed ¹	17,582	17,228	17,041	17,400	17,328	18,166	18,370	18,739	19,945	19,737	20,374	21,510	21,928
GDP growth	1.09	4.02	4.10	2.72	8.21	5.29	4.40	2.19	6.36	0.57	2.95	7.83	5.12
GDP per capita growth	-0.89	2.00	2.11	0.79	6.22	3.40	2.57	0.44	4.57	-1.10	1.27	6.10	3.46
Exports of goods and services ^{1,2}	8,482	8,348	8,400	9,005	10,552	11,463	12,280	12,283	12,649	12,043	12,343	12,976	13,350
Agriculture, value added (% of GDP)	16.34	13.74	12.22	11.66	10.37	10.04	9.90	9.84	9.30	10.50	10.67	10.38	9.87
Industry, value added (% of GDP)	35.65	31.55	31.34	30.10	31.79	33.40	35.64	36.23	39.33	34.34	34.91	36.80	36.86
Services, value added (% of GDP)	48.01	54.71	56.44	58.25	57.84	56.57	54.46	53.93	51.37	55.15	54.42	52.82	53.27
Agriculture, value added ^{1,2}	3,153	3,309	3,368	3,590	3,676	3,935	4,105	4,245	4,316	4,390	4,459	4,699	4,753
Industry, value added ^{1,2}	9,544	10,132	10,594	10,883	12,538	13,093	13,696	13,582	14,487	14,461	14,584	16,011	16,912
Services, etc., value added ^{1,2}	18,354	18,793	19,421	19,995	20,965	22,177	23,213	24,058	25,661	26,393	27,438	29,227	30,704
Total population ²	12.53	12.78	13.03	13.28	13.53	13.78	14.02	14.27	14.51	14.76	15.00	15.25	15.49
Working age population (15-64) ²	7.57	7.75	7.94	8.13	8.31	8.50	8.69	8.88	9.06	9.25	9.43	9.62	9.81

1: Purchasing power parity dollars of 2005.

2: In millions.

Source: World Development Indicators (the World Bank 2014).

Table 3: Share of employment by occupational group: all employed workers, 15 years old or more, 2003–12

(a) All employed workers

	Management	Professionals	Technicians & associate professionals	Clerical	Service & sales workers	Agricultural, forestry & fishery workers	Craft & related trades workers	Plant & machine operators, and assemblers	Elementary	Armed forces
2003	1.79	5.58	6.14	4.08	17.97	14.05	13.80	6.16	30.03	0.40
2004	2.48	5.76	5.56	3.70	18.57	19.01	12.92	6.24	25.49	0.27
2005	2.36	5.91	5.68	3.87	19.02	15.04	11.65	6.07	30.11	0.30
2006	2.14	5.98	4.85	4.92	18.87	12.51	12.59	5.80	32.02	0.32
2007	2.30	6.08	5.18	5.06	18.94	12.19	12.05	6.30	31.33	0.57
2008	1.81	6.40	5.49	5.26	17.99	12.17	12.33	6.27	31.72	0.54
2009	1.54	6.74	5.00	5.56	17.78	14.32	12.53	6.29	29.91	0.33
2010	1.63	7.44	5.21	5.77	18.40	12.65	12.33	6.77	29.45	0.35
2011	1.16	6.91	4.94	6.21	20.18	14.34	13.00	7.27	25.57	0.42
2012	1.22	8.12	5.31	5.80	19.61	14.31	12.88	7.21	25.23	0.31

(b) Youth (15 to 24 years old)

	Management	Professionals	Technicians & associate professionals	Clerical	Service & sales workers	Agricultural, forestry & fishery workers	Craft & related trades workers	Plant & machine operators, and assemblers	Elementary	Armed forces
2003	0.37	1.13	5.88	5.83	17.51	7.48	15.12	4.19	42.34	0.17
2004	0.61	1.60	4.81	4.56	18.61	12.79	13.87	3.65	39.44	0.04
2005	0.80	1.13	4.23	5.47	18.59	5.91	12.54	3.75	47.41	0.17
2006	0.55	1.20	4.04	6.91	18.59	4.53	13.35	3.46	47.33	0.04
2007	0.36	1.18	5.17	7.60	19.59	5.43	11.32	3.61	45.60	0.13
2008	0.18	1.23	5.66	7.25	18.31	5.01	11.98	3.24	47.11	0.04
2009	0.41	1.50	4.95	7.73	18.36	6.30	11.45	4.37	44.86	0.08
2010	0.21	1.69	6.71	7.24	18.17	5.26	13.12	4.68	42.77	0.13
2011	0.24	1.31	5.92	10.09	20.18	6.30	13.80	5.12	36.89	0.15
2012	0.41	1.80	5.45	8.89	19.65	6.71	13.09	4.85	39.03	0.12

(c) Adults (25 to 64 years old)

	Management	Professionals	Technicians & associate professionals	Clerical	Service & sales workers	Agricultural, forestry & fishery workers	Craft & related trades workers	Plant & machine operators, and assemblers	Elementary	Armed forces
2003	2.35	7.23	6.61	3.84	18.33	13.85	13.75	7.03	26.51	0.51
2004	3.15	7.30	6.17	3.77	18.61	18.12	13.01	7.29	22.20	0.36
2005	2.94	7.64	6.41	3.70	19.29	14.90	11.84	6.97	25.96	0.36
2006	2.67	7.83	5.49	4.71	19.15	11.99	12.87	6.78	28.09	0.43
2007	2.89	7.72	5.54	4.70	18.86	11.52	12.64	7.25	28.13	0.75
2008	2.26	8.14	5.87	5.10	17.94	11.49	12.78	7.30	28.41	0.73
2009	1.88	8.56	5.41	5.39	17.74	13.53	13.27	7.10	26.69	0.43
2010	2.04	9.16	5.34	5.81	18.29	11.75	12.64	7.54	27.01	0.44
2011	1.46	8.66	5.17	6.00	20.27	12.58	13.28	8.17	23.88	0.52
2012	1.42	10.09	5.76	5.69	19.62	12.51	13.38	8.10	23.05	0.38

(d) Men

	Management	Professionals	Technicians & associate professionals	Clerical	Service & sales workers	Agricultural, forestry & fishery workers	Craft & related trades workers	Plant & machine operators, and assemblers	Elementary	Armed forces
2003	1.88	4.80	4.95	2.71	12.86	15.19	17.98	9.29	29.71	0.64
2004	2.77	4.94	4.78	2.45	13.39	18.49	16.60	9.80	26.36	0.40
2005	2.55	4.99	4.91	2.58	13.92	15.96	15.14	9.40	30.07	0.48
2006	2.56	4.88	4.15	3.40	13.99	14.18	16.52	8.77	31.01	0.52
2007	2.40	5.33	4.44	3.51	12.84	13.90	15.79	9.70	31.17	0.93
2008	2.08	5.05	4.82	3.51	12.25	13.93	16.03	9.65	31.78	0.90
2009	1.73	5.42	4.27	3.86	11.86	17.15	16.69	9.62	28.86	0.54
2010	1.72	5.86	4.28	4.24	12.21	15.22	15.92	10.41	29.57	0.57
2011	1.13	5.43	4.03	4.94	14.02	16.70	16.85	11.03	25.18	0.69
2012	1.22	6.20	4.59	4.59	13.44	16.82	16.96	10.78	24.91	0.51

e) Women

	Management	Professionals	Technicians & associate professionals	Clerical	Service & sales workers	Agricultural, forestry & fishery workers	Craft & related trades workers	Plant & machine operators, and assemblers	Elementary	Armed forces
2003	1.65	6.87	8.08	6.31	26.34	12.18	6.96	1.04	30.55	0.02
2004	2.05	6.98	6.70	5.54	26.21	19.76	7.48	0.99	24.21	0.07
2005	2.06	7.34	6.89	5.90	26.99	13.61	6.18	0.87	30.17	
2006	1.48	7.68	5.93	7.27	26.40	9.93	6.52	1.20	33.57	
2007	2.15	7.23	6.29	7.43	28.22	9.59	6.35	1.13	31.57	0.03
2008	1.40	8.48	6.52	7.95	26.80	9.47	6.65	1.09	31.63	
2009	1.25	8.75	6.11	8.17	26.81	10.00	6.18	1.22	31.51	0.01
2010	1.48	9.93	6.67	8.18	28.16	8.61	6.68	1.03	29.26	0.00
2011	1.22	9.21	6.36	8.21	29.80	10.65	6.98	1.39	26.19	
2012	1.23	11.07	6.41	7.66	29.09	10.47	6.62	1.73	25.71	0.00

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Table 4: Share of employment by occupational position: all employed workers, 15 years old or more, 2003–12

(a) All employed workers

	Employer	Wage/salaried employee	Self-employed	Unpaid worker
2003	4.88	55.09	31.29	8.73
2004	6.70	51.19	30.64	11.47
2005	6.29	53.41	30.53	9.77
2006	6.01	53.38	28.90	11.70
2007	5.21	54.10	29.76	10.93
2008	5.29	55.74	29.08	9.89
2009	4.20	54.13	30.68	10.99
2010	3.48	55.30	31.64	9.58
2011	3.52	52.93	34.82	8.72
2012	3.77	54.06	33.16	9.01

(b) Youth (15 to 24 years old)

	Employer	Wage/salaried employee	Self-employed	Unpaid worker
2003	2.43	67.19	12.83	17.54
2004	1.92	62.91	10.51	24.66
2005	1.84	65.32	11.90	20.94
2006	1.34	64.43	9.18	25.04
2007	0.61	64.91	11.23	23.26
2008	0.72	68.55	9.87	20.87
2009	0.73	67.77	9.40	22.10
2010	0.33	70.12	9.93	19.62
2011	0.56	69.34	12.48	17.63
2012	0.35	68.65	10.47	20.52

(c) Adults (25 to 64 years old)

	Employer	Wage/salaried employee	Self-employed	Unpaid worker
2003	5.43	53.93	34.59	6.05
2004	7.69	50.76	33.74	7.82
2005	7.19	52.91	33.31	6.60
2006	6.95	53.39	31.88	7.78
2007	6.23	54.07	32.14	7.56
2008	6.05	55.66	31.36	6.93
2009	4.75	54.12	33.01	8.12
2010	3.91	55.44	33.38	7.27
2011	3.93	53.57	35.82	6.68
2012	4.17	55.16	34.13	6.53

(d) Men

	Employer	Wage/salaried employee	Self-employed	Unpaid worker
2003	5.77	59.20	30.13	4.91
2004	8.22	57.16	28.42	6.21
2005	7.73	57.35	29.39	5.53
2006	7.39	58.68	27.24	6.68
2007	6.60	59.36	28.03	6.01
2008	6.80	60.61	27.44	5.15
2009	5.44	58.73	29.74	6.08
2010	4.43	59.20	31.14	5.24
2011	4.51	57.22	33.96	4.31
2012	4.75	58.01	32.40	4.84

(e) Women

	Employer	Wage/salaried employee	Self-employed	Unpaid worker
2003	3.44	48.36	33.21	15.00
2004	4.47	42.38	33.92	19.23
2005	4.05	47.24	32.32	16.39
2006	3.88	45.19	31.47	19.46
2007	3.09	46.10	32.40	18.41
2008	2.98	48.27	31.59	17.16
2009	2.32	47.10	32.10	18.48
2010	1.98	49.17	32.43	16.42
2011	1.98	46.24	36.17	15.61
2012	2.26	48.00	34.32	15.41

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Table 5: Share of employment by economic sector: all employed workers, 15 years old or more, 2003–12

(a) All

	Primary activities	Low-tech industry	High-tech industry	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic workers
2003	30.34	8.31	3.17	6.20	23.63	5.39	4.11	3.96	11.15	3.74
2004	31.44	8.09	3.16	5.72	24.00	5.65	4.27	3.40	11.19	3.08
2005	30.74	7.50	3.44	5.88	24.23	5.83	4.52	3.26	10.49	4.11
2006	30.16	8.05	3.15	6.46	24.90	5.89	4.36	3.20	10.48	3.34
2007	29.05	8.30	2.72	6.65	25.07	6.20	4.76	3.22	10.70	3.33
2008	28.46	7.98	3.42	6.69	24.58	6.01	4.98	3.60	10.82	3.46
2009	29.09	7.59	3.25	6.87	24.49	6.39	5.03	3.14	10.77	3.39
2010	28.17	7.71	3.52	6.47	24.57	6.46	5.18	3.47	11.59	2.88
2011	28.38	7.41	3.26	6.07	25.85	6.68	5.55	3.78	10.68	2.34
2012	27.87	7.59	3.15	6.27	25.52	6.67	6.20	3.77	10.50	2.46

(b) Youth (15 to 24 years old)

	Primary activities	Low-tech industry	High-tech industry	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic workers
2003	33.38	10.05	3.65	7.08	23.27	4.37	4.04	1.94	6.95	5.28
2004	36.54	8.76	3.63	6.68	24.91	3.49	4.32	1.19	6.17	4.31
2005	35.52	9.23	4.57	6.69	24.08	4.35	3.77	1.35	5.60	4.86
2006	34.66	9.37	3.62	7.95	25.84	4.68	3.78	1.25	5.31	3.54
2007	32.80	9.03	3.12	7.32	26.51	5.46	4.86	1.41	6.23	3.27
2008	31.66	9.27	4.27	8.34	25.38	4.64	5.19	1.21	6.33	3.71
2009	31.75	8.65	3.56	8.37	25.79	5.24	5.40	1.27	6.50	3.47
2010	32.19	8.97	4.62	7.89	24.08	5.10	5.19	1.62	7.74	2.60
2011	28.82	8.21	4.33	8.44	27.74	5.09	5.82	2.01	7.29	2.24
2012	31.48	7.94	3.91	9.09	26.82	4.87	5.07	2.34	6.75	1.72

(c) Adults (25 to 64 years old)

	Primary activities	Low-tech industry	High-tech industry	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic workers
2003	27.25	7.95	3.19	6.19	24.13	5.94	4.36	4.75	12.81	3.42
2004	27.61	8.12	3.17	5.75	23.92	6.60	4.53	4.21	13.16	2.92
2005	26.92	7.16	3.28	6.02	24.67	6.56	5.02	4.02	12.33	4.03
2006	26.12	7.83	3.22	6.44	25.04	6.56	4.79	3.95	12.56	3.49
2007	25.64	8.37	2.81	6.81	25.02	6.69	5.00	3.81	12.36	3.49
2008	25.21	7.95	3.39	6.64	24.49	6.60	5.21	4.37	12.54	3.60
2009	25.74	7.54	3.32	6.88	24.46	7.02	5.32	3.78	12.39	3.55
2010	24.67	7.78	3.49	6.52	24.69	6.99	5.49	4.12	13.06	3.19
2011	24.97	7.42	3.33	5.94	25.95	7.40	5.89	4.50	12.10	2.50
2012	23.97	7.79	3.25	6.13	25.50	7.44	6.88	4.41	11.97	2.66

(d) Men

	Primary activities	Low-tech industry	High-tech industry	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic workers
2003	34.61	7.97	4.16	9.80	19.47	7.68	4.43	4.80	6.79	0.29
2004	34.41	7.38	4.14	9.30	20.14	8.34	4.93	4.19	6.92	0.24
2005	34.10	7.30	4.60	9.35	20.15	8.40	5.02	4.04	6.34	0.70
2006	33.35	7.69	4.29	10.28	20.50	8.39	4.99	3.95	6.25	0.32
2007	33.09	7.74	3.52	10.72	20.27	8.66	5.10	4.09	6.49	0.33
2008	33.01	7.36	4.52	10.68	19.80	8.55	5.23	4.43	6.17	0.26
2009	33.60	7.21	4.43	10.95	19.35	8.81	5.20	3.90	6.18	0.38
2010	32.88	7.16	4.75	10.18	19.05	9.24	5.56	4.16	6.82	0.19
2011	33.34	6.47	4.43	9.46	19.85	9.46	5.73	4.45	6.61	0.21
2012	32.48	6.86	4.27	9.81	19.24	9.71	6.65	4.37	6.37	0.24

(e) Women

	Primary activities	Low-tech industry	High-tech industry	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic workers
2003	23.36	8.87	1.54	0.31	30.45	1.63	3.60	2.58	18.28	9.37
2004	27.04	9.15	1.72	0.43	29.69	1.68	3.29	2.23	17.50	7.26
2005	25.48	7.81	1.63	0.46	30.61	1.80	3.74	2.04	16.98	9.44
2006	25.23	8.61	1.41	0.56	31.71	2.03	3.38	2.06	17.02	7.99
2007	22.91	9.15	1.51	0.45	32.39	2.46	4.24	1.90	17.09	7.91
2008	21.49	8.94	1.74	0.56	31.92	2.12	4.59	2.32	17.95	8.36
2009	22.21	8.16	1.45	0.66	32.33	2.69	4.78	1.97	17.76	7.97
2010	20.74	8.59	1.57	0.62	33.26	2.07	4.57	2.38	19.09	7.13
2011	20.63	8.89	1.43	0.77	35.23	2.35	5.27	2.75	17.04	5.67
2012	20.78	8.71	1.43	0.85	35.16	1.99	5.52	2.87	16.83	5.87

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Table 6: Monthly labour earnings at PPP dollars of 2005, 2003-2012

(a) All employed workers, by gender, age group, occupational position, and educational level

	All	Gender		Age		Occupational position			Educational level		
		Men	Women	Youth	Adults	Employer	Wage/salaried employee	Self-employed	Low	Medium	High
2003	457.6	495.7	388.9	309.3	513.8	1000.3	453.5	380.5	293.6	445.8	930.0
2004	511.1	565.1	416.2	311.5	574.2	979.0	542.1	354.8	319.4	495.9	1031.5
2005	502.6	551.2	413.1	323.4	556.4	1069.7	502.4	386.1	324.0	485.6	991.6
2006	529.2	580.7	443.6	331.6	588.8	1170.0	524.3	406.2	351.6	513.9	1017.0
2007	575.1	643.6	453.3	347.9	638.5	1762.1	558.8	398.5	367.0	546.5	1131.8
2008	546.8	603.5	447.0	343.2	599.9	1481.0	534.3	404.3	367.5	541.0	984.7
2009	515.7	565.7	427.7	348.8	565.6	1157.1	547.6	377.3	360.7	503.3	915.5
2010	559.7	604.9	478.1	378.2	610.7	1689.1	583.8	395.2	386.1	512.1	995.6
2011	559.0	607.6	472.1	399.7	606.5	1283.3	607.7	409.2	396.3	551.0	910.4
2012	589.6	634.2	511.8	434.7	639.0	1559.5	622.8	428.6	408.2	591.9	950.7

(b) By economic sector

	Primary activities	Low-tech industry	High-tech industry	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic workers
2003	295.9	402.7	569.3	495.2	475.4	599.4	847.8	804.6	512.6	202.9
2004	302.4	440.7	642.6	470.5	498.0	854.1	810.4	988.8	633.6	276.9
2005	309.7	471.5	693.2	503.2	506.5	630.8	840.6	923.9	647.8	253.8
2006	341.1	478.8	834.5	518.9	520.0	676.4	851.9	951.0	632.5	307.5
2007	376.8	536.7	751.6	654.4	583.4	666.5	972.9	1000.6	644.7	285.5
2008	388.7	454.6	718.6	570.1	541.1	646.1	770.7	1011.3	650.4	291.0
2009	359.6	455.3	659.7	493.7	501.7	611.7	639.7	1152.6	649.2	326.0
2010	379.0	475.6	750.3	559.4	532.8	684.0	744.2	1121.8	690.0	341.0
2011	393.7	478.5	648.5	550.4	505.4	671.7	662.7	1110.0	794.5	357.4
2012	407.2	479.7	893.1	572.4	554.1	658.2	751.1	1102.0	798.4	384.3

(c) By occupational group

	Management	Professionals	Technicians & associate professional	Clerical	Service & sales workers	Agricultural, forestry & fishery workers	Craft & related trades	Plant & machine operators, and assemblers	Elementary	Armed forces
2003	1826.2	967.0	696.0	576.1	455.8	287.1	391.0	562.5	269.3	662.8
2004	2018.1	1030.3	802.8	747.1	470.1	290.1	403.1	586.1	302.0	833.6
2005	1879.9	1015.0	805.3	575.6	486.5	309.2	412.6	605.9	293.9	952.6
2006	1911.6	1174.7	723.1	709.3	499.6	330.0	451.1	624.7	316.1	803.8
2007	2514.0	1314.4	779.0	621.4	526.4	361.7	460.2	663.8	320.4	1091.3
2008	2146.8	1074.6	777.7	639.1	555.0	382.7	460.6	624.5	317.6	990.2
2009	1868.7	1095.1	750.1	586.0	522.7	345.6	455.4	582.1	320.3	1395.5
2010	2084.1	1150.3	724.4	643.2	549.2	365.0	472.3	619.8	349.0	1297.6
2011	1871.6	1162.4	741.5	657.7	532.2	382.6	476.5	657.4	356.2	1264.5
2012	2243.6	1173.0	808.1	635.4	575.1	378.6	507.4	657.6	378.6	1360.8

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Table 7: Hourly wage in main occupation at PPP dollars of 2005, 2003–12

(a) All employed workers, by gender, by age group, by occupational position, and educational level

	All	Gender		Age		Occupational position			Educational level		
		Men	Women	Youth	Adults	Employer	Wage/salaried employee	Self-employed	Low	Medium	High
2003	3.29	3.41	3.07	2.27	3.64	6.13	3.10	3.19	2.11	3.24	6.62
2004	3.47	3.59	3.24	2.19	3.80	6.30	3.35	3.04	2.33	3.28	6.66
2005	3.28	3.41	3.06	2.35	3.55	5.97	3.19	2.90	2.30	3.12	6.10
2006	3.45	3.55	3.26	2.34	3.71	7.16	3.25	3.05	2.39	3.22	6.44
2007	3.61	3.81	3.25	2.45	3.87	9.84	3.39	2.94	2.47	3.35	6.77
2008	3.24	3.39	2.99	2.18	3.48	7.81	3.12	2.66	2.30	3.11	5.66
2009	3.23	3.39	2.95	2.29	3.47	6.89	3.33	2.57	2.36	2.97	5.72
2010	3.47	3.58	3.29	2.42	3.73	9.86	3.54	2.66	2.47	3.07	6.17
2011	3.43	3.57	3.19	2.54	3.65	7.45	3.64	2.70	2.55	3.33	5.41
2012	3.67	3.80	3.44	3.01	3.88	8.58	3.79	2.94	2.72	3.51	5.78

(b) By economic sector

	Primary activities	Low-tech industry	High-tech industry	Construction	Commerce	Utilities & transportation	Skilled services	Public administration	Education & Health	Domestic workers
2003	2.1	2.8	3.5	2.8	3.3	4.0	6.4	6.6	4.3	1.5
2004	2.3	2.9	4.2	3.2	3.3	5.1	5.4	5.8	4.7	2.1
2005	2.3	2.8	4.5	3.1	3.2	3.7	5.1	5.4	4.6	1.9
2006	2.4	2.9	5.0	3.2	3.4	4.3	5.2	5.8	4.5	1.9
2007	2.6	3.1	4.2	3.8	3.6	3.8	5.8	5.7	4.7	2.0
2008	2.5	2.6	4.0	3.1	3.1	3.5	4.5	5.8	4.3	2.0
2009	2.4	2.8	3.7	2.9	3.1	3.5	4.0	6.9	4.3	2.1
2010	2.6	3.0	4.2	3.3	3.2	3.9	4.5	6.5	4.6	2.3
2011	2.6	2.9	3.7	3.1	3.0	3.8	4.0	6.6	5.1	2.4
2012	2.9	3.0	4.8	3.4	3.3	3.7	4.5	6.6	5.2	2.7

(c) By occupational group

	Management	Professionals	Technicians & associate professional	Clerical	Service & sales workers	Agricultural, forestry & fishery workers	Craft & related trades	Plant & machine operators, and assemblers	Elementary	Armed forces
2003	16.1	6.7	4.8	4.0	3.1	2.1	2.6	4.1	2.0	3.9
2004	10.5	7.0	5.3	4.9	3.0	2.3	2.8	3.8	2.4	5.9
2005	10.1	6.6	5.5	3.5	3.0	2.4	2.7	3.3	2.2	6.4
2006	10.7	7.7	5.0	4.3	3.0	2.5	2.8	3.4	2.3	5.7
2007	13.2	7.8	5.4	3.7	3.1	2.8	2.9	3.7	2.3	6.4
2008	11.9	6.4	4.7	3.7	3.0	2.5	2.7	3.2	2.1	5.5
2009	10.6	6.9	4.8	3.4	3.2	2.5	2.7	3.2	2.2	7.7
2010	11.5	7.3	4.8	3.8	3.2	2.6	2.9	3.4	2.3	7.2
2011	10.3	7.0	4.8	4.0	3.1	2.7	2.8	3.6	2.4	7.3
2012	12.2	7.2	5.1	3.8	3.4	2.9	3.1	3.7	2.5	7.7

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Table 8: Share of persons in the labour force by educational levels:
population 15 years old or more, 2003–12

	Low	Medium	High
2003	54.27	27.89	17.84
2004	54.37	27.02	18.60
2005	52.89	28.63	18.48
2006	51.59	29.70	18.71
2007	51.19	29.29	19.52
2008	49.93	30.33	19.74
2009	49.65	29.81	20.54
2010	47.93	30.43	21.65
2011	46.15	32.41	21.44
2012	44.65	32.83	22.52

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).

Table 9: Unemployment rate by educational levels:
population 15 years old or more. 2003–12

	Low	Medium	High
2003	12.57	15.77	10.42
2004	7.32	11.37	7.45
2005	7.21	11.15	7.04
2006	5.26	8.92	7.09
2007	4.04	6.81	6.93
2008	4.34	9.04	7.19
2009	4.92	8.60	8.59
2010	3.63	6.70	6.33
2011	2.87	6.32	5.04
2012	2.39	6.15	5.47

Source: Authors' calculations from SEDLAC (CEDLAS and the World Bank 2014).