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# Argentina: households and labour market changes (2004-2009)

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**T**his article outlines the changes that occurred in employment between 2004 and 2009 and reviews the links that households established with the labour market. An increase in the number of jobs registered with the social security system was one of the key features of the period. Moreover, half of the rise in the observed employment rate represented jobs obtained by household members other than heads of household. The increase in protected employment also benefited social sectors that have traditionally been neglected, although there are factors that restrict the access of certain population groups to such jobs. Another research finding is that if the head of the household has a protected job, other household members have better chances of gaining a similar job themselves.

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# I

## Introduction

Any review of the social changes that have occurred in Argentina over the last few years must inevitably focus on the labour market, given the sustained recovery in the level of employment and progressive rebuilding of labour incomes that have taken place. A direct way to do this is by examining the trend of employment indicators that summarize the functioning of this market.<sup>1</sup> The research is also enhanced when households are used as the unit of analysis, since it then becomes possible to study people's patterns of participation in economic activity, in relation to the positions they occupy in the family structure or their contribution to the household's monetary income, or both, among other potential dimensions of analysis. This article used this relatively less common approach,<sup>2</sup> which provided new information on the type of linkages households established with the labour market during the economic upswing phase.

The characteristics of the economic recovery process following the 2001 crisis also make the proposed analysis timely. In addition to increases in the volume of the employment and higher wages, as mentioned above, another characteristic is the sharp rise in the number of jobs registered with the social security system. Such jobs represent higher quality employment, because, having been declared by employers, they enjoy the protection provided by labour laws; and persons working in those jobs also receive higher wages than their counterparts in precarious jobs. In the five-year period 2004-2009, the number of registered workers increased by 44.1%, whereas the number of workers in unregistered jobs grew by 6.8% (see table 1). The rate of growth of protected employment distinguishes this stage from previous episodes of recomposition of the level of economic activity, which have succeeded one another since the mid-1970s at least, when new employment mainly represented precarious jobs. Between 1970 and 2001, the

share of unregistered jobs in the employment structure increased by 10 percentage points.<sup>3</sup>

The new labour-market scenario clearly reflects a trend change in the registration of employment relations compared to that prevailing in recent decades. Nonetheless, factors seem to persist in Argentine society that restrict or obstruct access to protected jobs by certain population groups. Although in 2009 the number of registered jobs matched the number of households that mainly depended on the labour income of their members (the ratio had been 0.7 in 2004),<sup>4</sup> this increase was not generalized throughout the population as a whole.

Investigating why the creation of lower-quality jobs tended to be concentrated among a certain type of household should make it possible to recommend policies aimed at ensuring that economic growth generates higher levels of integration and social cohesion. This is the purpose of the rest of this article.

The information used in this article comes from the Permanent Household Survey (EPH) conducted by the National Institute of Statistics and Censuses (INDEC). The EPH is conducted in Argentina's main cities, and encompasses about 70% of the total urban population. Since 2003, the survey has collected information continuously, producing quarterly estimates for certain variables and half-yearly estimates for others. This article used the micro-databases corresponding to the first quarters of 2004, 2005, 2006, 2007, 2008 and 2009. The period 2002-2003 was excluded from the analysis, because it corresponded to a period of rebound from the trough of the 2001 crisis in Argentina.<sup>5</sup> This makes it possible to focus on the changes that occurred in Argentine society once a certain growth threshold had been achieved. The article thus provides an overview of the social situation and the changes that occurred in it in the period 2004-2009.

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<sup>1</sup> There is a direct link between the labour market and the social situation, which has been frequently discussed in the literature. Different approaches to this can be found in the work of Stallings and Weller (2001); Tokman (2006); Márquez and others (2007), among others.

<sup>2</sup> Although they had different emphases than those developed in this article, progress from this perspective can also be consulted in Arriagada (2007) and ILO/UNDP (2009).

<sup>3</sup> Data for the Greater Buenos Aires conurbation—the only information available for the period considered (Permanent Household Survey (EPH) of the National Institute of Statistics and Censuses (INDEC)).

<sup>4</sup> Calculated as the quotient between registered wage-earning workers and households whose heads were employed or unemployed.

<sup>5</sup> In the first quarter of 2004, gross domestic product (GDP) was slightly below its level in early 2001, before the subsequent abrupt slump. For an analysis of the macroeconomic characteristics of the period, see Cetrángolo, Heymann and Ramos (2007).

The article consists of five sections. Section II describes the functioning of the labour market during the period under analysis, while section III provides evidence that illustrates the degree and type of household dependence on the labour market. Section IV characterizes the Argentine social situation,

classifying households by income sources and the occupational status of their members. Section V estimates factors that are decisive for gaining access to registered jobs, using recursive univariate and bivariate probit models. Lastly, section VI presents the conclusions.

## II

### The functioning of the labour market

#### 1. Activity, employment and unemployment

Between the first quarter of 2004 and the same period in 2007, labour supply grew by 0.7% between 2004 and 2005 and then by 2.8% between 2006 and 2007. This indicator contracted—falling in absolute terms— during the 2007-2008 biennium, before rising again between then and 2009 (see table 1). In the three-year period 2004-2007, labour supply grew by less than job creation, as reflected in a steady decline in the unemployment rate, which dropped from 14% to 10% between the first quarters of 2004 and 2007. The decrease in the under-use of the labour force persisted even when job creation slowed down between 2007 and 2008; and the trend in the number of persons employed prevented unemployment growing in that period. By the third quarter of 2009, employment started to grow again, matched by labour supply. This labour-market panorama was consistent with the trend of gross domestic product (GDP) which grew at rates of around 8% and 9% in the three years between 2004 and 2007, before resuming a more modest growth path, reflecting the effects of the international economic crisis.<sup>6</sup>

The sector trend of employment shows the buoyancy of construction and domestic service, where the proportion of workers with low levels of education is traditionally very high. In 2007, the number of people employed in the first of these activity sectors was 30.3% above the 2004 figure, whereas in the second, the increase was 24.7%. Manufacturing industry, transport and communications, and modern services also posted significant job growth (14.6%, 14% and 18%, respectively). Understandably, the reduction in job creation between 2007 and 2008 was reflected in sectors of activity that had grown

vigorously in the preceding years, such as construction and domestic service, along with commerce and social services: education and health (see table 1).

In the five-year period being studied, employment growth mostly reflected the creation of wage-earning jobs. Between the start and end of this period, the number of wage earners increased by 28%, while non-wage-earning employment increased by 5.8% (see table 1). Moreover, most wage-earning jobs were registered with the social security system. Between the start and end of the 2004-2009 cycle, these workers increased by 44.1%, while the number of unregistered workers rose by 6.8%, thereby showing that employment conditions improved through the twin channels of higher employment and better quality jobs. It should also be noted that the number of unregistered wage earners grew only up to 2007, posting a 12.1% cumulative increase with respect to the 2004 figure, before declining in absolute terms in the following year, and staying at that level until 2009.<sup>7</sup>

Among other factors, the sanction of a new labour regime in 2004, which encompassed most of the main labour-protection principles that had been repealed by successive amendments to the 1974 Employment Contract Law (*Ley de Contrato de Trabajo*), certainly affected this result by encouraging employers to register employment contracts.<sup>8</sup> The implementation of employment control and inspection mechanisms, together with more intensive union activity and the activation of collective bargaining

<sup>6</sup> The uneven scale of the crisis in the labour markets of developed and developing countries is described in ILO (2009).

<sup>7</sup> The slowdown in job creation at the expense of unregistered jobs combined with an increase in the registration rate. This is interesting because Argentina's economic history shows that the proportion of protected jobs has often fallen at times of economic uncertainty. The explanation for this probably stems from the weak effects that the international financial crisis ultimately had on local productive activity.

<sup>8</sup> For a discussion of the employment regime in Argentina, see Goldfin (2008).

TABLE 1

**Selected labour market indicators, 2004-2009**  
(Total urban agglomerates)

	Q1 2004	Q1 2005	Q1 2006	Q1 2007	Q1 2008	Q1 2009
Total economically active	100	100.7	102.6	105.5	104.8	107.5
Total economically active (1)	100	102.2	105.2	109.7	109.9	113.0
Total employed	100	102.3	106.2	111.1	112.1	114.9
Total employed (1)	100	104.2	109.4	116.5	118.6	121.9
Total wage earners (1)	100	105.8	112.8	120.9	125.3	128.0
Registered wage earners	100	105.0	116.5	127.7	139.3	144.1
Unregistered wage earners (1)	100	106.8	107.9	112.1	106.7	106.8
Non wage earners	100	99.9	100.5	104.6	101.1	105.8
Employment plans	100	74.1	57.9	32.0	14.7	10.2
<b>Employed</b>						
Industry	100	111.6	111.4	114.6	117.7	119.6
Construction	100	99.9	113.3	130.3	125.1	133.3
Domestic service	100	111.3	119.0	124.7	124.9	126.5
Commerce	100	99.7	102.0	109.5	109.3	110.5
Transport	100	107.2	108.5	114.0	116.6	121.8
Social services	100	102.5	105.4	106.0	106.0	106.9
Public sector	100	94.2	101.4	98.2	101.3	107.1
Modern services	100	106.3	108.5	118.0	117.1	125.5
<b>Employed (1)</b>						
Low education level	100	103.3	103.8	109.9	107.5	110.1
High education level	100	104.9	114.5	122.4	128.6	132.6
<b>Non-wage earners</b>						
Low education level	100	95.9	97.1	97.8	93.5	97.1
High education level	100	104.2	104.2	112.1	109.4	115.4
<b>Wage earners (1)</b>						
Low education level	100	106.5	106.8	115.1	113.6	115.7
High education level	100	105.2	117.9	125.8	135.0	138.3
<b>Registered wage earners</b>						
Low education level	100	104.5	111.3	122.3	129.5	130.3
High education level	100	105.3	119.1	130.3	144.2	151.0
<b>Unregistered wage earners (1)</b>						
Low education level	100	108.0	103.6	110.1	102.6	105.5
High education level	100	105.0	114.9	115.4	113.6	108.9
<b>Position in the household</b>						
Head	100	106.5	109.3	116.2	117.6	120.0
Spouse	100	105.5	113.6	121.2	130.9	134.6
Other members	100	104.8	118.0	128.4	133.9	136.7

Source: Prepared on the basis of EPH-INDEC data.

(1) Excludes employment plans.

instruments during these years, probably also have had an influence in the same direction.

Another feature of the functioning of the labour market during the period was a steady reduction in the number of workers covered by employment plans.<sup>9</sup> Only

10.2% of beneficiaries in the first quarter of 2004 were still beneficiaries in the first quarter of 2009.

Consideration of the position occupied by persons in the household—heads of household, their spouses, and other members (mostly children)—, reveals a variety of paths. Between the beginning and end of the period, the categories showing the largest increases in wage-earning employment were spouses (34.6%) and other family members (36.7%), while household heads displayed an increase of 20% between the start

<sup>9</sup> In 2002, a conditional income-transfer programme was implemented to mitigate the effects of unemployment, known as the Unemployed Heads of Household Plan (*Plan Jefas y Jefes de Hogar Desocupados*), which eventually accounted for about 7% of total employment.

and end of the five-year period (see table 1). As would be expected, a similar trend applies to registered jobs. This behaviour justifies evaluating the distribution of protected jobs among households; in other words, evaluating the determinants of access to these jobs by household members who are not heads of family. That issue is considered in section V.

## 2. The educational level of the labour force

Workers with a higher education level (secondary education complete) benefited most from the greater job opportunities. The number of wage earners that had completed this education level increased by 38.3% between 2004 and 2009, whereas those with low education (who did not complete the middle education level) grew by 15.7% in that period, having already achieved 15.1% growth by 2007 (see table 1). Access to jobs registered with social security grew by a similar percentage. The number of wage earners of higher educational levels in such jobs increased by 51% between the start and end of the period, while those with low education levels in similar jobs increased by 30.3%. The few job opportunities available to individuals with low education levels is also reflected in the economic participation of this group. The activity rate among those with low education levels barely exceeded 40%: the precise figure was 42.3%, or

41.9% if employment plan beneficiaries are excluded from the calculation, whereas the equivalent figures for more educated individuals were 71.9% and 71.7% (with and without employment plans, respectively) (see table 2). This disparity in economic participation by the two population groups can be viewed partly as an expression of discouragement among those who fail to obtain a job. This point will be discussed further below, although it should be noted that the trend of the activity rate is also compatible with this interpretation. Precisely between 2004 and 2009, the economic participation of individuals with low levels of education declined, but this did not happen with individuals of higher education levels.

The uneven trend of access to employment according to a person's education level seems to have reflected both demand and supply-side factors. The availability of surplus labour in the Argentine economy in the first few years of this decade would have enabled firms to raise the education threshold needed for the new jobs created. Given the persistence of a wide gap in registration rates according to wage earners' education levels, this would probably have occurred more frequently for better quality jobs, although the growth of such jobs affected all sectors of activity (see table 3). It should be noted that this would have happened even though jobseekers had educational credentials in excess of those specified

TABLE 2

**Activity and unemployment rate (total and by education level), 2004-2009**  
(Total urban agglomerates) (Percentages)

	Q1 2004	Q1 2005	Q1 2006	Q1 2007	Q1 2008	Q1 2009
<b>Activity rate</b>						
<i>Total</i>	55.2	55.0	55.3	55.5	54.4	55.2
Low education level	44.8	44.9	43.7	43.5	41.7	42.3
High education level	71.4	70.6	72.2	72.2	71.2	71.9
<b>Unemployment rate</b>						
<i>Total</i>	14.3	12.9	11.3	9.7	8.3	8.4
Low education level	14.4	13.9	12.8	10.5	9.0	9.1
High education level	14.2	12.0	10.0	9.0	7.8	7.8
<b>With employment plan beneficiaries considered as inactive</b>						
<b>Activity rate</b>						
<i>Total</i>	52.2	52.9	53.6	54.6	54.0	54.9
Low education level	40.9	41.8	41.5	42.3	41.2	41.9
High education level	70.0	69.7	71.4	71.7	71.0	71.7
<b>Unemployment rate</b>						
<i>Total</i>	15.1	13.5	11.7	9.9	8.4	8.4
Low education level	15.7	14.9	13.5	10.8	9.1	9.2
High education level	14.5	12.1	10.1	9.0	7.8	7.8

Source: Prepared on the basis of EPH-INDEC data.

TABLE 3

**Rates of wage earning registered in employment by education level and sector of activity, 2004-2009**  
(Total urban agglomerates) (Percentages)

	Q1 2004	Q1 2005	Q1 2006	Q1 2007	Q1 2008	Q1 2009
Position in the household and education level						
Head of household with low education level	54.3	51.9	55.0	54.9	57.0	57.9
Head of household with high education level	76.3	76.2	78.0	77.7	79.8	81.3
Spouse with low education level	26.4	28.3	31.0	35.8	41.0	37.4
Spouse with high education level	78.1	77.1	75.4	79.0	78.6	82.0
Other members with low education level	25.5	25.1	27.7	28.7	34.0	33.4
Other members with higher education level	55.6	57.1	58.5	61.8	65.8	66.2
Sector of activity						
Industry	66.6	64.5	65.7	67.7	71.1	72.0
Construction	23.8	21.1	25.4	32.1	35.8	40.5
Domestic service	6.4	4.9	6.6	9.5	12.6	12.7
Commerce	48.2	49.0	51.7	53.5	55.2	54.6
Transport	50.0	51.6	56.4	60.9	62.5	60.4
Social services	67.1	66.4	69.1	67.8	71.6	74.0
Public sector	90.0	91.4	90.5	91.6	92.9	92.7
Modern services	64.0	65.3	70.9	70.1	73.5	73.7

Source: Prepared on the basis of EPH-INDEC data.

Excludes employment plan beneficiaries.

as requirements for the post in question. Given the sector pattern of employment growth, based on labour-intensive import-substituting industries, construction and, to a lesser extent, services, the hypothesized prevalence of a genuine demand for skills as a dominant feature, seems to be less well founded. Moreover, the employment chances for lower-education workers also could have been the result of other factors, including the adverse effects of socioeconomic residential segregation: stigmatization based on place of residence, public transport deficits, the circulation of information on job vacancies, among others.<sup>10</sup>

The trend of employment by education level, position in the household and occupational category (registered or unregistered wage earner) is partly influenced by differential labour-market participation rates by activity sector. About 40% of heads of household with low education levels were employed in construction, domestic service (basically women heads of household in this case) and commerce. The equivalent figure was less than 20% in the case of heads of household with higher education levels (see table 4).

### 3. The increase in the registered employment rate

The factors driving the increase in protected employment can be estimated using the evidence presented in subsections 1 and 2. The change in the rate of registration of employment between 2004 and 2009 can be explained by two factors: firstly, changes in the composition of wage earners in terms of their education level and position in the household (structure effect); and secondly, variations in the specific rates for each group (rate or propensity effect). The exercise simulated the rate of registered employment in 2009 if the structure of wage earners had not varied by education level or household position, on the one hand, or on the rates of registration in each of the groups considered, on the other. The differences between the new rates thus obtained and the rate observed in 2009 confirms the effects described above.

The calculation performed showed that of the 7.2 percentage points (p.p.) by which the registration rate increased, the structure effect had a marginal incidence of 0.6 p.p. Consequently, the overall variation was mostly explained by the change in registration rates (see table 5).

In particular, of the remaining 6.4 p.p. (after deducting the structural and residual effects) 4.2 percentage points reflect the increase in the rates of

<sup>10</sup> On this point, see Katzman (2007); Groisman (2008 and 2010) and Sabatini and Brian (2008).

TABLE 4

**Sector distribution of employment of heads of household by education level,  
2004-2009**  
(Total urban agglomerates) (Percentages)

	Q1 2004	Q1 2005	Q1 2006	Q1 2007	Q1 2008	Q1 2009
<b>Head of household with low education level</b>						
Industry	21.4	20.9	20.3	20.4	20.3	18.7
Construction	10.2	11.2	13.1	14.5	12.2	12.5
Domestic service	12.3	12.6	14.0	13.3	14.0	13.9
Commerce	18.5	17.3	16.1	16.6	16.9	18.2
Transport	11.3	12.6	10.9	12.0	11.8	12.4
Social services	9.1	8.5	8.8	8.5	8.6	8.4
Public sector	11.5	10.2	10.8	9.1	10.6	11.1
Modern services	5.8	6.8	6.0	5.6	5.5	4.9
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<b>Head of household with high education level</b>						
Industry	17.8	16.6	16.3	14.5	15.9	16.5
Construction	2.9	2.2	1.8	3.4	3.3	4.4
Domestic service	2.5	3.2	3.8	3.1	3.2	2.7
Commerce	15.4	15.6	16.0	15.3	16.6	15.2
Transport	7.9	8.1	7.5	8.1	7.2	6.9
Social services	12.7	12.9	14.0	12.9	13.7	13.8
Public sector	27.5	27.8	29.2	29.1	27.9	27.8
Modern services	13.3	13.7	11.5	13.6	12.2	12.8
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

Source: Prepared on the basis of EPH-INDEC data.

TABLE 5

**Breakdown of the variation in the rate of registered employment, 2004-2009**  
(Percentages)

	Q1 2004	Q1 2005	Q1 2006	Q1 2007	Q1 2008	Q1 2009
Rate of registered employment (excluding employment plan beneficiaries)	56.8	56.4	58.7	60.0	63.2	64.0
Annual difference (p.p.)		-0.4	2.3	1.3	3.2	0.8
Difference between extremes						7.2
<b>Education structure in effect and position in the household</b>						0.6
<b>Effects of specific rates by groups</b>						
Head of household with low education level						0.9
Head of household with high education level						1.2
Spouse with low education level						0.9
Spouse with high education level						0.5
Other members with low education level						1.0
Other members of higher education level						1.9
<i>Total effects of specific rates by groups</i>						<i>6.4</i>
Residual						0.15

Source: Prepared on the basis of EPH-INDEC data.

registration among household members other than heads. The contribution by spouses was 1.4 p.p. —0.9 p.p. for those of low education levels and 0.5 p.p. for those with higher education levels. Among other household members (mostly children) 1.9 percentage points were contributed by an increased registration of those with higher education, while one percentage point corresponded to those of low education. The increase

in the rate of registration of heads of household (2.1 p.p.) was due to a 0.9 p.p. increase among those with high education levels and 1.2 p.p. among those with a low level of education.

The results of this exercise highlight the leading role played by workers who are not heads of their households in the overall improvement of employment quality indicators.

### III

## Dependency on the labour market: an analysis at the household level

Before characterizing the effect of changes in labour market on Argentina's social structure, the degree to which households depend on the labour incomes of their members needs to be measured.

Table 6 shows that about eight out of every 10 households obtained monetary income as a result of an employment activity undertaken by their members. The proportion of households that depended exclusively on the labour market was 58.6% in 2004, dropping to 52.6% in 2009; while the proportion of households that received non-labour incomes only (mainly pensions of various kinds) remained stable. Both behaviour patterns reflect an expansion of pension-system coverage during this five-year period.

The classification of households according to the education level attained by their heads (*Low*: up to secondary education incomplete; *Medium*: Up to higher education incomplete; and *High*: Higher education complete) also shows that the overall change basically reflected what had happened among lower-income households.

Although the number of households that received both labour and non-labour incomes increased, the composition of monetary income (between labour and non-labour sources) remained stable overall, with labour income continuing to account for about 80% of household budgets. This figure is what best reflects the central role played by the labour market in the well-being to which Argentine households can aspire. It should also be noted that the proportion of income obtained from labour sources rises with the level of education of the head of household, which means that households headed by individuals of low education level rely more heavily on income from pensions.

Table 7 shows that two thirds of non-labour income came from pensions, broadly unchanged in the five-year period under analysis; while income obtained from second jobs accounts for a small proportion.

Heads of households are the main household income-earners. Income obtained from the head of household's main occupation accounts for a majority of household income, outweighing all contributions made by other household members together (see table 8). Nonetheless, and in keeping with the employment trend noted in section II, its share declined by 5.6 p.p., from 63.7% to 57.9%, at the expense of a relative increase in contributions made by the other household members, particularly non-spouses. Although the relative reduction in the income share contributed by heads of household was generalized across all household strata, an analysis by the education level of the head of household reveals a number of differences.

In households headed by persons with low levels of education, the proportion of income contributed by them fluctuated around 50%, whereas in households with more educated heads, the equivalent figure was around 60%. The second characteristic worth stressing is the smaller contribution made by spouses in households with low-education heads —about 15% of the household's total labour income, compared to 20% in the case of households with headed by persons with higher levels of education.

Considering the type of occupational activity (see table 8), the main source of labour income for households in general was registered wage-earning employment: 56.6% of total household income in 2004, rising to 61.7% in 2009. This trend is consistent with the higher registration rate noted earlier. This relative increase



TABLE 6

**Household income sources by educational level of household head, 2004-2009**  
(Total urban agglomerates) (Percentages)

	Q1 2004	Q1 2007	Q1 2009
<b>Distribution of households</b>			
Total households			
Receive non-labour income only	18.9	17.6	17.6
Receive labour income only	58.6	54.8	52.6
Received both types of income	22.5	27.6	29.8
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with low education level			
Receive non-labour income only	21.7	21.1	21.0
Receive labour income only	55.6	47.9	43.6
Receive both types of income	22.7	31.1	35.5
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with medium education level			
Receive non-labour income only	17.0	15.4	16.1
Receive labour income only	61.2	60.8	60.8
Receive both types of income	21.8	23.8	23.2
<i>Total</i>	<i>100.0</i>	<i>99.9</i>	<i>100.0</i>
Head of household with high education level			
Receive non-labour income only	11.7	9.4	10.0
Receive labour income only	65.2	68.4	66.1
Receive both types of income	23.2	22.3	24.0
<i>Total</i>	<i>100.1</i>	<i>100.0</i>	<i>100.0</i>
Composition of household income			
Labour income	79.8	80.7	81.3
Non-labour income	20.2	19.3	18.7
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with low education level			
Labour income	75.4	75.9	76.3
Non-labour income	24.6	24.1	23.7
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with medium education level			
Labour income	80.0	81.6	83.2
Non-labour income	20.0	18.4	16.8
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with high education level			
Labour income	85.9	87.0	86.4
Non-labour income	14.1	13.0	13.6
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

Source: Prepared on the basis of EPH-INDEC data.

occurred at the expense of the contribution provided by precarious wage-earning jobs, which shrank by 4.1 p.p. (from 18.8% to 14.7%). Although this increase in the proportion of income obtained from registered jobs occurred in all three household groups, it was more intense in households headed by persons with a low education level. This reflected the greater relative share of household members other than the head. In particular, in the combination of contributions according to the position of the household and labour-market participation, the contribution made by household heads declined in

all occupation categories, with the corresponding gains being concentrated among other household members in registered jobs: 4.1 p.p. for children (from 9.4% to 13.5% in 2004 and 2009, respectively) and 2.1 p.p. for spouses (from 10.6% to 12.7% in 2004 and 2009, respectively).

Although households in the lower group benefited from access to registered jobs, the gap separating lower-income households from the rest remained wide in 2009. In the latter group of households, the contribution by registered workers was nine p.p. less than in households

TABLE 7

**Breakdown of labour and non-labour income of households by education level of head, 2004-2009**  
(Total urban agglomerates) (Percentages)

	Q1 2004	Q1 2007	Q1 2009
Total households			
Income from main jobs	93.9	93.2	93.8
Labour income from second jobs	6.1	6.8	6.2
<i>Total labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Income from pensions	65.3	62.6	65.8
Other non-labour income	34.7	37.4	34.2
<i>Total non-labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with low education level			
Income from main jobs	94.5	94.9	95.3
Labour income from second jobs	5.5	5.1	4.7
<i>Total labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Income from pensions	72.8	69.2	71.7
Other non-labour income	27.2	30.8	28.3
<i>Total non-labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with medium education level			
Income from main jobs	95.8	94.6	94.9
Labour income from second jobs	4.2	5.4	5.1
<i>Total labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Income from pensions	53.4	56.3	56.7
Other non-labour income	46.6	43.7	43.3
<i>Total non-labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Head of household with high education level			
Income from main jobs	91.2	89.5	90.7
Labour income from second jobs	8.8	10.5	9.3
<i>Total labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
Income from pensions	64.1	54.4	63.9
Other non-labour income	35.9	45.6	36.1
<i>Total non-labour income</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

Source: Prepared By the authors on the basis of EPH-INDEC data.

headed by persons with high and medium education levels (56.1% compared to 65.1% and 65.2%, respectively), and the contribution from unregistered jobs (22.7%) was double the proportion in households headed by persons of medium education level (11.1%) and nearly three times the level of households in the higher category (8%) (see table 8).

This analysis can be enhanced by identifying the income sources on which households depend, and hence the degree to which households can draw on different sources of income. Table 9 shows that between 75.3% (in 2004) and 73% (2009) of households obtained their income from a single source (in registered jobs, unregistered jobs, self-employment, or else as employers). This reveals the limited scope available to households to develop strategies enabling them to arrange the type of job to which their members can gain access. The situation in 2009 shows that 41.3% of households received income exclusively from registered jobs; 16.2% from unregistered jobs only; 12.3% from self-employment; and 3.2% as bosses or

employers. There was a sharp reduction (8.2 percentage points) in the number of households that depended only on income from unregistered jobs between 2004 and 2009 (see table 9). In the same period, families depending exclusively on income obtained from self-employment activities decreased by about two p.p. (from 14.1% to 12.3%), whereas the proportion of families obtaining income from jobs registered with social security increased by seven p.p. (from 34.3% to 41.3%). There were no significant changes in the distribution of households by combination of sources. Although the proportion of households depending exclusively on income obtained from registered jobs increased in all three household groups, the increase was greater in those headed by persons with low levels of education. Nonetheless, one third of those households (31.9%) were still in that situation in 2009, compared to 49% of households headed by a person with a medium level of education, and 53.8% in households headed by a person with a high level of education.

TABLE 8

**Income from main jobs by education level of household head, 2004-2009**  
(Total urban agglomerates) (Percentages)

	Q1 2004	Q1 2007	Q1 2009
<b>Total households</b>			
Labour income of unregistered heads	9.3	8.4	6.7
Labour income of registered heads	36.7	35.0	35.4
Labour income of self-employed heads	11.0	9.8	9.4
Labour income of employer heads	6.7	7.7	6.4
Labour income of unregistered spouses	3.7	2.5	2.5
Labour income of registered spouses	10.6	11.3	12.7
Labour income of self-employed spouses	2.9	2.8	2.9
Labour income of employer spouses	1.4	1.5	1.7
Labour income of other unregistered members	5.8	5.8	5.6
Labour income of other registered members	9.4	12.2	13.5
Labour income of other self-employed members	2.2	2.1	2.3
Labour income of other employer members	0.3	0.9	0.7
<i>Total</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<b>Head with low education level</b>			
Labour income of unregistered heads	13.3	11.5	8.7
Labour income of registered heads	26.6	27.5	26.9
Labour income of self-employed heads	12.8	10.5	9.9
Labour income of employer heads	3.8	4.5	3.7
Labour income of unregistered spouses	5.0	3.4	3.8
Labour income of registered spouses	6.4	7.4	8.9
Labour income of self-employed spouses	2.9	2.4	2.6
Labour income of employer spouses	0.5	0.8	1.0
Labour income of other unregistered members	10.5	9.8	10.3
Labour income of other registered members	14.8	17.7	20.2
Labour income of other self-employed members	3.1	3.5	3.2
Labour income of other employer members	0.3	1.2	0.7
Labour income from main jobs	100.0	100.0	100.0
<b>Head with medium education level</b>			
Labour income of unregistered heads	7.8	6.9	6.0
Labour income of registered heads	39.1	37.0	39.8
Labour income of self-employed heads	11.0	9.3	8.4
Labour income of employer heads	8.2	9.4	7.8
Labour income of unregistered spouses	3.5	2.1	2.0
Labour income of registered spouses	12.7	13.4	14.9
Labour income of self-employed spouses	2.8	2.9	3.1
Labour income of employer spouses	1.6	1.4	1.7
Labour income of other unregistered members	3.9	4.2	3.1
Labour income of other registered members	7.1	11.6	10.4
Labour income of other self-employed members	2.0	1.4	1.5
Labour income of other employer members	0.3	0.7	1.0
Labour income from main jobs	100.0	100.0	100.0
<b>Head with high education level</b>			
Labour income of unregistered heads	5.5	6.0	4.6
Labour income of registered heads	47.6	42.9	41.9
Labour income of self-employed heads	8.8	9.6	9.7
Labour income of employer heads	9.2	10.4	8.4
Labour income of unregistered spouses	1.9	1.9	1.4
Labour income of registered spouses	14.0	14.2	15.3
Labour income of self-employed spouses	2.9	3.4	3.1
Labour income of employer spouses	2.6	2.5	2.9
Labour income of other unregistered members	1.6	2.1	2.0
Labour income of other registered members	4.5	5.2	7.9
Labour income of other self-employed members	1.2	1.1	2.2
Labour income of other employer members	0.3	0.7	0.4
Labour income from main jobs	100.0	100.0	100.0

Source: prepared by the authors on the basis of EPH-INDEC data.

TABLE 9

**Distribution of households by employment activity of their members,  
2004, 2007 and 2009**  
(Total urban agglomerates) (Percentages)

	Q1 2004	Q1 2007	Q1 2009
Unregistered only	24.4	19.5	16.2
Self-employed only	14.1	12.7	12.3
Employers only	2.5	2.8	3.3
Registered only	34.3	37.4	41.3
<i>Total single source</i>	75.3	72.3	73.0
With unregistered and self-employed	6.0	4.9	4.2
With unregistered and registered	9.1	11.3	10.8
With unregistered and employers	1.0	1.3	0.9
With registered and employers	1.0	1.4	1.5
With a registered and self-employed	5.4	6.5	6.7
With employers and self-employed	0.6	0.4	0.4
<i>Total two different sources</i>	23.1	25.9	24.5
With employers, self-employed and registered	0.0	0.1	0.1
With employers, self-employed and unregistered	0.1	0.2	0.2
With registered, self-employed and unregistered	1.2	1.2	1.6
With registered, employers and unregistered	0.2	0.3	0.2
<i>Total three different sources</i>	1.5	1.8	2.1
With registered, employers, unregistered and self-employed	0.0	0.0	0.0
<i>Total</i>	100	100	100

Source: Prepared on the basis of EPH-INDEC data.

## IV

### An approach to the change in the social situation of Argentina

Based on the results discussed above, the population was classified in different groups according to three dimensions summarizing the degree of dependency of households with respect to the labour market:

- (i) The share of labour income in the household's total monetary income;
- (ii) The head of household's employment category; and
- (iii) The presence of other household members employed in registered jobs.

The trends outlined in the foregoing sections justify the criteria used for this classification. In particular, it will be remembered that labour income was the main component of households' monetary income, and that the head of household made the largest contribution. It was also shown that job registration was more intensive among non-head household members. Combining these criteria made it possible to define a typology of households

that provides a succinct panorama of the social situation and how it has changed in the period 2004-2009.

Nine groups were formed which, while not representing a linear ranking, reflect different degrees of social inclusion/exclusion (see table 10). The first four groups encompass households showing a high level of social vulnerability or greater exposure to social risk. The first two groups include families in which low-quality employment was either the only income source (group 1), or the majority source —over 50% of total household income (group 2). In fact in both groups the head of household was neither employed in a registered job nor an employer; and the households in question did not have other members in protected wage-earning jobs. While the two groups accounted for 36% of the population in 2004 their share had dropped to 26.1% in 2009. This significant reduction was entirely due to what happened in the first of the groups (those with labour

TABLE 10

**Distribution of the population by household typology, 2004-2009**  
(Total urban agglomerates) (Percentages)

Groups	Definition	Q1 2004	Q1 2005	Q1 2006	Q1 2007	Q1 2008	Q1 2009
1	Depends exclusively on the labour market, head of household is not employer or registered wage earner, and there are no registered members in the household	26.8	25.2	21.4	17.4	15.5	14.7
2	Does not depend exclusively on the labour market, head of household is not employer or registered wage earner and there are no registered members in the household	9.2	9.7	11.7	11.6	11.4	11.4
3	No employed household members	10.8	10.2	10.2	9.8	9.7	9.9
4	Depends on the labour market on a secondary basis	6.3	7.1	6.0	6.8	6.3	6.0
5	Head of household is a registered wage earner and there are no other household members with this status	21.3	21.7	21.7	22.4	22.9	22.2
6	Head of household is an unregistered wage earner or not employed, and there are other registered wage earners in the household	8.3	8.9	9.4	11.0	11.8	12.5
7	Head of household is self-employed and there are other registered wage earners in the household	3.9	3.5	4.0	4.3	4.3	4.8
8	Head of household is a registered wage earner and there are other registered wage earners in the household	9.4	9.8	11.5	12.0	13.3	14.0
9	Head of household is an employer	3.9	3.9	4.1	4.7	4.9	4.6
	<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

Source: Prepared on the basis of EPH-INDEC data.

incomes only), which saw their relative weight reduced by around 12 p.p. (from 26.8% to 14.7% between 2004 and 2009, respectively). In the same period, group 2 increased its relative weight by 2.2 p.p. (from 9.2% to 11.4%) which is consistent with the higher rates of retirement among lower-income sectors.

Groups 3 and 4 encompass individuals living in households for which the prevailing monetary incomes came from non-labour sources — essentially pensions of various kinds, as noted above. The joint share of the two groups remained virtually unchanged around 16%. Group 5 consists of members of households whose head was the only person with a protected job. This group of households accounted for just over 20% of the total population, and grew by about one percentage point between the start and end of the period. Group 6, unlike the previous one, included households that have other members in registered jobs, but subject to the condition that the head of household was either unemployed or working in a precarious job. The relative share of this segment grew by 4.2 p.p., from 8.3% in 2004 to 12.5% in

2009, reflecting the pronounced effect of the registration of jobs held by non-head household members. Group 7 was defined similarly to the previous group, except that the head of household was self-employed. In this case, the increase was less than one p.p. between the start and end of the five-year period. Group 8 included all households whose head was in a registered job and which also had another family member working in a registered job. This segment, which accounted for 9.4% of the population in 2004, had grown to 14% by the end of the period. Lastly, group 9 comprises households headed by a person working as a boss or employer, which accounted for between 3.9% and 4.6%.

One way to approach a validation of the proposed classification is by comparing it with a series of socio-demographic characteristics linked to situations of social vulnerability (see table 11).

The table reveals a clear correspondence between the ranking of the social groups constructed and per capita family income. Groups 1 and 2 have a value below average income (67% and 68%, respectively). Groups

TABLE 11

**Selected characteristics of the constructed household groups (Q1 2009)**  
(Total urban agglomerates)

Groups	Per capita income gap in relation to the average	Household size	Number of pensioners	Percentages of households headed by women	Percentages of households with low income heads	Employment rate	Children under three years of age	Percentages employment in industry	Percentages employment in construction	Percentages employment in domestic service	Percentages employment in commerce
1	0.67	3.3	0.0	28.5	59.4	56.5	0.62	12.2	15.5	13.5	29.9
2	0.68	4.1	0.2	40.7	73.3	48.0	0.78	10.0	18.0	13.9	32.9
3	0.84	1.8	0.8	54.1	62.9	...	0.12	...	...	...	...
4	0.95	3.1	0.4	50.8	63.1	41.9	0.38	12.2	8.5	17.6	24.8
5	1.15	3.3	0.0	25.8	39.8	52.4	0.66	18.7	6.0	6.6	18.7
6	0.93	4.1	0.4	47.5	65.3	53.3	0.50	16.2	7.0	7.4	21.8
7	1.08	4.1	0.0	14.2	50.4	71.8	0.51	13.5	10.8	5.1	24.7
8	1.42	3.8	0.0	16.9	31.0	70.9	0.55	14.9	4.1	1.8	15.9
9	1.65	3.4	0.0	13.6	33.2	66.7	0.47	18.9	8.8	2.1	32.0

Source: Prepared on the basis of EPH-INDEC data.

3 and 4 were also below average, although the distance from the average was less. Groups 5, 6 and 7 were around the average level, while groups 8 and 9 clearly displayed characteristics that easily exceeded the average value. This evidence corroborates the timely creation, since late 2009, of a non-contributory subsystem known as the Universal Child Allowance for Social Protection (*Asignación Universal por Hijo para Protección Social*). This program consists of an income transfer for children and adolescents that do not have any other family subsidy provided for by law, and belong to family groups that are unemployed or working in the informal economy and receiving low levels of income.<sup>11</sup>

The household typology also shows a close relation to the education level of the head of household: groups 1 and 2 (59.4% and 73.3%, respectively) included households headed by persons who had not completed the medium education level; whereas at the other extreme, groups 8

and 9, the equivalent proportions were 31% and 33.2%, respectively. In addition, women heads of household were more common in the lower groups, particularly in group 2 (40.7%) whereas in groups 8 and 9 the proportion of households headed by women was 16.9% and 13.6%, respectively. It is also not surprising that this indicator is high in groups 3 and 4, since these households consist of retired people or pensioners where women's longer life expectancy is consistent with the prevalence of female-headed households (these households are relatively smaller). Employment rates in households in groups 1 and 2 are below those of the higher groups, which jointly reflects the fewer job opportunities available to this group and unequal exposure to the constraints faced by their members in becoming part of labour supply. The presence of children under 10 years of age is also more frequent in group 1 and 2 households. Lastly, in terms of the sector participation achieved by members of these households, there is significant gravitation towards the construction and domestic service sectors, in general, for households in groups 1 and 2 (around 30%), compared to rates of around 6% and 11% for group 8 and 9 households, respectively.

<sup>11</sup> On the relation between informality and poverty, see Devicienti, Groisman and Poggi (2010).

## V

### Access to better quality jobs

This section summarizes the foregoing discussion. The clear and sustained increase in jobs registered with the social security system is one of the outstanding features of the Argentine labour market during the period under analysis. As shown in the previous sections, the expansion of protected jobs reached previously neglected social sectors and significantly improved their social situation, unlike what happened in previous economic recovery periods. The vigorous expansion of protected employment in the five-year period 2004-2009 was not generalized, however, so a large proportion of households did not have members working in social-security-registered jobs. This scenario makes it worth investigating whether there are factors in the Argentine labour market that condition or restrict access to these jobs by certain population groups. One way to do this is to model the probability of obtaining a registered job, which entails focusing on the higher tendency among non-head household members to occupy protected jobs. As analysed in section II, 70% of the increase in the rate of registration of wage-earning employment reflected what happened to these members.

A two-stage methodological strategy was developed. Firstly, the probabilities of gaining precarious jobs were estimated for the population as a whole; and then the chances of spouses and other members of the household other than the head gaining registered jobs were evaluated.

#### 1. Views of access to registered jobs

As noted above, unregistered or precarious jobs are those that do not fulfil employment regulations. Two alternative interpretations can be put forward to explain their existence. The first is that, owing to various circumstances (inability to bear the costs involved in labour regulations or simple evasion), firms decide to hire certain workers without fulfilling the legal obligations. A second explanation focuses on a shift in workers' preferences for these jobs. In this case, it has been argued that flexibility of working hours, the possibility of obtaining higher wages or both, encourage young people and women (groups in which unregistered employment is highest) to choose these occupations.<sup>12</sup> Nonetheless, it

should be noted that the available evidence for Argentina supports the hypothesis that unregistered employment is involuntary (see Beccaria and Groisman, 2008).

When the position of persons within households is included in the analysis, it can be argued that the economic activities of household members are related. In particular, some interpretations have claimed that the decision by spouses and children to take a registered or unregistered job is influenced (or conditioned) by the occupational status of the household head, who, as will be recalled, is the main income-earner.<sup>13</sup> The fact that the head of household has a protected job may provide an incentive for the other household members, if they enter economic activity, to take jobs that are not registered in social security. This would reflect the fact that the household detects that a significant part of the benefits of registration become redundant if more than one member of the family nucleus has a protected job; for example, access by the family group to the benefits of the health or some system of social benefit requires just one of the spouses to contribute to it. Another factor justifying such behaviour is the presumed weak relation between the contribution to social security during the person's active life and the level of pension benefits eventually paid. Similarly, it is also pointed out that unregistered workers are in a better position to negotiate a higher in-pocket wage, in exchange for non-registration by employers. The two latter arguments are also applicable to heads of households.

Nonetheless, from a different perspective than that outlined above, it is also possible to argue for an inverse relation, namely that the probabilities of access to protected jobs by spouses and other family members are greater when heads of household occupy jobs registered with social security. Firms tend to start their search for candidates to fill vacancies through consultation procedures within the productive unit, which, in many cases, reduces search costs and guarantees a closer match between the characteristics demanded and those offered. In this sense, workers who form part of stable payrolls in firms (registered jobs) have privileged access

<sup>12</sup> There is a lot of evidence on this (see Perry and others, 2007).

<sup>13</sup> In a related line of research, albeit different than what is being developed here, the specialized literature has also tested the existence of the additional-worker phenomenon (for the case of Argentina, see Paz, 2009).

to this information, which they then transmit within their household. Moreover, many firms prefer to hire family members of existing workers for various reasons, for example as a way of encouraging commitment to the task, thereby obtaining beneficial effects on competitiveness. Similarly, workers who are unionized (only applicable to those in registered jobs) also tend to have greater access to preferential information on vacancies arising in the economic activity in which they participate. Other arguments can also be made to sustain such a relation. In societies with high levels of social exclusion, the spatial distribution of families is tending to change, causing or intensifying residential socioeconomic segregation. In this case, through a neighbourhood or social-capital effect, or both, the chances of accessing registered jobs would be greater for household members living in urban environments that are better integrated into the productive sector.

Whatever the argument used, it is reasonable to postulate that the occupation of the spouse of the head of household and other family members is an endogenous variable, for which reason the model used should take this constraint into account.

## 2. The models used

The chances of accessing a precarious job need to be estimated using models with a limited or binary dependent variable, with two possible categories: employment in a job that is registered with social security, or employment in a job that is not registered. Unlike linear probability estimations, equivalent standard deviation (probit) models satisfy this condition (see Wooldridge, 2002).

Formally, the model is based on the following equation:

$$P(y = 1 | X) = G(X\beta) \quad (1)$$

Such that  $G(\cdot)$  takes values in the interval (0,1), in other words,  $0 < G(z) < 1$ .

The model assumes a normal distribution function and is estimated through the maximum-likelihood method.

$$G(z) = \int_{-\infty}^z \varphi(v) dv \quad (2)$$

Interpretation of the coefficients requires estimating the marginal effects:

$$\frac{\partial p(x)}{\partial x_j} = g(x\beta)\beta_j \quad \text{where } g(z) \equiv \frac{dG}{dz}(z) \quad (3)$$

In the analysis of the probabilities of non-head household members gaining access to a registered job, potential endogeneity problems need to be considered, so a bivariate and recursive probit model is specified.<sup>14</sup> Unlike the classical bivariate probit simultaneous equations model, this specification makes it possible to consider the employment of the head of household and other household members as the outcomes of related decisions. The high incidence of unregistered employment among non-head household members, mostly women and young people, suggests that certain aspects of family dynamics have an influence on their greater propensity for precarious employment.

Formally,

$$y_1 = \beta_1 \chi_1 + \varepsilon_1 \quad (4)$$

$$y_2 = \beta_2 \chi_2 + \varepsilon_2 = \delta_1 y_1 + \delta_2 z_2 + \varepsilon_2 \quad (5)$$

where  $\chi_1$  represents the observable exogenous determinants of the head of household's decision to take a registered job, and  $z_2$  represents the observable exogenous determinants of the probability that non-head members of the household gain a registered job.

The error terms of equations [4] and [5] are assumed independent and identically distributed as bivariate normal, with zero mean and unit variance, such that  $\rho = \text{corr}(\varepsilon_1, \varepsilon_2)$ . The exogeneity condition can be established in terms of  $\rho$ , which can be interpreted as the correlation of the unobservable and/or omitted explanatory variables of the two equations. The coefficients of the model as presented can be efficiently estimated using the maximum-likelihood method. From the econometric standpoint, the endogenous nature of  $y_1$  in the second equation of the model does not alter the likelihood function of a standard bivariate probit; so, unlike what happens in a linear simultaneous equation model, if the two dependent variables are determined jointly, one of them is merely included as the regressor in the other equation (see Greene, 2003).

## 3. Variables used and results obtained

### (a) Probit model

The dependent variable was defined dichotomously, being equal to 1 when the individual worked as a wage

<sup>14</sup> An example of the application of this methodology to a similar topic can be found in Galiani and Weinschelbaum (2007).



earner in a job that was not registered in social security, and 0 when a registered wage earner. The independent variables included were sex, age, age squared, education (in three categories), position in the household, number of household members, branch of activity, and region of residence. The estimation also included control for selection bias. The variables used for the selection equation were marital status (with or without spouse), number of children in the household, education and age.

The results obtained show that wage earners with a low education level, women, and non-head members of the household are less likely to gain a registered job. Household size also operated in the same direction: the more members, the higher the probability of working in a precarious job. In contrast, as aged increased, this trend decreased, which is consistent with the greater prevalence of unregistered employment among young people (see table 12).

TABLE 12

**Estimation of the determinants of precarious employment<sup>a</sup>**  
(Total urban agglomerates)

Dependent variable unregistered employment = 1 and registered employment = 0	Q1 2004				Q1 2009			
	Coef.	Std. Err.	P> z	Ef. Marg.	Coef.	Std. Err.	P> z	Ef. Marg.
Woman	0.199	0.044	0.000	0.054	0.146	0.054	0.006	0.058
Low education	1.183	0.057	0.000	0.341	0.873	0.248	0.000	0.337
Medium education	0.455	0.050	0.000	0.113	0.292	0.153	0.056	0.116
No head of household	0.131	0.039	0.001	0.036	0.121	0.039	0.002	0.048
Age	-0.107	0.012	0.000	-0.029	-0.112	0.014	0.000	-0.045
Age squared	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000
Household size	0.020	0.009	0.030	0.005	0.043	0.013	0.001	0.017
Controls for sector of activity (dummy variables)	Yes				Yes			
Controls for region (dummy variables)	Yes				Yes			
Constant	2.038	0.185	0.000		0.993	0.491	0.043	

Source: Prepared on the basis of EPH-INDEC data.

Variables included in the sample selection equation: married/unmarried, number of children, education and age.

<sup>a</sup> probit model with sample selection control.

(b) *Recursive bivariate probit model*

Two models were estimated according to the following scheme:

MODEL 1

Equation 1

Dependent variable: spouse registered/unregistered.

Independent variables: head of household registered; education level of spouse; age and age squared of spouse; sex of spouse; household size and presence of children under five years of age.

Equation 2

Dependent variable: head of household registered/unregistered.

Independent variables: education level of head of household; age and age squared of head of household; sex of head of household; household size and presence of children under five years of age.

MODEL 2

Equation 1

Dependent variable: Non-spouse non-head household members registered/unregistered.

Independent variables: head of household registered; education level of spouse; age and age squared of spouse; sex of spouse; household size and presence of children up to five years of age.

#### Equation 2

Dependent variable: head of household registered/and registered.

Independent variables: education level of head of household; age and age squared of head of household; sex of head of household; household size and presence of children under five years of age.

Both cases involved probability equations estimated through the recursive bivariate probit model, for heads of household and spouses in model 1 and for other household members in model 2. The universe of analysis includes all households composed by both spouses, who are also employed in wage-earning jobs for model 1. Model 2 included households composed by a head and at least one other (non-spouse) member who were also wage earners. The recursive characteristic of the model stems from the fact that the variable defining the registered/unregistered wage-earning status of household heads has been included as an independent variable for estimating the same probability for spouses and other household members in each model.

#### (c) *Results*

Table 13 reports the coefficients of the estimated models and the marginal effects of interest for the beginning and end of the period being analysed. The parameters estimated for the independent variables had the expected signs: access to a registered job was greater for individuals with a high education level, males, and as age increased, although the increases were not linear. Moreover, household size and the presence of children under five were variables that reduced the chances of gaining a job with these characteristics.

The most interesting result is that when the household head was employed in a registered wage earning job, the spouse was more likely also to be working in a job of that type. In absolute terms, this was shown by the fact that spouses in households whose heads had a registered job had probabilities between 34.8% and 41% higher, for 2004 and 2009, respectively, than those of wage-earning spouses in households whose heads were wage earners in unregistered jobs. The results of the second model confirmed a similar finding for non-spouse household members in 2009, although they were not significant in 2004. In 2009, the likelihood that these household members, basically children, had a protected job was 20% higher than for those living in households whose heads were wage earners in precarious jobs.

TABLE 13

**Estimation of the determinants of registered employment,<sup>a</sup> 2004-2009**  
(Total urban agglomerates)

	Q1 2004				Q1 2009			
	Coef.	Std. Err.	P> z	Elast.	Coef.	Std. Err.	P> z	Elast.
<b>Model 1</b>								
Dependent variable: Spouse registered = 1 and unregistered =0								
Head registered	0.901	0.390	0.021	0.348	1.095	0.253	0.000	0.410
Medium education level	0.906	0.144	0.000	0.298	0.775	0.123	0.000	0.210
High education level	1.602	0.182	0.000	0.469	1.164	0.145	0.000	0.307
Age	0.107	0.044	0.015	0.039	0.061	0.030	0.039	0.019
Age squared	-0.001	0.001	0.044	0.000	-0.001	0.000	0.098	0.000
Male	-0.064	0.198	0.748	-0.023	0.188	0.136	0.166	0.055
Household size	-0.081	0.038	0.033	-0.029	-0.062	0.034	0.067	-0.019
Children under 5 years of age	-0.022	0.122	0.855	-0.008	-0.047	0.100	0.641	-0.014
Constant	-3.424	0.830	0.000		-2.252	0.553	0.000	
Dependent variable: Head registered =1 and unregistered = 0								
Medium education level	0.480	0.112	0.000		0.638	0.099	0.000	
High education level	0.931	0.145	0.000		0.772	0.122	0.000	
Age	0.159	0.041	0.000		0.092	0.034	0.007	
Age squared	-0.002	0.000	0.000		-0.001	0.000	0.007	
Male	0.302	0.193	0.118		0.533	0.128	0.000	
Household size	-0.044	0.035	0.210		-0.034	0.033	0.309	
Children under 5 years of age	0.065	0.118	0.582		0.063	0.106	0.555	
Constant	-3.357	0.835	0.000		-2.028	0.691	0.003	
Rho	-0.223	0.250			-0.493	0.151		
<b>Model 2</b>								
Dependent variable: Spouse registered = 1 and unregistered 0								
Head registered	0.554	0.359	0.123	0.182	0.523	0.259	0.044	0.200
Medium education level	0.485	0.104	0.000	0.181	0.607	0.089	0.000	0.239
High education level	1.200	0.173	0.000	0.446	1.077	0.155	0.000	0.376
Age	0.013	0.005	0.009	0.005	0.009	0.004	0.030	0.004
Age squared	0.000	0.000	0.058	0.000	0.000	0.000	0.457	0.000
Male	0.266	0.094	0.005	0.099	0.173	0.079	0.030	0.069
Household size	-0.234	0.067	0.001	-0.088	-0.213	0.049	0.000	-0.085
Children under 5 years of age	0.242	0.167	0.148	0.093	0.257	0.112	0.022	0.102
Constant	-0.921	0.216	0.000		-0.571	0.197	0.004	
Dependent variable: Head registered =1 and unregistered = 0								
Medium education level	0.499	0.109	0.000		0.539	0.094	0.000	
High education level	0.688	0.188	0.000		1.190	0.148	0.000	
Age	0.153	0.027	0.000		0.134	0.023	0.000	
Age squared	-0.002	0.000	0.000		-0.001	0.000	0.000	
Male	0.619	0.096	0.000		0.693	0.081	0.000	
Household size	0.019	0.024	0.430		-0.057	0.020	0.005	
Children under 5 years of age	-0.448	0.113	0.000		-0.028	0.100	0.778	
Constant	-3.784	0.602	0.000		-3.236	0.544	0.000	
Rho	-0.082	0.240			-0.118	0.167		

Source: Prepared on the basis of EPH-INDEC data.

<sup>a</sup> recursive bivariate probit models.

# VI

## Final comments

The characteristics of Argentina's economic recovery provide a favourable scenario for exploring the relation between the functioning of the labour market and changes in households' social situation. Following the 2002-2003 biennium, when the level of production prevailing in early 2001 had almost been regained, the economy continued to grow vigorously. Job creation and wage increases were two of the pillars on which this expansionary phase was based. In addition, as a distinctive feature in the economic history of the last three decades, there was an intensive increase in jobs registered with social security. In the five years between 2004 and 2009, those high-quality jobs grew faster than unregistered jobs, which resulted in a significant reduction in the rate of precarious employment. Accordingly, the social outlook improved in line with the labour market trend.

A classification of households based on the type of labour-market participation by their members provides an approach to this phenomenon. Using this procedure, it was estimated that the population living in households that basically rely on the employment of their members and do not have wage earners registered in social security decreased from 36% to 26.1%. Although the improvement was considerable, it is hard to deny that quality-employment remained elusive for a large group of people.

Part of the explanation from the persistence of households whose members did not gain protected jobs is to be found in the type of employment activity they undertake. It should be remembered that indices of unregistered employment—despite improvements in the registration of employment relations observed during the five-year period—are generally very high in certain sectors of activity—such as domestic service, construction and commerce—where workers from lower-income households are more heavily concentrated.

The segmentation prevailing in the distribution of job opportunities would also have operated in the same direction. In fact, most households obtain their monetary income from a single employment source, in other words from just one category of labour-market participation: as non-wage earners, registered wage earners or unregistered wage earners. This is compatible with the effect that labour-market participation by the main income earner would have on the job opportunities of other household members. In particular, a new finding in this study is that the increase in registration was very intense among

non-head household members—spouses and children basically. The change in the registration rate between 2004 and 2009 reflected this to a significant degree. It was also found that the chances of these household members obtaining a registered job was affected by the employment status of the head of household: members of households whose heads were in a job registered with social security were more likely to gain a higher-quality job themselves.

The results obtained are compatible with the persistence of a social structure that is segmented on the basis of the type of labour-market participation achieved by individuals—basically whether or not they gain access to registered wage-earning jobs. That diagnostic reduces the validity of the assumption that the mere passage of time, given certain macroeconomic fundamentals, will gradually correct these inequities. This opinion is based on the magnitude of the quality employment deficit still observable in Argentine society. It should be noted that 45% of the urban employed consists of unregistered wage earners and nonprofessional self-employed workers (Permanent Household Survey (EPH) of the National Institute of Statistics and Censuses (INDEC), 2010). In fact, it can be speculated that although the economic conditions for an expansion of registered employment may be maintained in the short and medium terms (competitive exchange rate, high international prices for commodity exports, stimulus to domestic consumption, among others), specific policies will be needed to facilitate access to these jobs by individuals that have failed to avoid precarious employment.

Key measures among these policies aim to reduce indices of unregistered employment in the economic sectors that employ the lowest-income workers, namely domestic service, construction and the retail trade. Moreover, the intensification of procedures for regularizing employment in larger firms could help reduce precariousness in these economic units. The low activity rate in the poorest households also suggests the need for policies that help adult household members to fully engage with the labour market, by discouraging the acceptance of precarious jobs. In this regard, upgrading job skills among lower skilled workers, providing quality childcare centres, and improving communication channels and access to and from the neighbourhoods in which low-income households live have been shown to

have positive effects. Of course, these initiatives need to be supported by policies to stimulate labour demand, for which incentives for productive units to locate in those spatially segregated zones would be highly recommendable. Lastly, it should be noted that in moving

towards a fairer society in terms of job opportunities, income-transfer policies have proven suitable mechanisms for sustaining welfare levels among households that are unable to obtain quality jobs.

(Original: Spanish)

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