Employment Paths and Labor Mobility: Restrictions on the Development of Technical Competences

Victoria Castillo (vcastill@trabajo.gov.ar)¹, Marta Novick (mnovick@trabajo.gov.ar)¹, Sofia Rojo¹ (srojo@trabajo.gov.ar) y Gabriel Yoguel (gyoguel@ungs.edu.ar)²

²Sarmiento National University.

The database building was carried out by Oscar Berlari and Verónica Miganne.
Introduction

This paper belongs to a long tradition of research that has been studying the mobility and the labor paths of workers from different theoretical perspectives and within different institutional frameworks. These studies have also analyzed the effect of firms’ demography on employment dynamics and on employment reassignment of firms, sectors and regions.

Literature on this field has increasingly focused on the human resources as a key factor in the development of firms’ technical competences. From this perspective, the importance of the labor mobility has been discussed. On the one hand, a large amount of literature centered on the study of clusters of knowledge which have considered that high rates of mobility among the firms are a key point to increase the diffusion of knowledge and the creation of competences in local agents. Under these conditions, the labor mobility would be beneficial for the workers that decide to develop their labor careers either in the same or in different firms belonging to the same local area. It would also increase local productivity networks because of the circulation of knowledge embedded in the workers.

On the other hand, other scholars think that mobility is influenced by the structure of the market and by some personal characteristics of the workers, such as age and educational level. From this perspective, internal ascending working careers are set in order to retain the workers belonging to the core business. However, a greater development of technical competences would be able to be associated to higher labor stability or to inclusive labor paths. Nevertheless the employment stability and the mobility regime (inclusive or exclusive) in each labor market are mainly determined by structural issues related to their development degree (Lam, 2003; Bresnahan et al, 1999; Arora and Gambardella, 2005, Saxenian, 1994; Dahl, 2002; Power and Lundmarck, 2004).

In the Latin American case (LA), and particularly in the Argentine one, mobility and labor paths should be analyzed by taking into account productive dynamics and changes produced in the labor market by Washington Consensus structural reforms applied in the 90’s. These reforms generated a high structural unemployment and an increase in the structural heterogeneity followed by high levels of precarious employment. As already stated by Ocampo (2005) and other scholars (Ross 2005; Cimoli 2005) three dimensions related to productive systems and the generation of dynamic economies of scale were blocked in LA, specially in the 90’s: (i) limited importance of the innovation and local learning processes, (ii) scarce presence of complementarities (forward and backward linkages, technological interrelations, collective learning processes produced by productive and social interaction) and (iii) inelasticity of supply factors. On the other hand, within a strong structural heterogeneity framework, the consolidation of a

---

3 These two perspectives related to the role human resources mobility play in the development of agents’ technical competences can be compared to Schumpeterian perspectives found in “Theory of the Economic Development” on one hand and in “Capitalism Socialism and Democracy ” on the other. Both perspectives have been further developed by the most recent evolutionist literature such as Schumpeter Mark I and Mark II respectively (Malerba and Orsenigo, 2000). In the former, the technical progress is firstly manifested by a creative destruction process followed by the relocation of workers to start-ups, which displace the previous firms and account for the development process. This workers’ displacement is produced within a framework of temporary quasi-rents obtained by the new agents in perfect competitive markets. In the latter version, the idea of creative destruction is produced in an oligopoly competence process which accounts for the permanent and structural nature of the quasi-rents received by the economics agents who carry out the innovation process. Within this framework, internal labor markets are created for firms in order to retain key workers with higher technical competences. This second interpretation is also associated with the growing importance goods club have acquired in terms of goods in the competence process. This interpretation is also associated to the key role high qualified workers play in the competence generation process, which are strongly associated to knowledge, technological and competence regimes and which are characterized by smaller levels of knowledge diffusion and greater levels of appropriation (Erbes et al, 2005)
specialization pattern focused on commodities and goods rich in natural resources limited the development of networks and local innovation systems working as quasi-markets in which the knowledge was a key factor for the creation of dynamic competitive advantages. Within this framework, the more knowledge intense goods abroad. Therefore, the substitution effect of agents and actors produced by the opening-up, the break of linkages and specialization profile types was greater than the positive effects derived from innovation development processes and complementarities among agents.

Within this framework, the objective of this work is to analyze the importance and the characteristics of employment mobility in Argentina since the mid 90’s. We will also discuss whether the type of observed mobility could operate as restrictive factor for the development and the diffusion of the agents' technical competences in the firms. Finally we will investigate the existence of a type of segmentation of the work market, where the companies that present a better development of technical competences are characterized either by a bigger permanency of the workers or by workers’ migration to jobs in other companies.

Main hypotheses:
(i) From 1996 to 2004 workers’ stability in the companies was low. As a consequence, the process of development of the agents' technical competences was curtailed.
(ii) The workers who had lost touch with their companies had serious difficulties to continue their labor careers in other companies in the formal sector. Therefore the spill over effects derived from the worker’s mobility was also limited
(iii) Workers of the largest firms such as multinational branches and those with major export coefficient who were identified by other studies as having more technological competences (INDEC, 2004; Bisang et al, 2002; Erbes et al, 2005, Marin and Bell, 2005, among other), have more working stability.

The data base used comes from the Observatory of Employment and Business Dynamics (Argentine Department of Labor). It is built from the social security administrative registrations and involves all the registered workers in the private sector (about 3.5 million). Nevertheless, this employment category (25%) is a minor category in the Argentinean employment structure during this period. At the same time, the rate of the unregistered employees was 28%, of non-wage earners 26%, of public employees and social employees was the remaining 22%. For this study we built a panel with the sequence of employer of each worker and some indicators of workers’ transitions from 1996 to 2004.

In the first section there is a presentation of a conceptual framework and some references to national and international previous studies. There is also a reflection on the importance of the labor stability from the perspective of work’s organization and development of firms’ technical competences. (Mertens 1996; Ducatel 1998; Moreira et. al, 2001). In the second section there is a brief discussion of the macroeconomic context and the Argentinean labor market functioning during this period. In the third section the workers’ labor transition along the period is presented and some hypotheses are discussed. In the fourth section the workers’ labor paths at the beginning of the crisis (1998) are evaluated. There is also an estimate of probit models to measure the variables affecting (i) the workers’ stability in the same firm and (ii) their permanence in the formal labor market. This section is followed by conclusions.

1. Conceptual Framework

There is a long study tradition of labor mobility, which has gained more importance in the last decades due to the perception of a declining tendency in employment stability in
developed countries, and in increasing unemployment. The existence of new longitudinal sources improved this kind of studies.

The concept of labor mobility refers to the movements of workers in or out or between jobs. It is different from the notion of job mobility in that the latter refers to the creation and destruction of jobs produced by firms which go out of business, by the establishment of new companies or by firms that remain in business but become smaller or bigger. Labor mobility is, however, a more comprehensive concept than job mobility because it includes the movement of workers generated by the creation and destruction of jobs, and the mobility generated by the chains of vacancies. That is to say, it also includes the sequence of labor movements generated when a new job is created and occupied by a worker who left an old employment that is occupied by another worker who is changing jobs; and so on, until the incorporation of a new worker to the employment system (Sorensen and Tuma 1983).

Some studies show different dimensions of the labor mobility. One of the dimensions can be inclusive/employments exits (either when workers are unemployed, inactive or in precarious unregistered jobs). Another type of mobility can be internal when workers get a new position in the same company or when the company is taken over by a new employer. (Diprete, 1993). There is voluntary/involuntary mobility depending on workers quitting their jobs or on company’s layoffs, (Hachen, 1988). There can also be upward/downward/lateral mobility based on the difference between the wages of the previous employment and the new employment (Shin 2004). It can also imply continuity or a change in the labor career (Shin 2004; Stambol 2003), and under certain conditions, labor mobility can diffuse knowledge and technical competences among the population of firms. (Lundmark 2004, Dahl 2003).

These dimensions of labor mobility give rise to different regimes or patterns of mobility. In this sense, labor mobility can be beneficial to society, workers and firms when it contributes to improve the access to employment and increases global productivity. A virtuous case is upward labor careers that allow knowledge diffusion. Mobility has a very different value when it excludes people from work, breaking the accumulation path of individual and collective competences.

Labor mobility assumes different levels and patterns according to the productive structure and institutions of the labor markets of each economy. In this sense, the macroeconomic context is a decisive factor since the economic cycle affects product markets and labor demand. When there is a contraction of employment, labor mobility toward exclusion from the labor market (unemployment, precarious employment or inactivity) becomes more relevant and the possibilities of voluntary and upward mobility decrease (Burges and Rees 1996, Schettkatt 1996, Lundmark 2004, Moscarini and Vella 2002). Under these conditions, the incidence of unemployment and precarious employment hinder the patterns of upward and inclusive mobility.

As an example, let us take two paradigmatic and polar regimens of labor mobility. Studies for the United States, England and Western Germany show that in these labor markets long duration employment prevails. In theses economies the technological changes in the last decades and the deregulation of the labor markets have not affected significantly the incidence of this employment type. These countries register a high labor mobility which does not really imply that the average employment is unstable, since long term labor relationships coexist with a segment of volatile employments. (Farber,1998; Mertens,1999). On the other hand, in the case of Latin America, studies developed for Brazil and Argentina for the second half of the decade of the 90s, show that in these countries labor mobility has been high and the main labor mobility pattern has shown the exclusion of registered employment towards either precarious work or unemployment, (Paz, 2002; Guimaraes, 2004, Hopenhayn and Galeani 2001; Castillo, 2005).
Although the average pattern of labor mobility of each economy is a striking measure of their different realities, the approach of labor market segmentation allows us to identify the coexistence of diverse regimes of labor mobility in the same period and in the same country. In this sense, the long tradition of empiric literature investigating labor segmentation shows that, in general, the primary sectors, either defined in terms of (i) the industrial structure, (ii) the worker heterogeneity (iii) or the regions; present steadier employment and the prevalence of upward labor mobility. (Shin 2004, Thomson 2003, Stambol 2003,).

Segmentation defined in terms of the industrial structure of the economy is associated with a duality between the “core” sector, which corresponds to the primary sector, and the “periphery” corresponding to the secondary sector. This specific distinction stems from such factors as technology, organizational structure, the nature of product demand (monopoly power) and unionization (Thomson 2004). In this sense, Beck (1978) defines the segments upon the relationship between product market and industry structure: the primary segment (core) dominated by big corporate enterprises constitutes an oligopoly system of production. It differs from periphery sector, which is characterized by smaller companies operating in a more competitive environment. Thus (Berger, 1982) finds that the companies which operate in more stable product markets (core) create primary employment conditions (including job security) whereas companies facing unstable demand operate in the secondary sector of the labor market. Other segmentation forms are defined by (i) the lower probability that young companies have to stay in business -as the main part of job mobility is produced by relatively young companies getting out of business (Dunne, Roberts and Sammuelson, 1988)-; and (ii) the mobility of resources among firms with different levels of productivity, which accounts for almost half of the growth of the productivity of the manufacturing industry in United States (Haltinwagner, Lane and Spletzer, 2000).

Segmentation defined in terms of worker heterogeneity and job characteristics shows different patterns of mobility. The most educated workers benefit more with upward labor mobility; the inter industry labor mobility is more frequent among young workers who have not still acquired specific competences (Stambol 2003); women in general are concentrated on secondary segments of the labor markets with less stable employments and with smaller possibility of upward mobility (Hall, 1982; Mertens, 1999). The theory of internal labor markets argue that companies are more protective of a limited segment of its workforce (core), defined by the professional and managerial workers, than of the secondary segment, that is, workers with lower occupational status. (Piore 1971). There are internal labor markets for the main segment of the employment (core) based on upward labor careers, promotions and incentives (ladders), (Doeringer and Piore 1971; Alexander 1974). In big organizations, the internal labor mobility is the main pattern. Because of extensive promotion ladders and perspectives of longer job tenure there is less voluntary external mobility. Since external mobility is selective and infrequent, when these main workers decide to migrate to another company they ascribe it to upward mobility patterns.

By defining segmentation of the labor market in terms of the regional division of employment, heterogeneous patterns of mobility are also observed. This segmentation refers to a number of separated sub markets, which present a low external mobility and a high internal mobility. Such is the case of the clusters of knowledge with a specialized local work force (Dahl 2002). Studies carried out in the Silicon Valley and in clusters of knowledge located in Scandinavian countries have shown that the knowledge diffusion derived from the labor mobility in the cluster increases the collective competences and generate external economies appropriated by firms. (Saxenian, 1994, Dahl, 2002, Power and Lundmark 2004 and Stambol, 2003). The workers benefit, in turn, with an upward
labor mobility that allows them to continue their labor careers in other firms of the cluster. In this case, the mobility is beneficial to the workers and the companies.

From this perspective, labor mobility contributes to the development of competences of the firm assuming that the workers carry knowledge and ideas embedded in their minds. As the workers have relevant knowledge, other companies promote labor mobility. In this way, the flows of diffusion of knowledge among companies are likely to take place fundamentally through the movements of workers. (Dahl, 2002 and Ludmark, 2004). As mentioned above, this mobility pattern has been broadly studied in clusters of knowledge promoted by an institutional culture. Additionally, many case studies have found that in specific industrial companies they develop strategies to attract the core workers from competitors with the purpose of appropriating knowledge, even in countries where the prevailing mobility pattern is of employment exit.

It can be argued that the development of technical knowledge in the firm and the possibility of transforming coded and tacit knowledge into competitive advantages are strongly influenced by the profile of labor competences of human resources. In this sense, the concept of labor competences is wider than the traditional concept of qualification level of human resources. While qualifications become valid through certification of training, it is in the work position that labor competences are validated. They include the capacity of resolution of problems, of negotiating resources and information, of learning, of developing interpersonal relationships, of having domain on technology, of diagnosing and of selecting options among an available group of alternatives. (Gallart, 1995; Mertens, 1996, Novick ,1997). From this perspective, the stability of the human resources (especially those that constitute the main segment (core) of an organization would constitute a necessary condition for the development of technical competences. It would amount to saying that the grade of the workers' seniority in the company in which they work positively depends on the importance of the tasks that develop technical competences.

Starting from this conceptual frame, in the following sections we will analyze the intensity and the pattern of labor mobility for registered workers in Argentina in the period 1996-2004. To understand these processes, there is a brief description of the macroeconomic context in the following section, as it is one of the decisive factors of labor mobility.

2. Macroeconomic Context and Argentine Labor Market in the period between 1996-2004

During the 1990’s there were deep transformations in the Argentine economy, which affected the labor market. The structural reformations of Consent of Washington (opening economic system, privatization processes and deregulation of the markets) incorporated new technologies and important modifications in the labor regulations (Kosacoff et al., 2000; Schvarzer, 1997; Gatto and Ferraro, 1997 and Yoguel, 2000) within the framework of financial opening that would eventually become one of the main factors of the crisis that started in the fourth quarter of 1998 (Stiglitz, 2003).

In consequence, in a situation of low exchange rate, the macroeconomic context subjected traded goods sectors, and in particular manufacturing sectors, to markets with decreasing sale prices, the competition of imported goods, high production costs in dollars and growing uncertainty.

Although in that period important changes in the regulations were implemented with the purpose of reducing non salary labor costs and of giving flexibility to the distribution of working time, the increase in the unit labor cost in dollars resulted in a strong incentive to substitute work with capital (Altimir and Beccaria, 1999). Through stability, the access to imported parts and equipment, the deregulation of the conditions to dismiss workers, the
entry flexibilization of transnational firms, the re-creation of the banking and commercial credit, there was a process of employment destruction, particularly in manufacturing.

In this period some changes in the labor normative frame were carried out for the purpose of giving more flexibility to the labor market on the supposition that these reforms would generate greater firms’ competitiveness and employment demand growth. However, evidence suggests that these measures did not have a positive effect due to a notorious increment of unregistered employment, the unregistered employment rate passing from 29% to 37% between 1991 and 2000.

Because of either offensive or survival strategies adopted by companies to face the changes, there was an important increase in global productivity accompanied by a fall in labor demand. There were many firms that went out of business and some new ones that were incorporated to the manufacturing sector. The companies that pursued "offensive" reengineering included important investments in machines and equipment and at the same time deep organizational changes. Surviving companies adjusted themselves to new conditions by reducing personnel, implementing organizational changes and eliminating time outs in order to achieve the same productive capacity. As a result of these processes, manufacturing employment decreased the total employment from 28% in 1995 to 23% in 2000, showing a loss of approximately 57 thousand jobs in the manufacturing sector. (Castillo et. Al. 2001)

In this paper we will analyze labor mobility in this context of macroeconomic instability, organizational changes in the productive model, introduction of new technologies, loss of industrial employment participation and precariousness.

Through the analysis of the unemployment rate we can identify three differentiated stages that coincide with the phases of the recent economic evolution. At first, there was an expansible period (1996-1998) of descending unemployment rates, growing employment rates in a context of stable activity rates. Then, there was a second recessive period (1999-2002) in which the labor market situation worsened, unemployment rose and employment and economic participation fell. Finally, between the biennium 2003 and 2004, during the economic recuperation that continues in 2005, the tendency is reversed through a fall in unemployment and a growth in the activity and employment rates.

By 2004, the Argentine labor market presents an “atypical” structure. In a context of high unemployment (13%), the registered (or formal) wage earning jobs in the private sector are a minor category in employment (25%). The unregistered (or informal) wage earning jobs represent 28% and the non-wage earning jobs 26%. Public employment and social employment plans have the remaining 22%.

In the following sections we will show that the breaks in workers’ careers have a direct effect on competence development, precarious employment, the stability of home incomes and retiring possibilities.


In this section we analyze the external labour mobility by utilizing the flows of people that enter into or exit from registered employment and those that remain with the same employers or move to other jobs. The data are expressed in annual periods estimated in the fourth quarters of consecutive years. The source utilized is the base of administrative registrations of the Integrated System of Retirements and Pensions (SIJP in Spanish), which allows an estimation of employment declared between 1996 and 2004. From this

---

4 Third quarterl of 2004.
5 It must be considered that most of the registered wage earning workers in private sectors are the only source of income in their households particularly in the manufacturing sector.
data base were built some annual transitions matrices corresponding to employees in active age (younger than 65 years old) working in formal private firms. As a consequence, we exclude from the analysis the possible movements toward the pension system that would be produced at the age of 66 when people retire (see methodological appendix).

Between 1996 and 2004 there were 3.3 million registered employees in the whole industry, commerce and service sectors who were younger than 65 years old. On average, about 2.4 million remained working in the same firm from one year to another, 380 thousand changed their jobs but remained in the formal sector, 592 thousand entered and some 550 thousand left the formal system. Along the different phases analyzed (employment growth in the ascending phase of the convertibility plan, of recession and crisis in 2002 and of recovery after convertibility plan), the flows of employment reflect macroeconomic variability. During the recessive period (1999-2001) and in 2002 exits surpassed entries, which indicates a net diminishing of employment. On the contrary, in the years of growth, especially in the last phase, entries are higher than exits.

As a result of these flows, labor mobility has been high in the period affecting 39% of formal employees. New employees in registered jobs amounted to 15%, the displaced persons were 14% and workers changing their jobs amounted to 10% (see Table 1).

<table>
<thead>
<tr>
<th>Table 1: Labor Mobility for Registered Wage Earners in Private Firms – 65 years old or younger – Manufacturing Industry, Commerce and Services – 1997-2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry rate (a)</td>
</tr>
<tr>
<td>Exit rate (b)</td>
</tr>
<tr>
<td>Employee changes (c)</td>
</tr>
<tr>
<td>Turnover rate (a)+(b)+(c)</td>
</tr>
<tr>
<td>Employment growth (entries - exits)/employment in t</td>
</tr>
</tbody>
</table>

Notes: (a) Employment entries/ (Entries + Exits +Permanence in employment); (b) Employment exits / (Entries + Exits+ Permanence in employment); (c) Employees changes/ (Entries + Exits+ Permanence in employment);
Source: Observatorio de Empleo y Dinámica Empresarial en base a DGEy EL – SSPTy EL – en base a SIJP

The average percentage of workers remaining in registered employment from one year to another (84%) has a pro-cyclic nature. This proportion was greater in the last phase of growth (88%) than in the crisis (82%) and in the first period of expansion of activity level (84%)6. Likewise, the rate of continuance in the same employment was of 72%, a proportion that enlarges significantly in the last period of growth (77%)7.

In all, the percentage of workers changing their jobs was smaller than the percentage of workers losing their registered jobs. Considering the activity of workers who change their jobs, only a third remained in the same field (two digits CIIU), which shows limited t

---

6 These values are an approximate estimation made by other authors, using the Permanent Survey of Households (EPH, in Spanish) for the average of semesters of the period 1997-2002 (Peace 2003; Pessino and Andrés 2000).

7 It is interesting to point out that the percentage of workers that remains in the same company stayed relatively stable (70%) in recessive or expansive years for the period 1996-2001. However, since 2002, the percentage of workers that remained in the same firm increased as a result of labor costs reductions estimated in dollars after devaluation and the increase in redundancy costs. Since January 2002, the Law of Public Emergency and the reform of the exchange regime Nº 25.561 established the devaluation of the currency and the duplication of severance pays for all the workers.
possibilities to diffuse knowledge to other firms through the migrations of workers. (See Table 2).

The participation of the workers that change their jobs but remain in the formal system has a pro-cycle behaviour. This rate rises during the periods of growth and shrinks in the recessive ones. This issue can be accounted partly by voluntary transition to improve their wages and labour conditions more likely to occur in the ascending phase of the cycle. On the contrary, in the recessive periods the labour opportunities are scarce and the people assume more conservative behaviour.

The source of information used does not permit to identify the labor mobility of employees displaced from SIJP, Anyway, the analysis can be complemented by attending to results obtained from other sources (EPH). For the period 1997-2002 the employees dissociated from SIJP went mainly to jobs without protection, became unemployed or inactive, in that order of importance. Besides, the proportion of these workers that made start-ups the following year was very small (Paz, 2003).

Table 2: Labor Transitions for Registered Wage Workers in Private Firms – 65 years old or younger – Manufacturing industry, Commerce and Services - 1997-2004

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Staying with the same employer</td>
<td>70%</td>
<td>71%</td>
<td>77%</td>
<td>72%</td>
</tr>
<tr>
<td>Employee changes</td>
<td>14%</td>
<td>11%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>Within the industry</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Within the sector</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Sector changes</td>
<td>6%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Total permanence in formal employment (SIJP)</td>
<td>84%</td>
<td>82%</td>
<td>88%</td>
<td>84%</td>
</tr>
<tr>
<td>Exits formal employment (SIJP)</td>
<td>16%</td>
<td>18%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>Total employment in t-1</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Observatorio de Empleo y Dinámica Empresarial en base a DGEy EL – SSPTy EL – en base a SIJP

After quantifying the percentage of workers in active age dissociated from the formal sector, we need to discuss the probability of reinstatement in the formal employment sector. For this reason, we have estimated the return rate of the employees that left the formal market along the period 1996-2003 (see Table 3).

Table 3: Reentries into Registered Employment of Workers who Had Given Up Employment in Private firms – 55 years old or younger – Manufacturing industry, Commerce and Services - 1997-2004

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>En %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year after</td>
<td>20%</td>
<td>18%</td>
<td>18%</td>
<td>15%</td>
<td>13%</td>
<td>21%</td>
<td>22%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>2 years after</td>
<td>8%</td>
<td>9%</td>
<td>7%</td>
<td>6%</td>
<td>12%</td>
<td>12%</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 years after</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
<td>7%</td>
<td>9%</td>
<td></td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 years after</td>
<td>3%</td>
<td>2%</td>
<td>5%</td>
<td>7%</td>
<td></td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 years after</td>
<td>2%</td>
<td>4%</td>
<td>5%</td>
<td></td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 years after</td>
<td>2%</td>
<td>4%</td>
<td></td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 years after</td>
<td>3%</td>
<td></td>
<td></td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not return to permanent employment yet</td>
<td>57%</td>
<td>59%</td>
<td>61%</td>
<td>65%</td>
<td>66%</td>
<td>67%</td>
<td>78%</td>
<td>64%</td>
<td></td>
</tr>
<tr>
<td>Total exits</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Observatorio de Empleo y Dinámica Empresarial en base a DGEy EL – SSPTy EL – en base a SIJP

Firstly, we should highlight a structural behaviour with some variations derived from the economic cycle. The probability of reinstatement in formal employment is higher a year after leaving the system and is lower the following years, which possibly reflects that the
most frequent strategies to get a job are informal contacts in deteriorating personal networks. Firms prefer to take employees already working in the formal market to those unemployed. When the demographic factors are control, almost 60% of the workers in active age do not manage to return to a registered employment in industry, commerce or services seven years after redundancies. Therefore, they remain excluded from the social security system. The low probability of reinstatement is the result of the high rate of informal labor market, the reduction of registered employees, and the weakness of institutions in labor market regulation.

Additionally, table 4 presents the percentage of 1996 displaced workers who entered into registered employment in 2003 and 2004. On average, 34% of the employees incorporated in the registered sector in both years – without taking into account the changes of firms– had been formal workers before. The rest of the employees incorporated had not had a registered one-year employment before. Likewise, an important proportion of these workers who just re-entered (25% in 2004 and 40% in 2003) had been recently displaced.

Table 4: Reentries into Registered Employment of Workers who had left Employment in Private Firms – 55 years old or younger – Manufacturing industry, Commerce and Services-

<table>
<thead>
<tr>
<th>Years</th>
<th>Reentries / Total entries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>37%</td>
</tr>
<tr>
<td>2004</td>
<td>32%</td>
</tr>
<tr>
<td>Mean</td>
<td>34%</td>
</tr>
</tbody>
</table>

Source: Observatorio de Empleo y Dinámica Empresarial en base a DGEy EL – SSPTy EL – en base a SIJP

These results confirm that in this new expansive period of employment initiated in 2003 the proportion of returned employees that had had been displaced from a previous registered job got (i) a precarious job, (ii) became unemployed or (iii) inactive.

The high rate of removal of active-age workers from the formal system generated every year and the low probability of reinstatement in formal employment in the medium term produced discontinuous patterns in labor careers, which also entailed the destruction of competences and a process of exclusion from social security.

In order to estimate the impact of these processes on the aggregate workers’ labor paths, we studied the 1996 cohort of workers who were 55 years old or younger and who were employees in commercial, industrial and service firms. In 2004 only 26% of these employees remained working in the same business, accumulating only a 8-year seniority. Continuance in registered work in the three sectors, whether in the same one or in another activity amounted to, 58% of those workers (32% had changed jobs). At the same time, 42% of the wage earners had got precarious jobs or were either unemployed or inactive, that is on the way to exclusion paths. (See. Graphic 1)
We can identify this path in each of the sectors analyzed. Especially, in the industrial sector, the proportion of employees remaining in the system is lightly superior to those which went out of the formal system. In this scenario, only 10% managed to return to activities of commerce and services. This shows that the outsourcing of registered employment - the loss of participation of the industrial employment in relation to commerce and the services- during the period between 1996-2004 was produced by the replacement of the employees displaced by newly incorporated workers in services not by the transformation of industrial jobs into services. Finally, it is interesting to highlight that as from 2003 there was a curve change in the path of the cohort industrial employment. This reflects a brake in the rate of dismissals and the return of some previously displaced workers.

4. Labor Market Segmentation and Labor Stability

In the previous section we have shown that, contrary to other virtuous models where labor mobility is high within a cluster or local system or toward another firm beyond the prevailing organizational form, in the Argentinean case the predominant pattern of labor mobility was that of exclusion from registered employment and from classic labor relationships. This pattern or regime of labor mobility would later hinder the development of competences (i) of the workers that would have limitations to apply their knowledge in the specific areas of their domain, and (ii) of the firms that should develop technical competences with a very unstable community of workers.

In this section we will discuss whether the segments of the labor market that coincide with the profile of workers and firms where technical competences are developed, shows a mobility regime and whether employment stability is different from average. Two probit models were used to estimate both the (i) probability of workers’ continuance in the same firm and (ii) the probably of their staying in registered employment (in the same firm or in a different firm). The selected period coincides with a deep and lingering recession (1998-2002) and two years of recovery (2003-2004) (see table 5).

Among the available variables in the source of information used for the study was chosen a group that presented a bigger explanatory capacity in segmentation studies on labor mobility. (See section 1). These are the characteristics of the firms considered: size, sector, and time in the business. These are the workers’ attributes taken into consideration:
gender, age, salary level, and seniority in the position as proxy variables of the human capital dimension that was not available in the source of information.

The sectors, considered are the manufacturing industry, commerce and services. In the manufacturing industry a different behavior from the other two sectors was expected as regards workers’ stability. As developed in section 2, during the second half of the decade of the 90, the macroeconomic context in Argentina became unfavorable to the development of the manufacturing sector. Indeed, along the period 1998-2004 there was a loss of 9% of the manufacturing employment, which produced an important mobility of old workers – from registered employment to exclusion, analyzed in section 3. In the same period, commerce and services firms had a better performance with an employment growth of 9%.

Hypothesis: Taking into account the change in the industrial distribution of employment (outsourcing) manufacturing workers were expected to present higher mobility, particularly those with low qualifications and in no qualified working tasks according to the logic of chain of vacancies developed in section 1. The permanency in the same company should be shorter, because of the contraction of sector labor demand. Inner mobility within registered employment, that is, the probabilities of reentry into other sectors) it should be lower, especially among older workers, because of their low transverse profiles and qualifications.

The companies have been classified into four-size strata (big, medium, small and micro) in terms of the employment rate they had in the base period (1998).

Hypothesis: Wage workers were more likely to stay in their jobs if they work for big companies given that the biggest organizations offer workers the possibilities of developing working careers in the same company (internal markets), in particular for the segment of main workers (core). The external mobility of the big-company type of workers is in general selective because it usually implies the continuity of their careers in other companies.

Additionally, along the studied period the mortality of companies in Argentina was high and significantly more important among the small-size firms, which limits the possibility of keeping labor relationships when the survival of the company is at stake. The literature developed on creation and employment destruction indicates that the turnover of work positions decreases according to the size of the agents (Davis, Haltinwagner, Schuh 1997; Castle et.al 2001 and 2005, MTYSS 2004 and 2005).

From the point of view of the structural characteristics of companies, the time the firm has stayed in business constitutes an outstanding variable to explain the permanency and exit rates. The variable has been incorporated in two tracts: the group of young companies, founded after 1990, had been in the business for less than 8 years old in the base year 1998. This group presents a lower probability of survival compared to older firms. The other tract gathers older and well-established firms in the base year, with a higher probability of survival. The literature indicates that a substantive portion of job mobility can be accounted for by the relatively brief life than the younger firms which, in turn, are replaced by other new companies, many of which will probably also live for a short time. (Samuelson, Dunne and Roberts 1988, Castillo et al, 2002)

Hypothesis: Workers’ continuance in the job was likely to be higher when they work in older companies, which usually have a stronger capacity to overcome recessive periods than younger companies.

These dimensions show that the permanency in the work position depends on the stability of the firms in the market, size, sector and time in business, which are usually companies with better technical competences in general.
From the perspective of labor market segmentation defined in terms of workers’ personal characteristics, we have taken into account workers’ gender and age in the base year (1998).

**Hypothesis:** Stability in the same firm of younger workers was expected to be lower since they had not gained competences that allowed them inclusion in the core. On the other hand, they will have frequent inter industry labor mobility since they have not still acquired specific competences along their working careers. Likewise, the older workers’ tracts were expected to have a higher permanency in the company and a smaller external mobility.

The literature indicates that women in general concentrated on secondary segments of the labor markets, with access to less stable employments and with smaller possibility of upward mobility.

Seniority of workers is another variable that would have a positive effect on the probability of permanency in the same firm and in the registered employment in the base year (1998). Studies about the probability of continuance in the same employment according to seniority have shown that in the United States and some European countries stability is positively associated to seniority: most of the employees stay in the job for a limited period of time, while those that work for at least 5 years have a higher probability of permanency. (Hall, 1982, Mertens, 1999). These evidences are in tune with the theories of human capital and with the Neo Schumpeterian theories of competence origin. In this sense, among the workers that in the year 1998 didn't have any seniority in the company, we can see a difference between those who entered into the firm in that year due to employer's change (insider) from those that entered into the company without any working experience. (Outsiders).

**Hypothesis:** Seniority workers were expected to have a higher permanency in the same firm and insiders are more likely to stay in the company than outsiders.

The information source used does not contain educational background or qualifications of workers, which in the literature are determining factors in job permanence. To compensate for this omitted variable, we take the quintile of wages in the base year (1998) as a proxy variable of their qualification level, since in the labor market in Argentina the wages are directly proportional to the qualification level.

**Hypothesis:** Higher labor stability is expected in the segments of workers of higher wages and higher qualifications. There will also be inclusive and upward patterns of mobility.

In table 5 the main results are presented.
Table Nº 5. Probability of Remaining in 2004, Cohort of 1998 - 55 years old or younger - (Signs)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Stay in the same firm</th>
<th>Stay in registered employment (in the same or in other firm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men (ref. Women)</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Age (ref. 26 to 35 years)</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Younger than 25</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>36 to 55 years</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Wages (ref. middle high)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Low</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Middle low</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>High</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Seniority in job (ref. 1 y 2 years)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No seniority in registered employment (outsider)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No seniority in the firm (insider)</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>3 or more years of seniority in the firm</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Industry (ref. services)</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Manufacturing industry</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Retail</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Size of firms (ref. middle size)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Big</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Small</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Micro (less than 5 workers)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Old firms -created before 1990- (ref. young)</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Source: Observatorio de Empleo y Dinámica Empresarial en base a DGy EL – SSPTy EL – en base a SIJP

All the variables turned out to be individually and globally significant, in almost all the cases, the signs obtained were expected.

Considering the services, workers’ probability of staying in the same firm was higher in the manufacturing industry and lower in trade. This is an unexpected result because it indicates that the fall of the industrial employment was due to the fact that a great proportion of the destroyed employments were not replaced by new employments even when in the industry employment retention was higher. However, the permanency of manufacturing workers in registered employment (in the same or in a different firm) was lower than in services, which evinces that once the working position is lost, the probability of reentry is lower.

The probability of remaining in the same company was higher for workers in big firms, and lower for those in small and medium size firms, taking as reference medium size ones. However, the probability of remaining in registered employment was higher among the workers in medium size companies. According to our expectations, both the probability of remaining in the same company and in registered employment was higher for workers in older companies (previous to 1990).

The attributes of the workers also showed different transition probabilities. As expected, the probability of remaining in the company was smaller among younger workers (25 years old or younger) than in the group of 26 to 35 years old, as well as the in the 36 to 55 year-old adult group. However, also as expected the probability of continuance in registered employment and of moving to other firms were higher among the youths. Women showed higher probability of remaining in the same company than men, contrary to expectations. However, they had smaller probability of staying in registered employment than men, since they face bigger difficulties for reentry in other companies.

The workers with more than 3 years of seniority in the employment had a higher probability of remaining, both in the same company as in the registered employment than those that had a shorter seniority. In the case of the workers without seniority, those that entered into the firm moving from another company had a higher probability of remaining in registered employment. Finally, the probability of staying in the same company or in registered employment was higher among workers with high wages (compared to those of middle high wages) and it was lower in the rest of the cases. This shows a bigger company
interest in retaining the workers of higher wages in general associated to profiles of higher human capital and bigger technical competences gained in their working careers.

The previous analysis showed that different profiles of workers in different segments of companies present differences in employment stability and in the possibilities of continuance in registered employment. In section 3 we have shown that, for the average economy, only 32% of the workers remained in the same company between 1998 and 2004. Now we will present a probability estimate of workers’ permanency in the same employment in a group of firms that draw near the “primary segment” (core). This core segment was defined as those workers in big companies, such as in the manufacturing industry and services (not commerce), with more than 8 years in business which survived the strong recession. We considered the main segment of workers in these companies in terms of high and middle high wages, with a permanency in the company (seniority) of more than 3 years. The result obtained indicates that for these workers stability is notably higher (67%) than for the average employment (32%).

We have also estimated the marginal effects of different independent variables on the probability of workers staying in the same firm. The analysis showed that seniority and the wage level (proxy of human capital), dimensions related with the definition of the main segment of workers (core), were key to higher stability. (See table 6)

These results show that a higher development of technical competences could be associated to higher labor stability, still in a general context where employment stability was reduced and that the regime of mobility leaded to the exclusion of the employment.

**Table Nº 6.**
**Probability of Remaining in the Same Company in 2004, Cohort of 1998 – 55 years old or younger - Marginal Effects**

*Workers with high and middle high wages, three-year seniority in big size firms such as the manufacturing industry and services which had been in business for more than 8 years.*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sign</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages (ref. middle high)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>-</td>
<td>-9.5%</td>
</tr>
<tr>
<td>Middle low</td>
<td>+</td>
<td>5.3%</td>
</tr>
<tr>
<td>High</td>
<td>+</td>
<td>6.8%</td>
</tr>
<tr>
<td>Seniority in job (ref. 1 y 2 years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No seniority in registered employment (outsider)</td>
<td>-</td>
<td>-14.9%</td>
</tr>
<tr>
<td>No seniority in the firm (insider)</td>
<td>-</td>
<td>-5.1%</td>
</tr>
<tr>
<td>3 or more years of seniority in the same firm</td>
<td>+</td>
<td>17.9%</td>
</tr>
<tr>
<td>Industry (ref. services)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing industry</td>
<td>+</td>
<td>2.4%</td>
</tr>
<tr>
<td>Retail</td>
<td>+</td>
<td>2.9%</td>
</tr>
<tr>
<td>Size of firms (ref. middle size)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big</td>
<td>-</td>
<td>-4.2%</td>
</tr>
<tr>
<td>Small</td>
<td>+</td>
<td>2.5%</td>
</tr>
<tr>
<td>Micro (less than 5 workers)</td>
<td>+</td>
<td>5.6%</td>
</tr>
<tr>
<td>Firms age (ref. young)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old firms -created before 1990</td>
<td>+</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Probability 67%

Source: Observatorio de Empleo y Dinámica Empresarial en base a DGEy EL – SSPTy EL – en base a SLIP
5. Conclusions

We have applied a framework based on transition and labor mobility to analyze the inflows in and out of the formal system, the permanency of workers with the same employer or the migrations to other jobs.

The labor mobility pattern and its importance cannot be analyzed without looking at the productive structure and the macroeconomic context during the period, characterized by a strong instability. This instability was manifested in the labor market by a high unemployment rate and a growing precarious labor conditions. The economic cycle was very negative and in the period 1998-2002 the economy went through a deep and prolonged recession: 11% of the private jobs in industry, commerce and services were lost. This paper shows the existence of high labor mobility in Argentine workers in the last 8 years. The average annual rate of labor mobility, summarizes the creation and destruction of jobs and the replacement of workers moving outside the firms, was 39%.

This mobility is manifested in a low stability of the jobs. Thus, only 26% of the cohort of total registered workers younger than 55 years old remained with the same employer throughout 2004. This low retention rate would be consistent with the limited development of technological competences and efforts of innovation during the convertibility period (Bisang et al, 2000, Erbes et al, 2005) as well as in the subsequent period because of the inertial character of these processes. However the magnitude of the labor mobility is not the only important issue. The impact of these processes on the Argentine productive structure should also be evaluated by studying the predominant pattern this mobility assumes. During this period the main result produced in the Argentinean labor market was exclusion. As was shown, 46% of the cohort of workers registered in the year 1996 was excluded from the formal sector in 2004, going to precarious jobs, becoming unemployed or inactive. By the way, only 29% of the workers could continue their labor careers in other formal firms. Consequently, the predominant mobility pattern (exclusion), limited the knowledge diffusion derived from the migrations of the workers to the formal sector.

Nevertheless, in this general context, strong indicators of labor market segmentation – defined as the heterogeneity in business structure and in workers’ and jobs’ profiles- were observed. In the primary segments employment was more stable. In this case the mobility can assume virtuous patterns of knowledge diffusion that increases both the productivity of the firms and the workers ascending paths. Additionally, the kind of firms included in the main segment of the labor market are quite similar to those presenting high technological competences, according to the industrial surveys developed in the country. These specific results deserve a final question linked to the profile of specialization developed in the Argentine economy in the last 30 years and especially during the 90's. This significant mobility of workers, which would limit the development of technical competences in the businesses – especially in those firms with a more reduced level -, is not functional to a significantly precarious specialization profile and not knowledge intensive? On the other hand, would this important mobility be able help to promote some changes in the specialization profile departing from reduced prevailing technical competences in most of the firms?

The statistical source used in this study was built by the Observatory of Employment and Business Dynamics (Argentine Department of Labor) with information taken from the social security administrative registrations, which involves all the registered workers in the private sector (about 3.5 million). For this study, we have built a panel with the sequence of employers of each worker and some indicators of workers’ transitions between 1996 and 2004.

The labor paths were built considering only the main occupation of each worker (from the perspective of its earnings). The data of the panel was ordered in transition matrix that shows changes in working fields.

Workers are symbolized with the letter x and the sub-indexes 1, 2... n are used to enumerate the companies. In consequence the formal labor market in two moments of the time (t-1 and t), can be represented by the following matrix of transition of CUIT.

**Chart N° 1. | Transition Matrix among Employers (CUIT)**

These matrices allow the evaluation of the mobility in the fields or branches implied in the analysis. By calculating horizontal quotients, we obtain transition rates that measure either the proportion of people that migrate from a company, branch or sector to another field, or the permanency rate that indicates the percentage of people that stay in the company, industry or sector.

\[
TT = \frac{(x_{12} + ... + x_{1n})}{x_{1t-1}} \\
\]

\[
TP = \frac{x_{11}}{x_{1t-1}}
\]

*Where TT is the transition Rate and TP the permanency Rate*

The source allows calculation of the mobility rate (TM) which indicates the percentage of people that change companies.

\[
TM = 1 - (x_{11} + ... + x_{nn}) / x
\]

The entry rates (TE) and the exit rates (TS) are defined in the following way.

\[
TE1 = \frac{(x_{21} + ... + x_{n1})}{x} \\
TS1 = \frac{(x_{12} + ... + x_{1m})}{x}
\]
6. References


Dahl M (2002), Embedded knowledge flows through labor mobility in regional clusters in Denmark, DRUID Summer Conference on “Industrial Dynamics of the New and Old Economy”, Elsingore, Junio, www.business.auc.dk


OEDE Observatorio de Empleo y Dinámica Empresarial en Argentina, Boletines trimestrales 1,2,3,4 y 5 Dinámica del Empleo y Rotación de Empresas. Subsecretaría de Programación Técnica y Estudios Laborales. www.trabajo.gov.ar/ left/estadisticas/dinamica/index.htm


Power D and Lundmark M (2004), Working through knowledge pools: Labor market dynamics, the transference of knowledge and ideas and industrial clusters, Urban Studies, Nro 5/6, Mayo


