NOTES ON THE EVOLUTION OF WAGE DISTRIBUTION IN ARGENTINA

Luis Beccaria†

These brief notes focus on the evolution of the distribution of wage income in Argentina since the mid-1970s. During much of that period, inequality was persistently worsening while a reduction can be observed during the last five years. The relevance of this subject does not need to be emphasized as earnings distribution is not only a relevant analytical theme in itself but it also influences the degree of overall income inequality in a country. More specifically, the purpose of these notes is twofold: on the one hand, to present some evidence concerning a period that was drastically different from the one, that had begun at the end of World War II, when income distribution first improved and then remained practically unchanged. On the other hand, to explore some hypotheses on the reasons that could explain the evolution followed by wage inequality. Addressing to this latter point may seem unnecessary, as there appears to be little controversy over the factors that directly influence the level and changes in wage inequality. In particular, a soundly grounded theoretical approach—the neoclassical paradigm—that constitutes a framework for analyzing the causes of alterations in the concentration of earnings is shared by many economists. There is, however, some concern in the developed world over the ability of that approach to provide a comprehensive understanding of income inequality.[1] Moreover, the structural tradition in Latin America also implicitly considers the need of a broader view in order to approach the subject in the usually more unequal developing societies.

These notes must be considered in an essay; if some of the arguments are based on empirical evidence, such information is not thoroughly discussed and, consequently, are not included. For the same reason, only a few quotations from documents dealing with these aspects are included.

† Universidad Nacional de General Sarmiento, Argentina.

1. *See, e.g.*, Anthony B. Atkinson, Is Rising Inequality Inevitable?: A Critique of the Transatlantic Consensus Wider Annual Conference (WIDER Annual Lectures 3, Helsinski, Nov. 1, 1999), *available at* http://www.wider.unu.edu/publications/annual-lectures/en_GB/AL3; A. Singh & R. Dhumale, *Globalization, Technology, and Income Inequality: A Critical Analysis* (WIDER Working Paper, No. 210, 2000), *available at* http://www.wider.unu.edu/publications/working-papers/previous-series/2000/en_GB/wp-210.

The rest of the paper is organized as follows: the next section provides a broad overview of the wage distribution in Argentina since the mid-1970s. The following contains a brief description of the main features of the macro-economic and labor market performances during the same period. The main factors that directly influence changes in wage distribution are summarized in the third section, while the importance that some of them had during the process of growing earnings inequality in Argentina is evaluated in the fourth section. Specially produced statistical analysis and previously published papers will be considered. Hypotheses regarding how the evolution of the labor market—and the economy at large—led these factors to influence wage distribution are discussed in the Section V. A final section includes the conclusions.

I. THE PROCESS OF INCREASING WAGE INEQUALITY

Wage inequality was, until the mid-1970s, relatively low compared to other Latin American countries and, in general, compared to other less developed countries (LDCs). The 30% of employees with the lowest earnings concentrated 14% of total wage incomes in 1974, compared to 24% of the richest 10% employees,[2] figures that contrast, for example, with those of 6% and 48%, respectively, for Brazil in 1970.[3] Among the factors that explain the presence of relatively narrow wage differentials are the high level of education of the economically active population compared to other LDCs, powerful labor unions, and an extensive system of labor protection. Notwithstanding the relevance of these variables, a central point of the arguments to be put forward here is that the evolution of incomes distribution was also largely influenced by the overall performance of the labor market. Even if, as will be mentioned below, divergent evolutions of the labor demand for different types of skills are usually emphasized, the relevance of the aggregate labor supply and demand situation will be stressed here. In this sense, the distributional situation reached in the country between the Second World War and the mid-1970s was also the result of a labor market without excessive under-employment, which even received flows of low-skilled migrants from bordering countries (mainly Paraguay and Bolivia). Even if informal employment, i.e., wage earners not registered with social security, was not negligible—it amounts to 22% of total salary employment—it did not affect much overall inequality.

2. Due to lack of information at the national level for the whole period that will be analyzed (1974 to 2006), all data here reported refer to Greater Buenos Aires, the major urban area of the country, where 35.3% of the urban population lives and 31.6% of overall population.

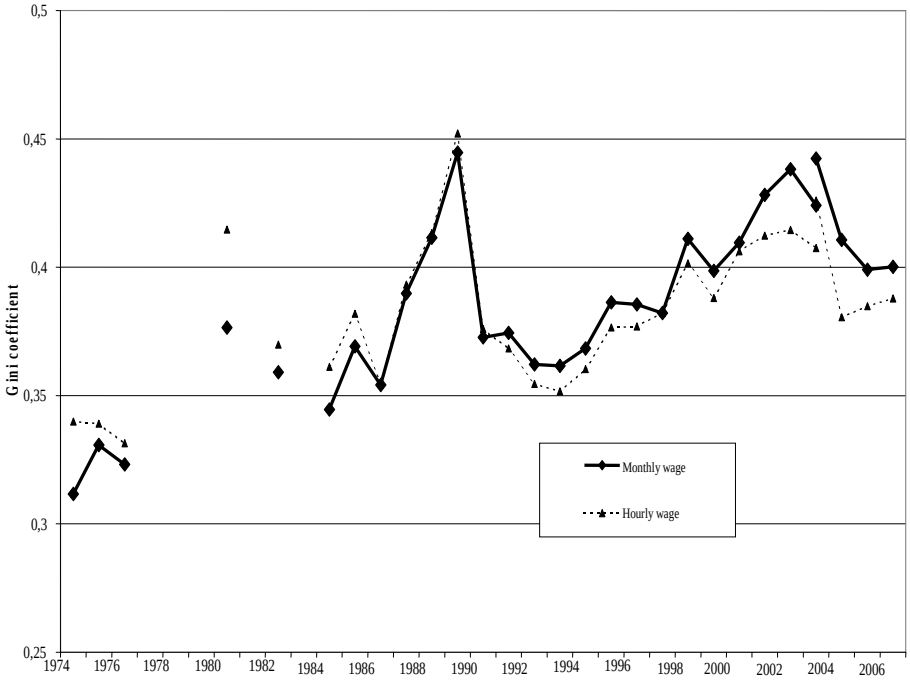
3. Edmar L. Bacha & Lance Taylor, *Brazilian Income Distribution in the 1960s: 'Facts', Model Results, and the Controversy*, 14 J. DEV. STUD. 271 (1978).

Although the economy in the post-war era—and until 1975—had not performed particularly well (see Section II), difficulties mounted since that moment, leading to modifications in the functioning of the labor market and to harsh changes in the distributional picture. By the beginning of the new century (in 2003), the poorest 30% of the wage earners only received 2.8% of total wages and salaries against 34.6% of the top 10%. Put it differently, the latter group earned, on average, 12.5 times more than the former one. As a consequence, Argentina, which had been the country with one of the lowest levels of inequality in Latin America, appeared among those that showed the largest increase over the last thirty years.

Such sizable growth in earnings disparities that can be appreciated by comparing these figures of 2003 with those corresponding to 1974—showed above—was the result of an upward trend that prevailed during most of the thirty years that spanned between them (Graph 1). There were some periods during which inequality receded but they did not last long; moreover, the size of the reductions was generally smaller than that of the previous increases. Only from 2003 onward[4] did the drop in wage concentration bring inequality figures to levels similar to that of 1994, at the beginning of the last rise.

4. The last available figures are those corresponding to the fourth quarter of 2006.

GRAPH 1. WAGE INEQUALITY



Sources :Author's estimate using data from the Permanent Household Survey(PHS)

Notes : Data for 1977, 1978, 1979, 1981 and 1983 are not available. PHS underwent a methodological change in 2003 that makes figures for the period 2003-2003 not strictly comparable to those of previous years.

II. A BRIEF DETOUR: THIRTY YEARS OF INCREASING MACROECONOMIC AND LABOR MARKET DIFFICULTIES

This short section aims at providing some background information to help understand certain economic and labor market developments relevant to the rest of the paper.

During the period that expanded from the end of the Second World War until the mid-1970s—and, especially, along the first twenty years—the Argentinean economy followed what was called an "stop and go" evolution. Expansions ended in recessions that were mainly a consequence of external accounts difficulties arising from structural limitations to the export volume and from the pro-cycle behavior of imports. Its growth performance was, moreover, a modest one. However, things turned for the worst from the mid-1970s onward, as that moment marked the start of a fifteen year period of macroeconomic instability and productive stagnation. Gross domestic

product (GDP) was broadly unchanged throughout that period, and inflation remained at high levels,[5] reaching hyperinflationary episodes by the end of the 1980s. A main feature of the labor market during these fifteen years was a deterioration of real wages. Even if they showed ample year-to-year variations, the trend was clearly downward and the average value was well below the pre-1975 figures. A mild rise in the share of non-wage employment and a more important increase in that of employees not registered in the social security system were also a consequence of economic stagnation.

A stabilization program that managed to halt inflation and promoted economic growth was successfully implemented in 1991. The cornerstone of the strategy was the Convertibility Act, which fixed the exchange rate, established the convertibility of all domestic currency in circulation, and prohibited monetary issuance that was not backed by foreign assets. Stability first allowed for an improvement in the purchasing power of wages and, second, an expansion of credit. These developments and an important inflow of foreign currencies from abroad, were the main factors allowing for a boosting of domestic demand, associated to a significant expansion in consumption, particularly of durable goods. Investments also contributed to the growth of domestic demand, while price stabilization made it possible to improve real tax revenues. Structural reforms were also introduced simultaneously to—and even before—the Convertibility Act. They mainly consisted in commercial and financial opening up, deregulation of several markets, and privatization of state-owned companies.

Nonetheless, the Mexican crisis in late 1994 revealed the fragility of an economy based on such capital inflows from abroad. The recession was, however, brief and the economy resumed a rapid growth path as soon as conditions on the international capital market improved. In 1998, when this market became more problematic again, and Brazil (a major export destination) went into recession, there was a new downswing in GDP that, unlike the previous episode, lasted an uncommonly long time and triggered the abandonment of the fixed exchange rate system at the beginning of 2002.[6] Despite the improvement in the macroeconomic setting, the labor market deteriorated significantly during the 1990s. Unemployment, for example, rose from 6% at the start of that decade to the highest level ever

5. GDP grew at a yearly rate of 0.5% between 1974 and 1991. CPI average monthly rate was 8% between 1975 and 1987.

6. It is not here suggested that recession was, *per se*, the reason that led to the modification of the exchange regime. Convertibility of the peso seemed hard to be sustained given the difficulties it posed for solving the external account deficit.

registered since the statistics are available[7]—18% in 2001—but remained at 15% even during the recovery of 1995–1998. An increase in the proportion of the non-registered wage earners was another characteristic of the decade. This performance of the labor market was initially caused by the effects of the above-mentioned structural reforms and by the appreciation of the domestic currency.[8] The latter remained a central feature of the macroeconomic panorama during the whole period. After the initial rise, real average wages remained largely unchanged until 1998 and then showed a modest fall.

Devaluation of the peso in early 2002 led to an important rise in domestic prices during that year, causing a reduction in real wages. The inflation rate was, however, lower than the relative size of devaluation, allowing for an increase in the real value of foreign currencies. The modification of relative prices that such movements entailed spurred a phase of a large increase in domestic production that lasted until 2008. Such evolution was accompanied by an improvement in the labor market conditions as aggregate occupation grew at a fast rate, even compared to GDP expansion. Unemployment consequently fell to less than 10% by the end of 2006 and a reduction in the share of precarious employment has also occurred since 2004.

III. VARIABLES INFLUENCING WAGE INEQUALITY MOVEMENTS

It is methodologically convenient to initially identify a series of variables that exert a direct influence on the level and/or changes of earnings inequality. This section, precisely, includes a general discussion about some of those variables that are usually considered when analyzing earnings concentration.

When analyzing changes in *monthly* earnings inequality, it is necessary to recognize, from the outset, that they may derive from shifts in the distribution of working hours and/or modifications in the concentration of hourly wages. The former may be relevant in countries experiencing important changes in labor underemployment, as was the case of Argentina; notwithstanding that, the main focus of inequality studies is usually the distribution of hourly wages.

Why should the latter vary through time? The main concern when dealing with this issue is the modification of the so-called "returns" to certain individual characteristics. In particular, what happens to the gaps in

7. Data are available since 1963; it is widely agreed, however, that previously, and, since the end of the Second World War, unemployment rate (in urban areas) oscillated around 5%.

8. They led to a reduction of employment in manufacturing as their effective protection went down. The program of privatization also meant the dismissal of an important number of workers.

hourly pay for persons with different skills (but similar with respect to the other attributes) generally appears as the main source of the alteration of the distribution. In fact, such dimension is also of great relevance for explaining inequality at a given point of time. Education and, in general, training, increases the "human capital" of a person and, hence, his productivity, leading to higher wages. Even if adopting a "signaling" approach to the role of education—i.e., education is only a reasonable indicator of individual capacities—the importance of such variables for explaining wage inequality is well funded. Another dimension that would play a similar role is the "experience," as it can be considered a proxy for on-the-job training. The discussion over the determinants of changes in human capital returns will be included below, as it constitutes one of the main objectives of these notes.

However, at a given point in time, gaps in earnings between individuals working in different sectors and/or types of firms (but with similar skills and other personal characteristics) prove not to account for an insignificant portion of overall inequality in most empirical exercises. This leads to what is known as "segmentation": the presence of earnings gaps not accounted for by differences in personal attributes but for being employed in different segments. Gaps in remuneration due to differences in personal attributes, such as gender or race, usually contribute to inequalities too, given the rise in ample literature on discrimination.

There has been discussion over the significance of the proportion of overall inequality that is considered in some empirical analyses to be accounted for by segmentation and discrimination. The neo-classical approach argues that workers are paid wages according to their productivity while the latter is largely determined by their skills. Consequently, there is no reason why a firm would pay more than other employers to workers with similar skills, or would offer larger salaries to a man than to a woman with similar skills. Such differences could only arise as a consequence of the presence of other non-measured (or non-measurable) personal factors affecting productivity. The lack of consideration of such variables would be the reason why segmentation is identified in empirical studies. Therefore, the positive relationship usually found, for example, between firm size (and/or a firm's productivity) and wages stems from larger enterprises being able to secure the "best" workers. However, other theoretical stances provide conceptual arguments for the presence of wage segmentation. In a nutshell, some firms pay more than others because they reason that it will increase efficiency or reduce other costs (as those associated with turnover). But even if this is the case, it can be asked why different employers evaluate the impact of wages differently and end up not paying the same to similar workers? The critical point here is that the

wages ultimately paid by each employer will depend on variables that are, to some extent, firm-specific such as the technology used or the approach to labor management. It is even possible that some enterprises do not need to induce efficiency growth through higher wages; this situation appears to be more frequent in small, low capital-labor ratio firms. Furthermore, some employers may not be aware of the advantages of including such a policy among their management strategy.

For the neoclassical view, segmentation could only arise when certain institutions intervene in the labor market. The operation of trade unions is, consequently, another source of gaps, as a wage settled in different agreements may not be the same. Some employees may not even be covered by collective bargaining.

It appears, therefore, that segmentation should also be considered when exploring the causes of inequality change. It may even be more important—*vis-à-vis* human capital—in LDCs as their productive structures are more heterogeneous than those of DCs, i.e., differences in technology and organization are larger, especially considering the extended segment of very small units. Potentially, wage gaps could be wider in the developing world due to a more important influence of segmentation. The largest share of non-registered wage earners—i.e., those covered neither by social security nor by collective bargaining—that characterizes LDCs also operates in the same direction.

Finally, earnings inequality also responds to modifications in the share of workers with different attributes. For example, if the relative wage between groups remains constant, an increase in the proportion of those with the lowest or the highest incomes—low skill workers, for example—leads to an increase of overall inequality. Consequently, if informality gains position in the occupational structure, income concentration grows.

IV. DESCRIBING THE PROCESS OF INCREASING WAGE INEQUALITY IN ARGENTINA

The brief discussion carried out in the previous section provides some elements that help us to analyze the evolution of wage distribution in Argentina during the last thirty years. Initially considering the importance of changes in the distribution of hours, it is important to take into account that there was a reduction in the number of total hours worked per employee. Such behavior is—at least partially—reflected in the rise of the share of part-time workers, mainly of a non-voluntary character. This was the consequence of increasing difficulties in the labor market since the mid-1980s but especially during the following decade when—as indicated—open unemployment registered the highest rates. That reduction in overall

hours worked per employee was unequally distributed, leading to a rise in monthly wage inequality. This was already suggested in Graph 1 as the increase of the Gini coefficient of the distribution of monthly earnings rose, between 1974 and 2003, more than the corresponding distribution of hourly wages. The results of an exercise that decomposes the change in the level of inequality between such years[9] also indicate that changes in worktime distribution can explain about 30% of all Gini coefficient growth.[10] The effect of this variable was particularly important between 2000 and 2003. Throughout the entire period under analysis, however, it clearly emerged that changes in hourly wages distribution played the major role in explaining monthly wages inequality (Graph 1). During the most recent phase of decreasing inequality, the Gini coefficient of both monthly and hourly earnings distribution changed with a similar intensity. Hence, the discussion will now turn toward the analysis of the hourly earnings.

As indicated, alterations in the concentration of hourly earnings may partially reflect those registered in the employment structure. Regarding this aspect, the increase in the average level of educational attainment of wage earners—and the consequent improvement in the distribution—that occurred during the entire period under analysis should have tended *per se*—i.e., when evaluated independently—to reduce inequality; several empirical studies point precisely to that direction.[11] Difficulties with modeling changes in the educational structure led us to exclude such a factor among those considered in the decomposition exercise we are here reporting. However, such a feature does not mean a major inconvenience, as the aim of this discussion is to emphasize the principal factors leading to rises in the monthly earnings concentration.

The increasing share of non-registered workers was another consequence of the mentioned worsening of the labor market situation. Low skill workers were the most affected by that process of growing labor precariousness, being another source of overall hourly wage inequality growth. However, the relative size of its impact during the almost thirty-

9. The exercise whose results are reported in these notes is similar to that estimated in Oscar Altimir, Luis Beccaria & Martín González Rozada, *Income distribution in Argentina, 1974-2000*, 78 CEPAL REV. 53 (2002); Luis Beccaria & Mariana González, *Impactos de la dinámica del mercado de trabajo sobre la distribución del ingreso y la pobreza en Argentina*, 37 PROBLEMAS DEL DESARROLLO 97 (2006).

10. It should be stressed that this proportion, and others to be indicated below, are model-dependent. Hence, other statistical models, different to the one here applied (regarding the definition of variables and /or the econometric technique) will offer different figures.

11. For example, Altimir, Beccaria & Rozada, *supra* note 9; Leonardo Gasparini, Mariana Marchionni & Walter Sosa Escudero, *Characterization of Inequality Changes through Microeconometric Decompositions: The Case of Greater Buenos Aires*, *in* THE MICROECONOMICS OF INCOME DISTRIBUTION DYNAMICS IN EAST ASIA AND LATIN AMERICA 47 (François Bourguignon, Francisco H.G. Ferreira & Nora Lustig eds., 2004).

year period initiated in the mid-1970s was relatively minor. Again, during the most recent years of decreasing inequality (2002–2006) the reduction in the share of non-registered employees did not play any major role.

The other factor considered when decomposing the change in wage inequality—the gaps derived from differences in individual attributes or individual attributes' returns—appears as a main force explaining hourly wage concentration change between 1974 and 2003 and also during the recent phase of inequality reduction. In particular, changes in returns to education, which can be considered a proxy to skills, were the most important among the identified attributes. Between 1974 and 2003, skill returns accounted for more than half of the increase of the Gini coefficient of the distribution of hourly earnings that is explained by the model. As it will be discussed later, returns to formality also grew and contributed to some extent to an increase in inequality. Income gaps between age and gender, on the contrary, tended to reduce—albeit, scarcely—hourly wages concentration.

We now turn to analyze the evolution of the returns to each of these attributes of the individual—or of the job held—that were distinguished as part of the decomposition exercise whose results are being considered here. For that purpose, we resort to estimates of the so-called income—or Mincer—functions that allow for the evaluation of the effect of a given attribute when the others are considered unchanged, i.e., when the other variables are controlled.

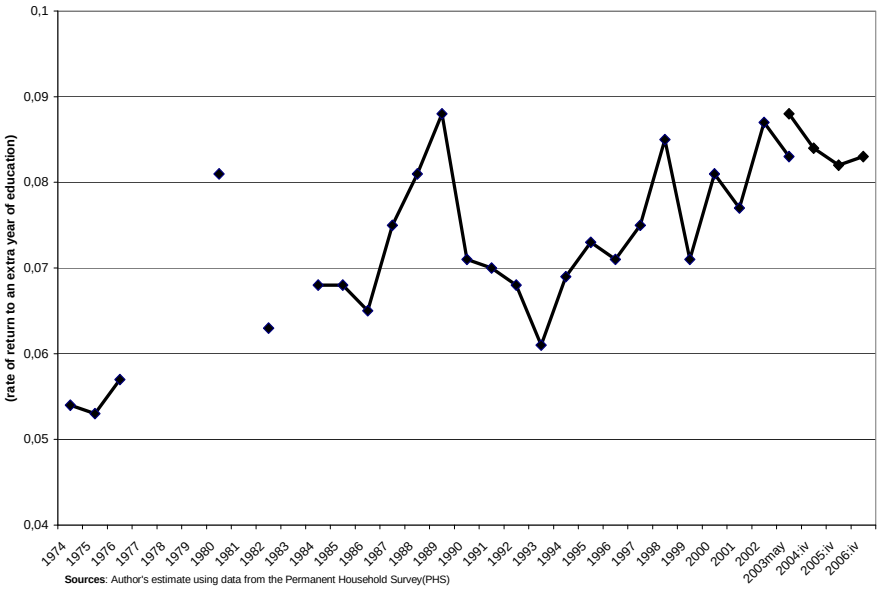
The average rate of return to one extra year of education—the other characteristics of the worker remaining unchanged—was rising throughout most part of the 1974–2003. Graph 2 shows an increasing trend—albeit with ample year-to-year fluctuations—during the second half of the 1970s and the following decade, with acceleration toward the end of the 1980s. Such result mainly reflects an improvement in the relative earnings of those with tertiary[12] studies, graduate and non-graduate. A reduction then occurred between 1989 and 1993, as wages of secondary graduates and non-graduate tertiary fell relatively; even though average gaps between schooling strata were in 1993 larger than in 1974. The upward trend in returns reappeared from the middle of the 1990s, followed by a new reduction after 2003; the latter, however, could not compensate previous rising.

The evolution to the return to registration—or of the gap between registered and non-registered workers' earnings calculated when other attributes of the workers are kept unchanged—described ample movements but did not show any definitive tendency. The level of the "return" was in

12. Tertiary level mainly comprises universities.

2003 similar to some of those estimated for years of the second half of the 1970s; the value of 2003 was, however, larger than that of 1974. No significant change occurred during the recent period of falling inequality. Differentials due to age (a proxy for experience) and gender tended to fall and were factors that led to a reduction in inequality.

GRAPH 2. RATE OF RETURN TO EDUCATION



Sources: Author's estimate using data from the Permanent Household Survey(PHS)
Notes: Data for 1977, 1978, 1979, 1981 and 1983 are not available. PHS undergone a methodological change in 2003 that makes figures not strictly comparable.

Summarizing, the rise in the gaps between earnings of wage earners of different skills showed a clear upper trend during the last quarter of the twentieth century in Argentina, when wages and total earnings inequality also grew persistently. Such evolution in skill returns also appears as the most important factor that led to the substantial increase in hourly earnings inequality during those years. Gaps in incomes due to differences in skills have fallen since 2003, accompanying the reduction in wage concentration.

V. SOME HYPOTHESES ON THE EVOLUTION OF SKILL RETURNS IN ARGENTINA SINCE THE MID-1970S

The behavior of skill returns in the last thirty years in Argentina—and its relevance for explaining overall inequality—that were described in the previous heading led us to focus the analysis on the conceptual arguments that may be relevant for explaining such evolution. This heading was also

prompted by the intention of highlighting some limitations that the canonical, i.e. neoclassical, approach would have for explaining wage distribution dynamics in Argentina during the period under analysis. Some of the discussion could also be, hopefully, of a more general character.

What did occur in the labor market that provoked such evolution of skill returns? The usual explanation, both in developed and less developed countries, rests on the existence of shifts of different intensity in the demand and supply of labor of the various skills. When relative high-to-low-skills demand rises more than supply, an increase in returns should arise.

For example, the important increase in the average number of years of schooling of the economically active population that characterized many developed countries (DCs) during much of the twentieth century was a standard explanation for the falling skill returns that occurred in this period. When educational gaps later rose, while improvement in the educational profile of the population persisted, the arguments were now based on the existence of an intense increase in the skill content of the labor demand. Precisely, among those resorting exclusively to the impact of the divergence between supply and demand changes, there are some controversies concerning the sources of such intense demand shifts. Two alternative explanations regarding the increase of the demand of those more skilled, relative to those less skilled, are usually put forward. One of them rests on the alterations of the structure of imports and/or exports, and the other one on the technological changes. Some analysts have favored the relevance of the former by focusing on the increase of imports from less developed countries (LDCs).[13] Such expansion would have negatively impacted on the domestic production of those branches competing with the imported goods. As a consequence, the demand of low skill workers in some DCs would have been also reduced given the fact that these goods usually have a relatively large content of this quality of labor. The second cause of demand shift tends to gain larger support as even many of those analysts arguing in favor of the influence of external trade developments also recognize the impact of technological changes. The latter would not only be biased toward the use of capital but also of more skilled labor; i.e., capital and skilled labor appear as complementary.

This interpretation, based on the competitive model of the labor market and a full employment situation, is also usually considered for explaining changes in skill returns in LDCs, including Argentina.[14] In those cases,

13. Perhaps Wood was among those most forcefully supporting this view. Adrian Wood, *How Trade Hurt Unskilled Workers*, 9 J. ECON. PERSP. 57 (1995).

14. Leonardo Gasparini, *El Fracaso Distributivo de Argentina: El Papel de la Integración y las Políticas Públicas*, *in* DEBATE SOBRE EL IMPACTO DE LA GLOBALIZACIÓN EN LOS MERCADOS DE

there is also discussion concerning the sources of relative labor demand shifts. With respect to the last aspect, there is a relatively wide consensus in Latin America about the rather limited relevance that the evolution of the structure of imports and exports had for explaining the movements of the relative labor demand that would have led to increasing earnings differentials in some countries of the region.[15] A same view is held by those explaining earnings concentration in Argentina as a result of shifts in relative labor demand. It was shown that alterations in the composition of exports and imports have only a marginal effect on the sector structure of the GDP and, hence, on the relative skill demand for labor. Hence, technical change would have been the main force driving to an eventual large relative increase of the demand—and, consequently, of wages—of more qualified workers. In this particular case, the introduction of technology was to a large extent facilitated by the opening up of the economy and the overvaluation of the real exchange rate that occurred during much of the period under analysis.

As it happens to any theoretical hypothesis, the relative supply and demand paradigm rests on assumptions that appear sometime too restrictive. In particular, the crucial variable of the neoclassical explanation—the shift in the composition of labor demand—is difficult to be empirically assessed. Consequently, it is usual that such variable is not actually measured independently. For example, Gonzalez Rozada, Menéndez, and Robbins indicate that "[We] directly estimate relative demand shifts. To do this we examine the time-series of relative wages and the constructed time-series of relative supply, then net-out relative supply shifts from relative wage changes to get estimates of the time-series of relative demand shifts."[16] Similarly, Murphy and Welch find "that *employment* shifted from less-educated and lower-paid occupations toward more-educated and higher-paid occupations. We *interpret* this shift in employment patterns as evidence of shift in demand."[17] Other authors assess the evolution of labor demand indirectly, assuming a production function.

TRABAJO DE AMÉRICA LATINA ch. 1 (G. Marquez ed., 2005); M. González Rozada, Alicia Menendez & D. Robins, *Wage dispersion and trade in Argentina 1974-1994*, 10 (Universidad de Palermo, Working Paper in Economics No. 3, 1997).

15. In fact, neutral or scarce negative effects showed in some studies would be indicating that trade opening did not deliver the expected effects of rising the requirements of low skill workers. *See, e.g.*, Samuel Morley, La distribución del ingreso en América Latina y el Caribe (Santiago de Chile: Fondo de Cultura Económico - CEPAL 2000).

16. González Rozada, Menendez & Robins, *supra* note 14.

17. Kevin M. Murphy & Finis Welch, *Occupational Change and the demand for skill, 1940-1990*, 83 AM. ECON. REV. 122, 122 (1993) (emphasis added).

Sometimes, the implications of this limitation appear particularly damaging when trying to show that shifts in demand were larger than those in supply. In greater Buenos Aires, for example, the educational profile of the labor force went on improving during the period under analysis as it can be deducted from the following figures: the proportion of the economically active population that graduated from secondary rose from 18% in 1974 to 36% in 2003, while that of graduates from tertiary grew from 5% to 16%. Therefore, those ascribing to this view should argue that the shift in requirements toward high skill occupations would have been larger than in supply. It cannot be denied that the requirements of occupations associated to high skills have been persistently rising, a trend that was generalized and, hence, also reached Argentina. However, it is hard to demonstrate that such movements dominated those registered by the supply.

Moreover, the neoclassical explanation requires a full employment labor market, at least for those types of workers whose wages are rising. If it is not the case, an expanding demand of high skill laborers will not necessarily lead to a rise in wages for these occupations. That is also a necessary condition when the widening of the wage gap derives from reductions in low skilled labor demand. Out of full employment, for example, an increase in the demand for all skill types—even of different intensity—will not necessarily raise wages for each one and, therefore, modify relative earnings.

It appears, then, somewhat surprising that this supply and demand view becomes the natural and, most frequently, the only explanation of skill returns' dynamics. Consequently, it is worthwhile looking, even if complementarily, at other possible hypotheses, including those resorting to arguments coming from the same neoclassical perspective.

Consideration of arguments beyond the neoclassical paradigm appears as even more relevant for cases such as Argentina's, where the timing of changes in skill returns since the mid-1970s, presented in the previous heading, is not always easy to reconcile with that view. In particular, gaps between incomes of different educational groups altered during periods when it is difficult to consider that important shifts in relative skill demand occur. Furthermore, some significant modifications in returns occurred in a short period of time, a situation equally not consistent with the importance of the evolution of skill requirements.

Precisely, the first rise in educational returns that occurred during the period under analysis, extended, as previously indicated, from the mid-1970s to the mid-1980s. Such a trend is sometimes associated with shifts in labor demand, mainly due to an increase in the imports of embodied

technology.[18] Even if an upward long-run trend in the capital-labor ratio and in the skilled-unskilled labor demand ratio probably verified during the whole period, it is difficult to get independent evidence of an overwhelming increase in the later ratio, larger than in the one corresponding to supply. At the start of this almost ten year period, in 1976, trade barriers to imports were diminished[19] and the exchange rate began to appreciate from 1978. However, such developments had limited impact on the structure of external trade and probably also on the demand of technology given, on the one hand, uncertainties surrounding the policies deployed since 1978 and, on the other hand, the relatively short duration of the period during which such strategy was sustained. In 1981, a devaluation of the peso occurred and the orientation of the policy was drastically modified. As described above, macroeconomic instability prevailed during the rest of the decade, making it hard to argue in favor of a clear tendency toward an important incorporation of technology and shifts in labor demand structure.

As real wages deteriorated for all groups during much of this period, and very intensively, the demand and supply framework suggests that overall labor demand fell more (or grew less) than labor supply, leading to a rising overall unemployment rate. At the same time, relative requirements of skills would be changing, inducing a larger rise in low skill unemployment. The problem with such explanation is that overall unemployment remained at relatively mild rates during these years, from 2.4% in 1974 to 4.5% in 1986 and to 5.3% in 1991. The structure of unemployment, on the other hand, did not change clearly toward those less skilled. This is particularly the case between 1974 and 1982 or 1982 and 1988.

Given the difficulties of the canonical explanation for accounting for the widening earnings gaps between skills during this period, it is perhaps relevant to look at the overall economic situation of the period, and to the aggregate labor market behavior. In particular, it seems appropriate to take into account that the swift and profound reduction of real wages was not related to aggregate supply and demand conditions. Such process began in 1975 as a consequence of inflation acceleration but deepened in 1976 as the military government that took office that year decided to eliminate the functioning of trade unions and to freeze nominal wages in a highly inflationary context. Even if real earnings recovered to some extent later, and until 1980, they exhibited a fluctuating evolution afterward, but around a level clearly lower than that of the first half of the 1970s. A possible

18. González Rozada, Menéndez and Robbins, *supra* note 14.

19. Although reductions in nominal rates had not apparently have any impact on effective protection given the existence of redundancies in the tariff prior to such change.

explanation of rising skill returns in such circumstances are the employers' decisions to "protect" high skilled workers from the marked deterioration of real wages, indexing their nominal wages above the rate applied for low skilled. Arguments based on the efficiency wage hypothesis could be considered in order to explain such behavior as if wages influence employees' efficiency, as the model suggests, it is not always convenient to reduce them (or to reduce them very much).[20] Some of the variants of that theoretical approach are, furthermore, compatible with this relationship between wages and efficiency being more important for skilled workers; in particular, the *shirking* one. More generally, the usual analysis of dynamic labor demand also suggests that employers would be interested in reducing the probability of quitting of those workers who have received specific training in the firm. As the larger share of such training is generally provided to skilled employees, it would not be surprising that their real wages fell less when average real wages decreased. The same type of arguments could be contemplated to explain the new—and large, increase in skill returns that occurred since 1987, when the falling of average real wages accelerated as inflation also speeded up.

The ban of trade-union activities in 1976, and the consequent suspension of collective agreements, could have contributed to the initial increase in school returns during the 1970s. Wage negotiation—mainly organized by sectors—could have tended to maintain skills wage gaps during the post-war period. Furthermore, minimum wage was allowed to rise only below inflation, probably hitting some groups of low skilled employees.

The other period of rising educational returns extended during the 1990s, when the supply and demand arguments could be considered, in principle, as an even more relevant explanation than for previous periods. This was a decade where the productive structure underwent, in general, important adjustments that included rising investments and modernization of some manufacturing and services activities. This could have led to a rise in the requirements of skilled workers. However, both empirical and theoretical considerations suggest that such developments could account for only a part of the story. Regarding the former, i.e., the analysis of empirical evidence, it is necessary to point out that the process of structural adjustment just mentioned was undoubtedly accompanied by the incorporation of new technology that demanded a large proportion of high skill workers. However, this same development also led to the reduction of

20. *See, e.g.*, George A. Akerlof & Janet L. Yellen, *Fairness and Unemployment*, 78 AM. ECON. REV. 44 (1988); Carl Shapiro & Joseph E. Stiglitz, *Equilibrium Unemployment as a Worker Discipline Device*, 74 AM. ECON. REV. 433 (1984).

manufacturing and public utilities employment that should have affected skilled workers to a larger extent. Such circumstance casts doubts on the existence of a relative increase in the requirements of such laborers of a magnitude that would have overwhelmed movements in the same direction in the labor supply. Moreover, labor under-utilization during the 1990s grew for economically active persons of different schooling status, even those more educated.[21] In fact, figures on wage evolution corresponding to this period indicate that average nominal earnings of those with low or medium schooling fell, while it remained practically unchanged for the highly skilled (see the following table). In terms of the neoclassical view, such behavior would imply that supply and demand of high skill workers would be growing at similar rates, while supply of low skill workers would be rising more than demand, or that the latter was falling more rapidly than supply. The reason of increasing returns would not have been, consequently, a fast-growing demand of high skill labor but a fast-decreasing demand of those low skilled.

Precisely, such evolution of relative wages is also consistent with other views, as those suggested when the 1974–1990 period was analyzed. They consider the direct effects of the more general behavior of the economy and, in particular, of the labor market that the canonical explanation does not take into account. In particular, it seems relevant to incorporate into the analysis the impact that could have exerted changes, and the high levels, of *aggregate* unemployment, and not only of the *relative* size of those corresponding to skilled and not skilled. The type of arguments above discussed based on the efficiency wage hypothesis offers a basis for suggesting that the presence of a large pool of unemployed workers, irrespective of its skill composition, may have a larger impact on wages of less skilled workers. Specifically, the downward pressure provoked by the overall excess labor supply will not be translated into reductions, or it will be translated into lower reductions, of high skill workers as employers would attempt to minimize their effect on their efficiency and/or probability of quitting. Furthermore, low skilled persons did not only suffer from the competition of others with the same qualifications, but also from more skilled persons willing to under-utilize their skills in order to remain employed. Such a situation reinforces the process of skill returns increase.

21. The unemployment rate of the group of persons that have not completed the secondary level was 18% in 1995 and rose 150% between 1991 and 1998; for that of graduated of the tertiary level the figures are 7% and 30% respectively.

Change in Average Nominal Wage Earnings (%)

	Secondary incomplete or less	Secondary complete and tertiary incomplete	Tertiary complete
1994–1998	-8.5	-3.9	-0.9
1994–2001	-13.6	-4.5	4.6

Source: Permanent Household Survey

In order to understand the most recent reduction of skill returns that accompanied the phase of productive growth initiated in 2002, it is equally convenient to consider a broad conceptual perspective. A possible supply and demand story would be that a shift in labor demand occurred as a consequence of changes in the productive structure that increased the share of construction and certain manufacturing industries. They would require low skill workers in a larger proportion than the corresponding, on average, to other branches. Effectively, figures of that period actually indicate that, differing from what had happened during the 1990s, occupation of workers with intermediate schooling showed the largest increase and the corresponding to those with low education grew instead of receding. However, even if such evolution of employment would reflect that corresponding to labor demand, it provides a weak explanation of the important fall in returns as unemployment rates of the three considered groups remained high during all the period and, furthermore, they all fell.[22]

Hence, again, it would be possible to take into account the overall labor market situation in order to explain the evolution of earning gaps. An efficient wage-type of explanation would suggest that, as high skill workers' earnings had been (at least partially) protected during the "bad" previous periods, firms may agree to increase relative wages of low skill workers in the context of overall growth of employment and of average real wages. The assumption would be that, in order to maintain efficiency of the most qualified employees, their earnings do not need to rise in the same proportion than those of the less qualified. This argument, however, does not seem very plausible, as it is not clear why firms would have any

22. Between the first quarter of 2003 and the third of 2006, unemployment rate fell in greater Buenos Aires about 45% for those with schooling less than tertiary complete and 60% for the graduate from tertiary level.

pressure to alter relative wages during an employment and incomes growth phase. Consequently, it would be more sensible to expect that gaps between earnings of different skills behave in an asymmetric way during periods of reduction and those of expansion of overall wages and employment: they will increase in the former but would remain fairly constant during the latter. This asymmetric evolution would be consistent with the view on the importance of social norms: after gaps between incomes of certain size prevail for some time, they become a "new" threshold socially accepted; improvements in the labor market situation would not lead *per se* to their reduction.

The argument based on the efficiency wage hypothesis that suggests an asymmetric behavior of wage gaps, even if conceptually more attractive than the one previously described, is unable to account for the reductions of skill returns that actually occurred during the 2003–2006 period. The introduction of trade unions into the analysis may help to reach a reasonable argument to shed light on the evolution of skill returns since 2002. In a favorable labor market, unions could have exerted strong pressure for increasing not only average but also relative wages, trying to improve the relative position of those categories with lower earnings, especially after a period of strong reduction of real incomes. For example, fixed amount increases were agreed to during recent rounds of negotiations.

Furthermore, and even more important, the increase of the bargaining strength may have even led to negotiated rises in average wages larger than those received by the group of employees not covered by collective bargaining. The latter are, to a larger extent, those more highly qualified.

However, during this period of economic expansion of the Argentinean economy, a major factor leading the gap reduction was the income policy. Fixed-amount wage rises were decreed during 2002 and 2003, a measure that leads to larger proportional increases for low wage employees. In fact, the Gini coefficient and educational returns (Graphs 1 and 2) show a sharp reduction during 2003 and 2004, when the effects of such policies were larger. The frequent, and important, rises in the minimum wage that were agreed to during the period under analysis could have had a similar impact.

VI. CONCLUSION AND IMPLICATIONS

Individual and household income distribution in Argentina experienced a prolonged period of concentration that extended from the mid-1970s to the beginning of the new century. This was a process that persisted not only during the frequent phases of economic stagnation and/or macroeconomic disturbances, but also when better economic times arose.

During the high-growth period initiated in 2002, and still underway, inequality has been falling, but it is too early to argue about a breakdown of that long-term tendency.

These relatively high levels of income inequality that characterized the last quarter of the twentieth century had important consequences on the overall social and economic situation. In particular, they constituted a main determinant of the swelling incidence of absolute poverty in some periods, such as the 1990s.[23] It was also argued that increasing income concentration has been one of the factors explaining the rise in the rate of crime, although this is a moot question, open to ample controversies. There is agreement, however, about the impact that the steady widening of income gaps had on the process of growing social segmentation, a feature particularly disturbing in a country that had enjoyed a relatively high level of social integration until the middle of the 1970s. A persistent separation between the quality of life of those sectors of traditionally lower resources (e.g., where the head of the household is of low skill) and the rest can be observed throughout these almost thirty years; a relative deterioration of some fragments of the middle sectors had also occurred.

The subject specifically analyzed in these notes, the dynamic of wage distribution, has significantly influenced the evolution of overall inequality in Argentina. As discussed above, the increase in skill returns appeared, in turn, as the major individual factor that led to such behavior of earnings inequality. A main focus of these notes has been to explore the explanation for such evolution of the relative income of those with different qualifications. The most usual argument offered by neoclassical economists is the existence of shifts in the relative demand and supply of labor of different skills. It was here suggested, however, that the consideration of some effects of the aggregate behavior of the labor market may allow for more sensible explanations of changes undergone by the earnings gaps during the last thirty years in Argentina. Invoking the efficiency wage hypothesis it is possible to consider that relative earnings are also influenced by developments undergone by overall employment and/or average incomes, especially during periods when they fall. The last quarter of the twentieth century was characterized by quite diverse phases of economic behavior but, in general, the labor market encountered difficulties. During some years, there were profound reductions of real earnings while in others, under-utilization and precariousness were high.

The advocacy for a broader view on the variables influencing the level and evolution of skill returns, and of personal income distribution, at large,

23. Two-thirds of the increase in the proportion of poor household in greater Buenos Aires between 1991 and 2001 is accounted for by the rise in the concentration of household incomes.

does not imply that supply and demand arguments are unimportant but derives from the fact that they generally cannot explain the whole story. However, other hypotheses, complementary or alternative to that paradigm, have not yet been adequately developed. As it was done here, it is possible to resort to some *ad-hoc* arguments that shed light into certain variables, but they need to be properly integrated into a comprehensive framework.

The discussion around the forces behind income distribution is not only of an academic character but is also of great importance for policy design. If the negative evolution of the overall labor market situation tends to increase income inequality and it does not improve when overall employment and/or wages turn for the better, the need for policies aiming at reducing inequality appears to be necessary. They are even more important when the widening of the wage gaps is accompanied by reductions in the average real income provoking an increase in poverty.