Introduction

This paper examines the evolution of average heights in the industrial belt of Buenos Aires and the city of La Plata, Argentina, between 1916 and 1950. The main idea is to test certain assertions that constitute a sort of “traditional wisdom” about this period against the evolution of workers’ biological wellbeing, measured by average heights. First, we need to examine the validity of the proposition that workers’ welfare increased during the Peronist administration (1946-1955) and that, conversely, their wellbeing was relatively stagnant during the “infamous decade” (1930-1943). Second, we need to evaluate the economic rational behind internal migrants’ decision to move to the industrial districts. Did they (or their children) gain in nutrition and health status by moving from the interior provinces? Thirdly, we need to consider the proposition that the institutional set-up of the Peronist years helped to reduce social inequalities.

The first section discusses the literature concerning industrialization, urbanization and internal migrations in Argentina. The Argentine case presents a clear anomaly in the last two dimensions. A process of industrialization directed towards the internal market and substitutive of imports emerged in a period of decline of the agrarian export-economy. The rates of urbanization accelerated during this period, largely due to mass migrations from the interior provinces. Rather than moving toward unoccupied lands in the frontier, migrants moved towards the center of the nation, where the chief industrial pole was located. Unlike other metropolis, the growth of Great Buenos Aires was characterized by the peripheralization of the working class and the central location of the middle classes. Furthermore, Argentina represents a case in which the consolidation of industrial growth in the 1930s and 1940s, and the concentration of workers it generated, is said to have produced the clientele for a political movement, Peronism, characterized by its distributive social policies.

The second section presents the data, the regression results, and a brief discussion of the principal findings. While these conclusions seem tentative at this moment, the paper suggests: a) that the Buenos Aires industrial belt experienced an important increase in net nutrition during industrialization; b) that internal migrants did not encounter the “urban dissamenities” problem, for they migrated to areas that had undergone reforms in sanitation and public services; c) that the “infamous” thirties made possible a greater improvement in net nutrition than the years of Peronism (particularly with regard to the decline in
malnutrition), and d) that social inequality was more persistence that previously assumed.
In the final section, three main questions are presented and tentative explanations are
provided.

**Industrialization in Argentina**

Early students of Argentine industrialization found in the 1880-1930 period an industrial
sector characterized by a multitude of small workshops that did not constitute “modern
industry.” (Dorfman 1942). WWI had given local industrialists an ephemeral protection,
after which European and US exporters regained their position in the Argentine market.
ECLA’s “structuralist” economists argued that the true origins of industry in Argentina and
other leading Latin American economies coincided with the world depression of the early
1930s. The depression granted effective protection to nascent industries, particularly “light
industries,” starting up a process of import substitution that extended later to the 1940s and
1950s. (ECLA 1950; Felix 1965). Though some authors have challenged the idea of a
radical rupture in the 1930s, this view remained hegemonic until quite recently.¹ Recent
revisions have pushed back the origins of Argentine industrialization to the 1890s and
1900s. J. Schvarzer (1996) finds in the period 1910-1930 a consolidation of the factory
system but without much technical or social progress. The First World War provided a
protective context which made possible the substitution of imports in the food industry and
strengthened the development of older industries (such as meat-packing and sugar refining).
Later, during the 1920s, investments in cotton textiles, metallurgy, and petroleum gave new
dynamism to the sector. F. Rocchi (2006) goes even further, arguing that the origins of
Argentine industrialization should be looked in the second half of the 1890s. Centered in
Buenos Aires city and chiefly targeting the domestic market, industry developed into “big
business” in the lifes decade of the twentieth century.

Rocchi contends that the industrial sector was not only crucial for the development of the
internal market but also a key dynamic force of the Argentine economy during the period
1900-1930. Industry grew at 9.6 percent a year during 1903-1913, when the economy as a
whole was growing at a rate of 7.7 percent. During the period 1920-1929 the manufacturing
sector expanded at 4.3 percent a year, when the economy was growing at a 3.5 percent.
(Rocchi 2006:87) Even though the domestic market was limited, large firms were able to
develop, rapidly mechanizing production in such distinct areas as shoe-making, tobacco,
metallurgy, woolen textiles, and agricultural implements. Big industry helps to explain—
argues Rocchi—why Argentina, unlike other Latin American agrarian export economies,
generated a high degree of upward social mobility. For the diversity of its products, for its
influence in creating a national market, for its introduction of up-to-date technologies,
industrialization was a success story in pre-1930 Argentina.

Industrial growth in the 1930s was rapid and based upon the substitution of imports.
Industrial production grew at a rate of 16 percent a year during 1933-35 and at 5.5 percent a
year between 1935 and 1939. The share of industrial production in total consumption rose

¹ Javier Villanueva (1972), for instance, showed that there was an important growth of manufacturing in the
1920s.
from 50 percent in 1925-29 to 63 percent in the years 1930-39. (Barbero and Rocchi 2003: 275) The 1930s saw a significant increase in textile manufactures, oil byproducts, metallurgy, and electric appliances and vast expansion of road construction. During the Second World War, the process of import-substitution continued (to reach 80 percent of consumption), while workers’ purchasing power remained unaltered. The first years of the Peronist administration were favorable to industry, which great at 6.3 percent a year (1946-48), but afterwards, growth slowed down, rendering for the whole period 1946-55 the disappointing rate of 3 percent annually. After 1948, the possibilities of import substitution in light industries had been exhausted and in the early 1950s restrictions on foreign currency began to affect new industrial investments. (Barbero and Rocchi 2003: 277 and 279)

The high degree of industrial concentration that had made industry strong before 1930 began to falter in the 1930s, when small and middle-sized firms entered massively into the market. (Goetz 1976) Between 1935 and 1954 the number of branches of industry that experienced de-concentration (dispersion) was two to three times the number of branches that experienced concentration. With expanding markets and relatively simple technologies, the new branches admitted more firms and this, in turn, generated acute competition. Significantly, the branches that experienced expansion and de-concentration were precisely those geared to popular consumption: food, beverages, cloths, textiles, electrical appliances, and construction materials. Goetz’s finding about industrial de-concentration is consistent with the proposition that, during the “easy” phase of import-substitution, industries with low capital intensity and relatively simple technology tend to predominate. Protectionism and expanding internal markets create extra-benefits that attract new firms into the business.

Thus, the industry that emerged in the 1930s and which consolidated in the 1940s was a less concentrated and more competitive industry that catered to the needs of an expanding domestic market. In a context of an abrupt fall of international migrations, this industrial was made possible by a massive movement of population from the interior into the capital and its surroundings. The availability of industrial credit, starting in the mid-1940s, combined with relatively simple technologies, increased the chances that small and middle-sized firms entered the market. If not novel, Peronist industrialization is said to be marked by a pro-labor attitude, not seen in previous administrations.

Internal Migration and Urbanization

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2 The Peronist period (1946-54) did nothing but accentuate this tendency towards industrial de-concentration. Some industries even reduced its average size. Peronist industry was more competitive.

3 Industrial credit privileged those branches of industry more labor-intensive and with simpler technologies, although secondarily supporting the growth of such dynamic sectors as metallurgy. (Villarruel 1988)

4 Soon after assuming as Secretary of Labor and Prevision (end of 1943), Perón granted wage increases to unions, mediated in conflicts between workers and capitalists, and granted subsidies to create union pension funds. Later, during his presidency (1946-1955) Perón definitely favored organized labor in granting concessions about wages, pensions, and labor rights. (Gerchunoff and Llach 2005: 166-167)
Crucial to the process of industrialization were the twin processes of urbanization and internal migrations. The concentration of population in large cities (rural-urban migrations) together with the massive migration of provincianos to Buenos Aires and its adjacent cities made possible a continuous supply of labor for industrial growth, at a time when international migrations ceased to be an important component of demographic growth. Thanks to internal migrations, by 1947 the Great Buenos Aires—a metropolitan area including Buenos Aires and its 18 adjacent cities or boroughs—concentrated 29 percent of Argentina’s population. Half of the population of the GBA had been born in other provinces. (Germani 1955: 57-58) The provinces of the northwest and center contributed most to these massive migrations involving 25 percent of the country’s population.5

Lattes and Lattes (1969) studied the time trajectory of internal migrations. They found that the migrants of the period 1914-1947 flowed towards Buenos Aires but also towards adjacent (richer) provinces. In the period 1947-1960, by contrast, most provincial migrants converged to a single destination: the Great Buenos Aires. The migratory movement became almost exclusively centripetal. This meant that more migrants came from distant provinces and towns than before. And it is likely that in this second period, more migrants traveled with their families, as the masculinity rates among migrants were much lower than at the beginning of the century. (Lattes and Lattes 1969: chapters 7 and 8).

Internal migrations began to replace international migrations after 1914. But it was only in the mid-thirties, in the midst of import-substituting industrialization, when internal migrations became truly massive. Rough estimates made by Germani provide a measure of magnitude for this change. The flow of migrants rose from 8,000 a year in 1914-36 to 72,000 a year in 1936-43, to 117,000 a year in 1943-1947.6 (Germani 1954: 75)

Internal migrations contributed to an on-going process of urbanization. Between 1914 and 1947, the country’s urban population (>2,000) increased from 53 to 62 percent. People moved to large cities. Whereas in 1914 only three cities were larger than 100,000 inhabitants (Buenos Aires, Córdoba and Rosario), in 1947 other 5 cities were added to this list (Mar del Plata, Bahía Blanca, Santa Fé, La Plata and Tucumán); and this is not including the new urban centers that comprised the Buenos Aires conurbano. 40 percent of Argentina’s population resided in cities over 100,000 inhabitants by 1947 (Germani 1955:68). Thanks to the massive migrations from the interior, the population of Great Buenos Aires went from 1.9 million in 1914 to 3.4 million in 1936 to 4.6 million in 1947 to 5.2 million in 1952. (Germani 1955:74)

The formation of Great Buenos Aires entailed a re-accommodation of social classes in the territory.7 For the period 1880-1910, J. Scobie documented how the immigrant working-

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5 Of the 3.4 milion Argentines who in 1947 were living outside of their province of origin, half resided in the Great Buenos Aires, other 28 percent in the littoral or Pampa region, and the rest was distributed among other regions of the country. Germani 1955: 61)

6 These estimates have been taken as conclusive. J.C. Torre (2000) affirms, based on these estimates, that the process of internal migration took-off in 1936.

7 To Germani, the process of urbanization that ensued after 1930 was propelled by industrialization. Internal migrations were thus part of a general process of modernization that anticipated the formation of a “mass society” with new modes of political interaction.
class, originally concentrated in the downtown areas of Buenos Aires, gradually moved towards the suburban barrios. The development of a modern transportation system centered on tramways, the reduction of transport fares, and the new availability of land sold in installments provided strong inducements to skilled workers to move to the outlying neighborhoods. (Scobie 1974) Ch. Sargent reinforced this view associating the emergence of Great Buenos Aires (the outward expansion of Buenos Aires into satellite cities) with the increase in the number and frequency of trains uniting the capital with its outlying areas. From 751 trains a day in 1914, services expanded to 1,356 trains a day in 1930. The number of passengers per year increased from 28 million in 1914 to 81 million in 1930—about 220,000 passengers per day. (Sargent 1974: 93-124)\(^8\)

Apparently, the process of decentralization of working-class residence continued and intensified during the process of import-substituting industrialization. Horacio Torres (1978) who, with the help of socio-economic indicators, drew “social maps” of the Great Buenos Aires for the years 1943, 1947 and 1960, noticed how workers moved further away from the capital. Already in 1947 industrial workers lived in distant areas of the Conurbano (San Martín, La Matanza, Avellaneda, Lanús and Quilmes), while employees and professionals remained in the capital city and in the northern residential corridor. By 1960 workers had “taken possession” of the whole Conurbano, moving to the unpopulated areas of the first industrial belt and settling in the new neighborhoods of the second belt (Florencio Varela, Moreno, Merlo, Ñebän Echeverría, Tigre). So much so that early residential, middle-class districts in the conurbano such as Lomas de Zamora and Morón in 1943 turned predominantly working class by 1960.

Unlike the experience of other industrializing countries, in Buenos Aires the working-class moved to the peripheral areas while the middle and upper classes remained in the center of the city. How to explain this unusual movement of social classes? Torres suggested that development of railway connections between the capital and its satellite cities in the 1920s and 1930s and, in particular, the low cost of transportation resulting from government regulation, explained the “peripheralization” of the working class. (Torres 1978) His argument made sense in economic terms: valuing less their leisure time, workers were ready to spend more time in daily commuting if they could find affordable housing in the peripheral areas.\(^9\) Other authors have argued that industrial workers tended to follow industry, moving outside to areas where the new plants relocated. (Schvartzer 2000; Torre 2000)

The centripetal movement of provincianos towards the nation’s capital was complemented by a centrifugal movement to the outlying cities of the Conurbano. Wage differentials, better sanitary conditions, and greater educational opportunities attracted workers from the interior provinces to Buenos Aires. Two main forces pushed them to the peripheral cities of

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8 Both Sargent and Scobie placed technological change (the electrification of tramways and railroads) at the center of the urban transformation of Buenos Aires. The electrification of trains took place in 1916 (northern), 1923 (western), and 1929 (southern).

9 Torres provided evidence for his thesis: in the period 1939-1959, while food prices went up 40 times and clothing went up 60 times, railroad fares increased only 5 times and tramway fares rose 10 times.
the Conurbano: cheap transportation costs and the raising cost of land in the capital. While the decision to move to peripheral cities was economically sound, was it also convenient from the perspective of public health? Infant mortality rates suggest that sanitary conditions in the Conurbano were not as good as in the capital city, but they were significantly better than those enjoyed by the interior provinces. In this regard, the Argentine case differed also from US and European counterparts: workers moved to industrial cities that were healthier than their places of origin. If this was so, there was no “urban-disamenities” cost to pay.

**Peronist Economic Growth and Social Policies**

The change in the nature of migrations (from international to internal) altered the nature of society and politics in Argentina. If international migrations had nurtured an economy founded on agrarian exports and supported a politics characterized by elite control of government, the urbanization produced by internal migrations went along with industrial development, the formation of a middle class, and the emergence of workers into the political arena. This general process was part of the modernization that led to the development of a “mass democracy.” (Germani 1971) In fact, authors have seen in the origins of Peronism the political corollary of these social and economic processes: industrialization, urban concentration and mass migrations. The “new working-class” that resulted from the movement of internal migrants to the Buenos Aires industrial belt became “available” to be captured by a new political movement that expressed their unsatisfied demands for increased consumption, respect, and political participation. Advocates and detractors of Germani’s thesis coincide in one point: without industrialization and mass migrations there would not be Peronism.

Economic policies during Peronism showed, besides an anti-export, anti-agrarian bias, a marked preference for promoting industrialization and redistributing income in favor of wage-earners. Following a preoccupation with under-consumption and stagnation that developed in the 1930s, Peronism tried to modify the distribution of income in favor of workers (Villarruel 1988). The nationalization of banking and the control of foreign exchange facilitated Peron’s policy of financing wage increases with cheap credit. The expansion of state activities was a second objective, resulting from the geo-political situation of the postwar era. However effective, Peronist redistribute policies were short-lived: in 1950-52 an economic crisis forced the government to assume a more conservative, stabilization policy. (Gerchunoff 1989).

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10 Legislation passed in 1920 and 1924 obliged government to provide water to towns over 3,000 inhabitants and sewer installation to towns over 8,000. (Sargent 1974:102)

11 For a general introduction to the debates about the nature and origins of Peronism, see Plotkin 1998.

12 Much has been written about the origins of Peronism. Some, following Germani, sustain that the new political movement emerged out of the anomie of a new working-class, unrepresented in the big city. Others had underscored the working-class support for Peronism or the unionist training of the first Peronist leadership. A summary of the different positions in this debate could be seen in Mora y Araujo and Llorente (1980), specially the articles by Germani, Smith, Kenworthy and Halperin Donghi.
Peronist social policies have been characterized as “populist” to the extent that they entailed an extension of social benefits to workers in exchange for their political support through organized labor. The expansion of workers’ benefits during the first two Peronist administrations is well-known: new labor legislation; old-age pensions; medical coverage; subsidies per child; paid vacations; and compulsory collective bargaining. The dramatic increase in the rate of unionization increased the bargaining position of workers vis-à-vis employers and permitted the political incorporation of workers to the nation. (Llach and Sánchez 1984; James1988: chapter 1) In addition, Peronism developed a parallel system of welfare targeted towards the marginal population not incorporated into formal labor markets or unions. This was the “parallel populism” developed by Eva Perón and her Foundation. (Stawski 2004; Plotkin 2003).

Were these social policies successful? Did they bring about the “social justice” promised by Perón? To P. Ross, the Peronist government failed in its attempt to establish the promised universal and integrated welfare system. Rather than universal, social benefits were proportional to the salaries earned. Hence, they depended, in amount and coverage, on the strength of each union. Even though the number of workers enjoying social benefits increased substantially, it is not clear that this meant an actual re-distribution of wealth, for most of the new social insurance and pension funds were paid by workers. Cheap credits for housing went mostly to public servants. (Ross 1993) On the other hand, Peronist policies to control inflation might have benefited working-class families: in particular, the freezing of urban rents, and the regulation of the price of energy and transportation.

Those who examined schooling during Peronism found that many sons of workers attained secondary education during this period. Perón was an open advocate of technical training and, consequently, expanded significantly the opportunities for this type of training. At the pinnacle of this new system of technical education was the “Workers University” created in 1948. (Dussel and Pineau 1995). For other authors the Peronist administration was quite successful in its re-distributing scarce credit among industrialists, and particularly among small and middle-sized firms (Goetz 1976). This preference for small firms made industrial capitalism more competitive and enhanced the opportunities for upward social mobility. Hence, it is conceivable that “Peronist welfare” was not so much related to income and working conditions but to opportunities in education and upward social mobility. It also important to recall that Peronist rhetoric stressed that in the “New Argentina” the “only privileged” would be children. That is, that the protection of infancy was a state priority.

The memory of a “happy time” for the working-class was constructed in relation to a dark past, the “infamous decade” (1930-1943), presented as a time of capitalist tyranny, exploitation of child labor, voting fraud, and the lack of workers’ rights. (James 1988:25-30) True, Perón presided over the largest increase in the share of wages in the GDP: rising from 44-46 percent in the years 1939-44 to 55-58 percent in 1949-55. It is clear that real wages increased during 1946-1949 and 1952-54. (Zuvekas 1966; Gerchunoff 1989). And

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13 Historian Daniel James has called this exchange “integration,” to the extent that it entailed the subordination of the union movement to the state. (James 1988:11-12)

14 The graphic images of this “Happy World” created by Peronism among workers are examined in Gené 2005.
the social benefits attained by organized workers were substantial. But it is also true that historians have built a too pessimistic vision of the 1930s that needs to be re-assessed. We need to know more about the true impact of Peronist welfare policies, in comparison with the years of the “infamous decade.” In particular, we lack information about the wellbeing of worker’s children and families in the Buenos Aires industrial belt, a location and a population that was crucial to the political success of Peronism.

To conduct public health policies Perón selected Ramón Carrillo, an advocate of eugenic policies and also a promoter of healthy and balanced diets. A believer in the power of the new media, Carrillo organized campaigns for better food habits and for greater public awareness of diseases. He used intensively the radio, the cinema, the press, and other means of advertising chiefly to disseminate information about diets and public hygiene. In particular, he recommended people to complement their traditional diet (based on meat, bread, and pasta) with “protective food,” mainly milk, fruits and vegetables. (Ramacciotti 2004) We know now that the government achievements in this terrain were more modest than the official rhetoric would have us believe. Rates of infant mortality, having dropped substantially in the 1920s and 1930s, proved more resilient to fall in the Peronist years. Similarly, the gains made in the consumption of calories per capita obscured a more unequal distribution in distribution of these nutrients.

**The Data**

The data came from the microfilmed registers of military recruits extant at the General Division of Recruitment of the Argentine Army. In order to have a representative sample for each birth cohort between 1916 and 1950, we selected seven of the nineteen districts of the Conurbano Bonaerense and drew samples containing 700 to 1,200 observations each for all even years. For control, we chose the nearby city of La Plata, where both skilled workers and students concentrated. We also drew a sample of internal migrants residing in the seven districts of the Conurbano and La Plata. The districts were chosen for their prominence as industrial centers. They all figure among the ten most important partidos in the 1935 Industrial Census in terms of industrial production and are also among the first ten partidos of the 1954 Economic Census in terms of workers employed. The districts of the Conurbano are also areas of high concentration of population: whereas the average density

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16 In a 1949 address Perón sustained that “nobody dies of hunger anymore” and that the rising of wages had allowed workers’ families to double their consumption of food. (Ministerio de Salud 1951)
17 Avellaneda, La Matanza, Lomas de Zamora, Morón, Quilmes, San Martín and Vicente López.
18 Our sample for 1950 represents 6.8 percent of all 18-year old males registered in these districts by the 1960 Population Census. In relation to the estimated number of 18-year old youngsters in 1947 census, the proportion is well over …. Percent.
19 The ranking according to value of industrial production in the 1935 Industrial Census is the following: 1-Avellaneda; 2-La Plata; 3-Quilmes; 4-Bahía Blanca; 5-Campana; 6-Tte. Gral. Uriburo; 7-Lomas de Zamora; 8-Olavarria; 9-Morón; 10-San Martín. The first ten districts in terms of industrial employment (number of workers employed) in the 1954 Economic Census are: 1-Avellaneda; 2-San Martín; 3-Lanús; 4-Quilmes; 5-La Plata; 6-La Matanza; 7-Vicente López; 8-Morón; 9-San Isidro; 10-Lomas de Zamora.
for the province was 22 inhabitants per km² in 1960, the seven districts had an average
density of 3,598 inhabitants per km².\textsuperscript{20}

Table 1 provides details about the composition of the sample. Since the law established that
youngsters had to present themselves to recruitment offices within 3 months of their 18\textsuperscript{th}
birthday, 97 percent of our sample was composed of 18-year-old males who had not
reached yet their mature height.\textsuperscript{21} 88 percent of the sample was born in the Buenos Aires
industrial belt and in La Plata, while 12 percent were migrants from other provinces. An
overwhelming majority of recruits were “stayers” (98 percent), people who were born and
medically checked-up at 18 in the same partido. The small minority who migrated out of
their district of birth (2 percent) went to Capital Federal or to other districts in the
Conurbano.\textsuperscript{22}

The sample represents quite well two different social classes. Three occupational categories
belonging to the working class (unskilled laborers, skilled workers, and employees)
comprise 73 percent of the sample. The other three categories (farmers, students, and
merchants) could be assimilated to the middle or upper classes. They constitute 27 percent
of the sample. The predominance of skilled workers among working-class recruits (34
percent) reveals the capacity of industrial cities to attract and concentrate a qualified
workforce. Argentina’s achievement in secondary education is also apparent in this
occupational breakdown: 22 percent of the recruits (young men recruited between 1934/35
and 1968/69) said they were students or professionals at the time of the medical check-up.

As expected, the vast majority of recruits (88 percent) had been born in urban areas.\textsuperscript{23} The
12 percent classified as “non-urban” were either internal migrants or people born in
neighborhoods within the industrial districts that, for some time, remained classified as
“villages” or “towns”. The occupational structure reflects this urban condition. Only 1
percent of the recruits declared to be “farmers” while the proportion of unskilled laborers
(17 percent) was smaller than in other samples taken for the Argentine northwest or the
Pampa region.\textsuperscript{24}

The sample includes those classified by military physicians as incapable for military service
(22 percent). Among them were youngsters with sensorial difficulties, walking disabilities,

\textsuperscript{20} In Buenos Aires province there were few other partidos with similar high population density in 1960: San
Isidro (3,918 inhab/km²), Lanús (8,342 inhab/km²), and Tres de Febrero (5,725 inhab/km²), all belonging to
the Buenos Aires first industrial belt.

\textsuperscript{21} We were able to estimate the exact age of recruits. But due to small numbers, the dummies for recruits
younger and older than 18 years proved non-significant. It is also possible that some recruits “resulted” of 17
and 19 years of age due to errors in registering the dates of birth and of recruitment.

\textsuperscript{22} Quite likely, this 2 percent of out-migration underestimates the degree of mobility of workers within the
Conurbano and between the Conurbano and the capital city.

\textsuperscript{23} We considered urban any population over 5,000 inhabitants.

\textsuperscript{24} The greater proportion of “skilled workers” was also affected by our classification scheme. We classified
among this group, in addition to artisans and workers with a specialized occupation, those workers who called
themselves obreros (factory workers), in order to differentiate them from the laborers, registered commonly
under the labels of jornaleros (day-laborers) and peones (non laborers). Among the “unskilled laborers” we
included also street peddlers, street workers (such as shoe-shiners), delivery boys, and some construction
workers (masons).
nervous and heart conditions, or signs of physical “weakness” (debilidad). As this variable proved non-significant, we assume that an important number of physical deficiencies detected by doctors were not directly related to nutrition.25

Table 1

<table>
<thead>
<tr>
<th>District where born</th>
<th>Cases</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Avellaneda</td>
<td>1824</td>
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<tr>
<td>La Matanza</td>
<td>2029</td>
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<td>Lomas Zamora</td>
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</tr>
<tr>
<td>Moron</td>
<td>1752</td>
<td>11.3</td>
</tr>
<tr>
<td>Quilmas</td>
<td>1702</td>
<td>11.0</td>
</tr>
<tr>
<td>San Martin</td>
<td>1543</td>
<td>9.9</td>
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<td>Vicente Lopez</td>
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<td>8.2</td>
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<tr>
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<table>
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<td><strong>Total Sample</strong></td>
<td><strong>15509</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

* Merlo (34), Gral. Sarmiento (20), Castelar (18), Moreno (16), Florencio Varela (15), San Isidro (12), Alte. Brown (11), Lanus (8) and others

**Migrant-Residents**

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior migrants</td>
<td>1913</td>
<td>12.3</td>
</tr>
</tbody>
</table>

25 A recruit could “save” himself from the burden of military service for having flat feet or been squint-eyed. Conversely, a number of debilitating diseases may not have been evident to military inspectors.
<table>
<thead>
<tr>
<th>Age</th>
<th>Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 17</td>
<td>236</td>
<td>1.5</td>
</tr>
<tr>
<td>Age 18</td>
<td>15130</td>
<td>97.6</td>
</tr>
<tr>
<td>Age 19-21</td>
<td>143</td>
<td>0.9</td>
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</table>

<table>
<thead>
<tr>
<th>Year of Birth</th>
<th>Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1916</td>
<td>698</td>
<td>4.5</td>
</tr>
<tr>
<td>1918</td>
<td>687</td>
<td>4.4</td>
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<tr>
<td>1920</td>
<td>735</td>
<td>4.7</td>
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<td>1922</td>
<td>756</td>
<td>4.9</td>
</tr>
<tr>
<td>1924</td>
<td>755</td>
<td>4.9</td>
</tr>
<tr>
<td>1926</td>
<td>745</td>
<td>4.8</td>
</tr>
<tr>
<td>1928</td>
<td>810</td>
<td>5.2</td>
</tr>
<tr>
<td>1930</td>
<td>810</td>
<td>5.2</td>
</tr>
<tr>
<td>1932</td>
<td>808</td>
<td>5.2</td>
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<td>1934</td>
<td>805</td>
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<td>1936</td>
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<td>5.9</td>
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<td>1938</td>
<td>887</td>
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<td>1942</td>
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<td>1944</td>
<td>1004</td>
<td>6.5</td>
</tr>
<tr>
<td>1946</td>
<td>1005</td>
<td>6.5</td>
</tr>
<tr>
<td>1948</td>
<td>1035</td>
<td>6.7</td>
</tr>
<tr>
<td>1950</td>
<td>1121</td>
<td>7.2</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Urban-rural</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban born</td>
<td>15507</td>
<td>88.4</td>
</tr>
<tr>
<td>Non-urban born</td>
<td>1789</td>
<td>11.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupations</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unskilled laborer</td>
<td>2618</td>
<td>16.9</td>
</tr>
<tr>
<td>Skilled worker</td>
<td>5343</td>
<td>34.4</td>
</tr>
<tr>
<td>Employee</td>
<td>3397</td>
<td>21.9</td>
</tr>
<tr>
<td>Farmer</td>
<td>210</td>
<td>1.4</td>
</tr>
<tr>
<td>Students &amp; profession.</td>
<td>3450</td>
<td>22.2</td>
</tr>
<tr>
<td>Merchants &amp; propletors</td>
<td>490</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15509</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Attributes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Incapable of mil.serv.</td>
<td>3420</td>
<td>22.0</td>
</tr>
<tr>
<td>Illiterate</td>
<td>82</td>
<td>0.5</td>
</tr>
<tr>
<td>Horse riding skill</td>
<td>8466</td>
<td>54.6</td>
</tr>
<tr>
<td>Car driving skill</td>
<td>5514</td>
<td>35.5</td>
</tr>
<tr>
<td>Knows telegraphy</td>
<td>72</td>
<td>0.5</td>
</tr>
</tbody>
</table>
The low degree of illiteracy in the sample (less than 1 percent) requires some commentary. The question itself (“are you illiterate?”) was likely to produce negative answers. Possibly also, the army was interested in a very minimal definition of literacy: the recruit’s ability to write his own name. Rather than a true measure of differences in human capital, this variable indicates the generalized nature of elementary education in Argentina.

Other two attributes registered by the military proved significant. One, a rural skill: the ability to ride horses. The other, a modern, urban skill: the ability to drive motor vehicles. 54 percent of recruit had horse-riding skills while 35 percent of them knew how to drive a car. Apparently, youngsters with the two types of skills constituted a workforce that was in a transition towards modernization. Between 1916 and 1950, many activities (production and transportation) in the cities of the Conurbano replaced motor vehicles for horse-driven vehicles. But as this transition was slow, young workers had to learn the skills of their ancestors (driving a horse or a horse-powered vehicle) in order to remain in the job market.

There were some important differences between recruits born and raised in the Conurbano and internal migrants. These differences are summarized in Table 2. Internal migrants were equally literate, but significantly more rural. A greater percentage of provincianos knew how to ride horses. Internal migrants were as healthy as bonaerenses, showing less proportion of physical incapacities. The proportion of unskilled laborers was greater among internal migrants than among those born and raised in the industrial belt (25 percent against 16 percent). And so was the proportion of skilled workers (41 percent compared to 33 percent). The counterpart of this was a smaller proportion of clerical employees (14 versus 23 percent) and of students (16 percent compared with 23 percent) among internal migrants.

We lack information about the educational level of recruits’ parents. The occupation breakdown, however, gives us some ground to infer differences in social endowments and family efforts between the two types of recruits. Due to better social connections, those born and raised in the industrial districts had better chances of getting clerical employment. If we assume that most migrants residing in the Conurbano and La Plata came during their early childhood, we can interpret the proportion of “students” and “skilled workers” among provinciano recruits as the outcome of family choices made in the place of destination. These youngsters had the chance to compete for a place in the urban labor market by undertaking formal schooling or enhancing their skills through job training. It is apparent

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26 On the other hand, it is expected that in the more urbanized and industrial areas of the country, the rates of literacy would be quite high. Recruits who went to medical check-up in the late 1930s to the late 1960s had the benefit of 80 to 110 years of uninterrupted free elementary education. The actual rates of illiteracy in these districts were in the order of…. to …. Percent … (Nelson….pag…)

27 Unfortunately, the Argentine army was not interested in measuring other skills or in the level of educational attainment. Military recruiters registered those who knew “telegraphy”. This was such rare a skill that the variable could not be used in the regression analysis. The proportion of “students” constitutes our only indicator that 18-year-olds reached some degree of secondary education.

28 The literature on internal migrations would lead us to expect a lesser proportion of skilled workers among provincianos. This was not the case.
from the occupational breakdown that migrants’ families took both paths. In addition, the relative advantage of *bonaerenses* in secondary education may be related to prior performance in elementary school, conditioned by better-endowed homes.

Did the “quality” of internal migration change over time? In the first period (1916-1932) more of this migration came from the surrounding provinces of the Pampa region than from the interior (56 versus 44 percent). In the second period (1934-1950) the situation reversed, a greater proportion of migrants coming from the interior provinces than from the Pampa region (59 versus 41 percent).\(^\text{29}\) After 1934, migrants were less urban than before, an indicator that more came from villages and towns probably located at greater distance from Buenos Aires. In spite of coming from poor provinces, *provinciano* recruits were healthier in the second period. The share of *provincianos* physical unfit for service dropped from 22 percent in 1916-32 to 17 percent in 1934-50.

Regarding occupation the most important changes were an important fall in the percentage of students (from 25 to 9 percent), a rise in the proportion of skilled workers (from 21 to 58 percent), and a drop in the proportion of unskilled laborers (from 36 to 16 percent). The migrants of the second period were less educated than those of the earlier period, but had better job skills. In regard to the ability to ride a horse or drive a vehicle, there was almost no change between the first and the second period.

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**Table 2**

"*Bonaerenses*" vs. "*Provincianos*
(in percentages)

<table>
<thead>
<tr>
<th>Occupations</th>
<th>1916-1932 Born in BueAs and La Plata</th>
<th>1934-1950 Born in BueAs and La Plata</th>
<th>1934-1950 Born in the provinces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unskilled laborer</td>
<td>27.2</td>
<td>35.9</td>
<td>6.8</td>
</tr>
<tr>
<td>Skilled worker</td>
<td>29.9</td>
<td>21.3</td>
<td>36.2</td>
</tr>
<tr>
<td>Employee</td>
<td>22.9</td>
<td>14.5</td>
<td>23</td>
</tr>
<tr>
<td>Farmer</td>
<td>2.4</td>
<td>2.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Students &amp; professionals</td>
<td>14.5</td>
<td>24.9</td>
<td>29.8</td>
</tr>
<tr>
<td>Merchants &amp; propietors</td>
<td>3.1</td>
<td>1.3</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Average Height (cms)</strong></td>
<td>170.4</td>
<td>170.0</td>
<td>172.3</td>
</tr>
<tr>
<td><strong>Illiteracy (%)</strong></td>
<td>0.7</td>
<td>1.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

\(^{29}\) See Table A3, Appendix A.
There are two ways to understand these changes. One is to consider that, thanks to the lowering of transportation costs, the industrialization in the Conurbano attracted migrants from more distant and poorer provinces. The new migrants were less educated and probably transmitted to their children a lesser need for formal education. Another way is to consider that sons of migrants chose to accumulate job-skills rather than to acquire additional formal education. At a time when import-substituting industrialization created more opportunities for skilled workers, this seemed a rational choice to make.

**Regression Analysis**

The distribution of frequencies was quasi-normal, as could be seen in Graphs 1a and 1b. The data showed some degree of “heaping,” more pronounced in the second period, but this did not affect the quality of OLS estimates.
To control for sample composition biases, we performed regressions 1 and 2 (shown in Appendix B). Occupational dummies proved significant. In the first period (1916-1932), compared with unskilled laborers, clerical employees were 1.4 centimeters taller and students 2.6 centimeters taller. In the second period (1934-1950), the category “skilled worker” proved significantly different than unskilled laborers, though the difference was modest (0.75 cms). Compared to unskilled laborers, the height advantage of clerical employees (1.6 cms) and of students (3.1 cms) increased. Merchants and farmers, while taller than skilled workers, were not as tall as students. This confirms our view that family strategies concerning children’s schooling and family connections to ease the entry of sons into the white-collar jobs had an important effect on stature.

Dummies by district show more significant for the period 1916-1932 than for the following period. This might indicate a process of convergence of biological welfare among industrial districts during the period of import-substituting industrialization. Before 1932, the natives of La Plata, Morón and Quilmes were taller in average than those born in Avellaneda, La Matanza, Lomas de Zamora and San Martín—the difference ranged from 0.7 to 0.9 cms. The shortest recruits came from Vicente López, a district immediately north to the city of Buenos Aires (these recruits were 1.4 cms shorter than those born in La Plata or Quilmes). By 1934-1950, recruits coming from this district were among the tallest, together with those born in La Matanza. Apparently, the parallel processes of industrialization and urbanization brought about a spatial re-distribution of biological welfare that we need to examine more thoroughly.
As expected, migrants coming from the interior provinces were 1.4 to 1.5 centimeters shorter than average. This result was sustained in both periods, indicating that the changes in the nature or “quality” of this migratory workforce did not affect relative net-nutrition outcomes. We already mentioned that those variables representing “rural” and “modern” skills proved significant. During 1916-1932, recruits with rural skills (horse-riding) were in average 0.3 centimeters shorter while recruits with modern skills (car-driving) were 1 centimeters taller in average. In the following period (1934-1950), the disadvantage of “rural” skills was maintained but the advantage of “modern” skills disappeared, probably as a result of the widespread dissemination of this type of skills.

Illiteracy proved more significant during the first period: recruits who declared to be analfabetos were in average 1.7 centimeters shorter. In the second period, as this ability became widespread, the indicator produced a less reliable coefficient. The difference was still of the same order (illiterates were 1.9 centimeters shorter). Less expected was to find that the urban condition of recruits was not an important determinant of average heights. Probably, we need to disaggregate further the information into different types of cities. But it is clear that the Buenos Aires industrial belt presents a case in which the problem of “urban disamenities” is absent.\textsuperscript{30} Surprisingly, the health condition of recruits—as observed by military physicians—proved also not significant. This might be due to the fact that doctors classified as “unfit for service” not only those considered “constitutionally weak” but also others affected by a variety of health conditions.

**Main Results**

We present here the main results emerging from the estimates obtained by regression analysis. Table 3 and Graph 2 show the estimated trend. These results show that, after a recession in 1920-22, there was a long and sustained improvement of net nutrition in the Buenos Aires industrial belt up to 1938.\textsuperscript{31} Between 1938 and 1946 the average stature of recruits declined in absolute terms. The last two observations corresponding to the first Peronist administration (1948-1950) show that stature recovered rapidly to levels similar to those of 1938. From a long-run perspective, the process of industrialization was associated with an increase of 2 to 3 centimeters in average heights. These estimates present three novel findings. First, they emphasized the importance of welfare gains during the late 1920s and 1930s. Second, they show the limitations of “Peronist welfare,” presenting the growth in stature during this period as a recovery of a previous fall. Third, they point to WWII as an important deviation or rupture in the long-run trend of biological welfare.

\textsuperscript{30} This does not mean that recruits did not face problems of urban congestion, unsatisfactory sanitation, and other environmental risks. It only means that these conditions did not translate into a systematic and predictable way into net-nutrition.

\textsuperscript{31} Estimates for the Conurbano do not include the city of La Plata.
Table 3: Estimated Heights—Recruits born in “Conurban Buenos Aires”**

<table>
<thead>
<tr>
<th>Year of birth</th>
<th>Unskilled</th>
<th>Employee</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>1916</td>
<td>169,1</td>
<td>170,5</td>
<td>171,7</td>
</tr>
<tr>
<td>1918</td>
<td>169,3</td>
<td>170,7</td>
<td>171,9</td>
</tr>
<tr>
<td>1920</td>
<td>168,7</td>
<td>171</td>
<td>172,3</td>
</tr>
<tr>
<td>1922</td>
<td>169</td>
<td>170,3</td>
<td>171,6</td>
</tr>
<tr>
<td>1924</td>
<td>169,3</td>
<td>170,6</td>
<td>171,9</td>
</tr>
<tr>
<td>1926</td>
<td>169,4</td>
<td>170,7</td>
<td>172</td>
</tr>
<tr>
<td>1928</td>
<td>169,6</td>
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<td>172,2</td>
</tr>
<tr>
<td>1930</td>
<td>169,8</td>
<td>171,2</td>
<td>172,5</td>
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<td>1932</td>
<td>170,1</td>
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<td>172,8</td>
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<td>1934</td>
<td>170,5</td>
<td>172,1</td>
<td>173,6</td>
</tr>
<tr>
<td>1936</td>
<td>170,9</td>
<td>172,6</td>
<td>174</td>
</tr>
<tr>
<td>1938</td>
<td>171,5</td>
<td>173,2</td>
<td>174,6</td>
</tr>
<tr>
<td>1940</td>
<td>171,3</td>
<td>172,9</td>
<td>174,3</td>
</tr>
<tr>
<td>1942</td>
<td>170,8</td>
<td>172,4</td>
<td>173,8</td>
</tr>
<tr>
<td>1944</td>
<td>170,7</td>
<td>172,3</td>
<td>173,8</td>
</tr>
<tr>
<td>1946</td>
<td>170,1</td>
<td>171,7</td>
<td>173,1</td>
</tr>
<tr>
<td>1948</td>
<td>170,8</td>
<td>172,4</td>
<td>173,9</td>
</tr>
<tr>
<td>1950</td>
<td>171,2</td>
<td>173</td>
<td>174,5</td>
</tr>
</tbody>
</table>

Source: Predicted values of Regressions 1 and 2.
“Conurban Buenos Aires” includes Avellaneda, la Matanza, Lomas de Zamora, Morón, Quilmas, San Martín and Vicente López.

These estimates constitute an important departure from traditional interpretations of industrialization and working-class welfare in the 1930s and 1940s. Instead of a decline of welfare in the so-called “década infame” (1930-1943), our estimates indicate an important improvement in net nutrition in the 1930s followed by a significant fall in 1938-46. According to this evidence, nutrition and health conditions started to improve well into the first Peronist administration. The estimates for 1944 and 1946 (statistically significant) show an unambiguous fall in average stature during this period. In fact, the low point attained in 1946 refers to recruits born in this year. This cohort reached its third year of age in 1949. What does this say about the welfare of children during Peron’s first term?
In addition, these estimates reaffirm earlier findings about the negligible effect of the world economic depression of 1929-1932 on the welfare of Argentine children. Indeed, data for the industrial belt shows an uninterrupted growth in net nutrition from the early 1920s to 1938. This inference, previously drawn from samples taken in the city of Buenos Aires and in the Northwest, can now be extended to workers and residents of industrial districts in “Conurban” Buenos Aires and La Plata. The protectionism created by the world depression favored the development of national industry, the loss of agricultural exports being compensated by the expansion of employment and income in the industrial sector. (About the limited impact of the GD on Argentina see Díaz Alejandro… and Thorp…)

The results are also unambiguous in regard to the geographical distribution of biological welfare in industrial districts. All districts show long-term growth. Vicente López, La Matanza, Avellaneda and Lomas de Zamora gained between 3 and 3.9 centimeters between 1916 and 1950. San Martín and Quilmes gained 2.3 and 2.5 centimeters, while La Plata and Morón showed gains of 1.8-1.9 centimeters. The dispersion of average heights among districts tended to decline over time indicating the presence of regional convergence. Vicente López, which had the lowest average stature in 1916, became the district with the

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highest average stature in 1950. Conversely, La Plata, one of the highest in 1916 became one of the three districts with the lowest average stature in 1950.

Graph 3:
Stature by District--Conurban Buenos Aires (1934 and 1950)

*Skilled workers, urban, literate, non-migrant.

This process of regional convergence was a different type of “equality” than that claimed by Peronist supporters. Rather than the effect of the policies of a single administration, this convergence resulted from long-term improvements in sanitary conditions, from gains in real income and its distribution, from improvements in transportation that reduced spatial differences in food prices, and from massive demographic changes (internal migrations). Nonetheless, it was a form of equality that added to the overall improvement in standards of living.
Other two important results relate to the persistence of social inequality and to the relative condition of internal migrants residing in the Conurbano. Graph 4 depicts the long-run evolution of social inequality in net nutrition, measured by the difference between the stature of students and that of skilled workers. Whether the two groups represented distinct social classes or simply different outcomes of family decisions about children’s employment and education, the fact remains that this indicator of social inequality proved quite persistent over time. The data does not support the hypothesis of a long-run convergence among youngsters with different endowments of social and educational capital. In the short run, inequality seemed to have declined in certain periods (1926-1930 and 1932-36) and risen in others (1946-50). Surprisingly, the first Peronist administration witnessed an increase in social inequality. This period was more a “students’ paradise” than a “workers’ paradise.”

*Districts are ordered from left to right from shorter to taller in 1916.

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33 A different interpretation, more sympathetic with the Peronist administration, would be that the regime extended secondary education among the children of working-class families. So that this increase in social inequality was a reflection of a process of social mobility.
Internal migrants (provincianos), because they came from poorer provinces, were shorter in average from those born and raised in the industrial districts. The estimated differences were 1.5 centimeters in the first period (1916-1932) and 1.4 centimeters in the second period (1934-1950). The long-term variation is too small to indicate any trend.\(^{34}\) (The difference between bonaerenses and migrants from the Pampa region was also the same from one period to the other: 0.60 centimeters). In the short run, however, there were some changes. (See Graph 5) Compared with bonaerenses, provincial migrants showed a more pronounced and sustained fall in stature in the early 1920s (1920-1926), benefited less from the industrialization of the early 1930s (1930-1936), and suffered equally the negative effects of the 1939-46 period. In the Peronist years internal migrants increased their nutrition status as much as native residents of the industrial districts.

The differences depicted in Graph 5 are not easy to interpret. First, because a proportion of the recruits born in the industrial belt were sons of provincial migrants themselves. Second, because those born in the interior migrated (with their parents) at different ages. Those who migrated in their early infancy received two opportunities for catch-up growth, while those who migrated during puberty had only one chance for catch-up growth. The differences we

\(^{34}\) The reader must be aware that the estimated average of internal migrants results from a much lower number of cases than the average for bonaerense residents. The curve for the latter group appears much smoother than that of internal migrants, suggesting that this second set of data is more subject to sampling errors.
estimated then are the combination of distinct health and nutrition conditions at the province of origin and distinct experiences in family economic progress and employment opportunities at the place of destination (the Conurbano). Apparently, the difference between migrants and residents widened in periods of good “national” economic performance (such as 1920-1926 and 1932-1936). These were probably years when the relative worsening of living standards in the interior contributed to attract more migrants to the Buenos Aires industrial belt.\textsuperscript{35}

**Graph 5: Estimated Heights of “Provincianos” and “Bonaerenses” 1916-1950**

(includes all occupations)

Weights by occupation: unskilled laborer (0.18), skilled worker (0.35), employee (0.23), farmer (0.02), and student (0.22).

When only workers are included (unskilled, skilled and white collars), the net nutrition of provincianos seems more volatile. There is increasing inequality (due to fall in the heights of internal migrants) in the post-war crisis: 1918-1922. There is a process of catch-up from 1922 to 1930. Then another important fall in the stature of internal migrants between 1930

\textsuperscript{35} We cannot explain at this point the anomaly of 1938 (a sudden increase in the stature of internal migrants). If the observation of 1938 is excluded, the curve representing the stature of provincianos would should a plateau in the period 1930-1944 more in tune with the idea of stagnation of living standards during the década infame.
and 1936 that worsens inequality. And finally two important falls in stature (more severe than for residents of the Conurbano): one in 1938-40; the other in 1944-46.

The information about heights can also be used to estimate a proxy for the rate of malnutrition. Subtracting one standard deviation (6.1 cms) to the estimated average heights for the Conurbano (171.4 cms), we calculated a benchmark for malnutrition: 165.3 centimeters. The annual rates of malnutrition estimated with this fix benchmark are reported in Table 4 and Graph 6. This indicator shows that important improvements in the biological wellbeing of the very poor (except for the exceptional year of 1920) were not reached until the 1930s. The period of the Great Depression (1930-34)—which in Argentina coincided with a robust process of industrialization—presents the most important single fall in the estimated rate of malnutrition. The reason for this is quite simple: the fall in the internal cost of food (due to the nearly stop in the exportation of food staples) was so significant that it increased the number of calories available for poor families.

Declining rates of malnutrition continued through 1938, after which the rate went back up until 1942, then fell in 1944, raised again in 1946, and fell again in the last years of the first Peronist administration. Clearly, the reduction of malnutrition appears more impressive in the 1930s than in the Peronist years. The best year in this regard was 1938 and not 1948 or 1950. Whether one considers the Conurbano with or without internal migrants, the result is the same: the estimated rate of malnutrition for the year 1950 was similar to the rates already attained in the period 1934-36.
Graph 6: Estimated Malnutrition Rate 1916-1950
(calculated with fixed benchmark)

*The whole sample includes provincial migrants.

Seeking Explanations

Let us summarize our findings. All districts of the industrial belt experienced significant gains in stature. Most of this growth was achieved before 1938; after that year a fall in stature followed until 1946. The fall in stature in the industrial belt during WWII appears as an important finding that needs to be explained. The Peronist years showed a recovery of stature growth, but only to match levels of biological wellbeing already attained in the 1930s. The most important gains in the reduction of malnutrition coincided with the years 1932-1938, a period of intense import-substituting industrialization. Within the industrial districts a process of convergence seemed to have taken place over the long-run. Biological wellbeing was more equally distributed across districts in 1950 than in 1916. Social differences, as reflected by the information on heights by occupation, were maintained over time: students were 2 to 2.5 cms taller than skilled workers. Internal migrants were shorter in average than natives of the industrial districts and this difference did not seem to converge.
Three of these findings are quite revisionists and, consequently, should be examined more carefully. One says that the Peronist experiment in workers’ rights and income redistribution was not so effective in terms of net nutrition as previously thought; that the late 1920s and first eight years of the 1930s were far more important in improving the welfare of children. Another finding that contrasts with the literature suggests that social and regional inequality in net nutrition did not decrease over time. Despite progressive and nation-wide sanitary and food policies, students continued to be taller than skilled workers and internal migrants continued to be shorter than recruits born in the Buenos Aires Conurbano. A third finding relates to the quite persistent fall in stature during the period 1939-45, a phenomenon not detected in our estimates for the capital city.

How do we interpret and explain these atypical findings? Let us examine first the relative biological wellbeing of the 1930s against the Peronist years. One could argue that Peronist welfare and redistributed policies tended to benefit organized labor and particularly skilled adult workers. That, in spite of the attempt to regulate food prices, Perón was unable or unwilling to uproot poverty and malnutrition among the population with the lowest incomes. This interpretation would be consistent with a widespread vision of the “Nueva Argentina”, one that sustains that an important social progress was to provide public goods (among them, education) to the sons of the working-class. In this regard, one could argue that Peronist progress went along with upward social mobility. That many of those recruits classified as students in 1963-1968 (born in the years 1945-1950) were sons of workers who had been able to attend secondary school, thanks to the welfare policies of Peronism.

The second finding is perhaps less revisionist and more easy to integrate into existing explanations of Argentine socio-economic growth. The persistence of inequality in regional and social terms is not inconsistency with the existence of upward social mobility. If an internal migrant could elevate his position in life by migrating to the industrial belt, and his sons attained greater incomes via an increase in schooling or through an accumulation of skills learned on the job, then there was inter-generational and life-cycle social mobility. But this by itself could not reduce regional or social inequalities, at least not in this time span.

If internal migrations continued and actually intensified beyond our period it was because differences in sanitary conditions and income did not converge sufficiently to make people stay in their provinces of origin. Or, put in other words, that the job-creating engine of the Conurbano concentrated workforce from the interior without giving in return a proportional spatial re-distribution of income and wealth. Similarly, if internal migrants could improve the nutrition and health of their children by the educational opportunities and the job skills offered in the industrial belt, it is clear that the supply of skills and secondary education did not increase sufficiently as to reduce the net-nutrition premium to students and skilled workers.

**Question 1: Rising Stature in the period 1922-1938**

Available statistics on income, wages and employment during this period do not present a long period of un-interrupted growth in wellbeing. Real wages rose in the postwar period, reaching a peak in 1928. Afterward, they declined during the first two years of the
depression (1929-1930), recovering later as a consequence of price deflation. Yet still in 1932 they were 4 percent lower than in 1929. Between 1924 and 1928, as real wages grew faster than per-capita income, there is the presumption that income was re-distributed in favor of waged workers. (Cortés Conde 2005: 63, 65, and 118) During the 1930s, nominal wages continued growing, stimulated by the more intense demand from industry and the stop in international migrations. Price stability was a given during this decade, to the extent that many commentators judged food prices to be low in comparison with other nations. The real wage index for Capital Federal went from 113 in 1920-24 to 143 in 1935-39 while industrial workers reduced their weekly work hours from 49.5 to 45.3. (Díaz Alejandro 1975: 54)

By contrast, average stature in the industrial belt rose un-interrupted by the depression. It is possible that, during this period, working-class families learned to substitute more expensive foods (meat) for less expensive products (rice, potatoes), preserving or enhancing the number of calories consumed. Or that, with a modestly increased real wages, families were able to withdraw their younger members from the labor market, allowing them more calories for body growth. It is also likely that an improvement in the distribution of income (to be explained)... combined with the allocation of food among poor children (through the school system) reduced the overall inequality in the distribution of nutrients. The dramatic fall in the estimated rate of malnutrition between 1922 and 1934 seems to work in this direction.

**Question 2: Declining Stature in the period 1938-1946**

For this period, the tension between income and wages indicators and average heights is greater. During the war period (1939-44) the economy grew at a rate of 3.6 percent per year, only experiencing a recession in 1945. The scarcity of imports facilitated the development of national industry which, aided also by credit facilities and new markets in Latin America. (Gerchunoff and Llach 2005: 158-159) Traditionally, this period is generally described as one in which real wages kept pace with inflation while infant mortality was declining. What could have occurred to produce such sustained fall in stature?

First, we need to address the relationship between internal migrations and stature. Is it possible that a massive and concentrated migration from provincianos generated a downward pressure on heights in the Conurbano? Under what conditions is this relationship possible? First, it is necessary that internal migrants arrived at the Conurbano in the period 1937-1943 so that their first and second children, born at the cities of destination, constituted a large part of the recruit cohorts of 1939-1945. We need here nothing short of a provinciano “baby boom” in the Buenos Aires industrial belt. Second, it is necessary that internal migrants (shorter than locals) preferred to marry partners also from the interior, so that their children result shorter than those begot by bonaerense couples. If Germani’s estimates are right (internal migrations became massive starting in 1936), the first condition was met. The second condition is difficult to test, for we lack information about the rates of fertility of migrants compared with residents. (??) But, why did this “inheritance effect” did not prolong itself into the next period (1946-50)? Did provincianos changed marriage strategies (marring more into local families)? Or did the wage increases and greater
educational opportunities provided by Peronism more than compensate for this “inheritance effect”? Unfortunately, with the available evidence, we cannot answer these crucial questions.

During the war, internal prices rose significantly. In Buenos Aires province, the cost of living increased 38 percent (1939-45), the prices of food rose 33 percent, while housing costs increased by 35 percent. (“Nivel de vida de la familia obrera”, 1945) The impact of inflation was unevenly distributed across the national territory, some provinces (such as Córdoba and Catamarca) reaching 50-51 percent, while others suffered more moderate price increases. Nominal wages increased also. In average the increases tended to match, with some lag, the rise in prices. So that in average, real wages did not change much. However, it is possible that the dispersion of wages made increased income inequalities among workers. This theme required further investigation.

Rates of infant mortality show that during this period nothing particularly different occurred. Rates continued to fall, though at a smaller pace, both in the capital and in the industrial belt. There is some indication that, for some years, infant mortality caused by diarrhea was abnormally high. But in general, there are no good reasons to attribute the fall in stature to a public health crisis. We have some indication that with the acceleration of industrialization in the 1930s the demand for child labor was on the rise. But why did this factor impact only starting in 1939?

**Question 3: the best Peronist years (1946-50)**

There is consensus that the redistributive policies of Peronism were quite effective during the years 1946-49. Real wages were in 1949 62 percent higher than in 1945. In spite of a business slowdown in 1949-50, real wages continued to grow, declining only in the following years. (Gerchunoff 1989: 62-63) Our evidence in stature is consistent with the traditional wisdom. But the estimated level of average stature for 1950 is similar or lower to that attained in 1938. This result is quite robust. Explaining this result entails certain difficulties. One could assume that the benefit of Peronist social policies concentrated on the formal labor force, leaving aside informal workers. In a context of rising inflation, workers not affiliated with unions might have suffered more. Consequently, the rise in real wages did improve the standard of living of an important sector of the industrial workforce, but not of all. It is possible that the war years (1939-45) saw an increased participation of children in the workforce, reducing the amount of nutrients available for physical growth. In this regard, the best Peronist years might have entailed a recovery to an early situation in the control of child labor—once the bureaucracy of the Department of Labor caught up supervising the new factories of the Conurbano.

In short, we are inclined to see the rise of stature in the 1920s and 1930s as the result of growing real wages and the decline of child labor, in an environment of lesser risk of disease for infants. The fall of average heights in the 1938-46 period had little to do with disease. Rising prices eroding the budgets of the lower categories of waged workers is one possible reason for this fall. But we need to look further into the enforcement of child
labor regulations and the rational of migrant families with regard to education and child labor.

REFERENCES


