

Regional Growth and the Persistence of Regional Income Inequality in Argentina in the First Half of the Twentieth Century

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Appendix

Wages of Skilled Workers

We used the data in the *Boletín (Bulletin)* of the Departamento Nacional de Trabajo (National Department of Labour, DNT).¹ In order to impute wages to occupational categories where no information was provided we classified the categories in four groups. Group 1 has the lowest skills requirement; the most typical categories are *jornaleros*, *peones*, *vendedores ambulantes*, *domésticos* and *camareros* (day labourers, labourers, street vendors, domestic servants and waiters); the most typical categories in Group 2 are *albañil*, *carpintero*, *costurera* and *herrero* (building workers, carpenter, seamstress and blacksmith); Group 3 includes categories like *mecánicos*, *electricistas* and *sastres* (mechanics, electricians and tailors); Group 4 includes categories like *abogados*, *médicos* and *arquitectos* (lawyers, medical practitioners and architects).² The wages assigned to categories without information in the three first groups were the weighted average wage of the categories with information in each group. For instance, all the workers in categories without information in Group 1 (e.g. in Buenos Aires: *camareros*, *mucamos*, *limpiadores* – waiters, footmen, cleaners) are imputed the weighted average wage of all the categories with information in that group (e.g. in Buenos Aires: *jornaleros*, *peones*, *serenos*, *estibadores* – day labourers, labourers, night watchmen, longshoremen).

Given that we did not have any data for categories in Group 4 for 1914, we used three sets of information to estimate the relative wages of workers with the highest qualification *vis-à-vis* wages in occupational categories included in Group 2. The first is based on data from a

¹ Departamento Nacional del Trabajo (DNT), *Boletín del Departamento Nacional del Trabajo*, no. 25 (Buenos Aires: DNT, 1913), pp. 1084–93.

² The complete list of categories in each group is available on request.

Memoria descriptiva de la provincia de Salta (Descriptive Account of the Province of Salta) for 1889 with quotations of wages of accountants, lawyers and physicians in Salta in that year.³ The second is the *Anuario Estadístico de la Provincia de Tucumán (Statistical Yearbook of the Province of Tucumán)* for 1895, with quotations of wages of accountants in Tucumán in that year.⁴ The monthly wage of a lawyer in Tucumán in 1895 was AR\$400. In Salta in 1889 physicians earned AR\$100, accountants AR\$125 and lawyers AR\$150. So, lawyers earned 20 per cent more than accountants and physicians earned 20 per cent less. Assuming the same relative wages in the two provinces, in Tucumán in 1895 a physician earned AR\$320 and a lawyer AR\$480. In Tucumán there were 76 lawyers, 19 accountants and 60 physicians. So the weighted average of these three categories is AR\$408.25. In 1895 monthly wages of the main categories in Group 2 were AR\$103.5 for carpenters and AR\$98 for blacksmiths and there were 1461 carpenters and 343 blacksmiths, so the weighted average is AR\$102.45. All this would imply that workers in Group 4 earned four times more than those in Group 2. The third set of information is a report in the *Crónica Mensual del Departamento Nacional del Trabajo (Monthly Chronicle of the National Labour Department)* for 1922 with information about the wages of workers and employees in tramway, telephone, telegraph, gas and electricity companies in the country.⁵ With this data, we calculated the weighted averages of the wages of occupations in Group 4 (lawyers, accountants and physicians) and in Group 2 (blacksmiths, building workers and carpenters). In total, there were more than 108 cases. The weighted average of the monthly wages of workers in Group 2 was AR\$144.7 while the weighted average wage in Group 4 was AR\$637.0; the ratio between them was 4.40. Accordingly, we assumed that Group 4 had an average wage four times higher than the average wage in Group 2. Given that the share of workers in Group 4 was low (less than 3 per cent over all the provinces), even relatively large changes in this assumption do not result in significant modifications to our results.

³ Miguel Solá, *Memoria descriptiva de la provincia de Salta* (Buenos Aires: Impresiones Mariano Moreno, 1889), p. 222.

⁴ Provincia de Tucumán, *Anuario Estadístico de la Provincia de Tucumán, 1895*, Vol. 2 (Buenos Aires: Compañía SudAmericana de Billetes de Banco, 1896), pp. 607–9.

⁵ Departamento Nacional del Trabajo, *Crónica Mensual del Departamento Nacional del Trabajo*, 54, June 1922.

For La Rioja, none of the categories included in Group 3 of skills was covered by our sources, so we used the weighted average of Group 3 in Catamarca (AR\$4.5).

Board and Lodging

Occasionally, the sources mention that some workers, in addition to the monetary wage, received board and/or lodging. In these cases, the monetary value of the board or lodging was added to the monetary wage in order to arrive at the full wage. The methodology for adjusting the monetary wage was as follows: estimations of the average share of food in household expenditure for working-class families between 1907 and 1912 in Buenos Aires was 54.8 per cent, and the average number of children in those families was 2.51.⁶ Using the adult-equivalent table provided by the Instituto Nacional de Estadística y Censo de la República Argentina (National Institute of Statistics and Census of the Argentine Republic, INDEC),⁷ we assumed that each child was equivalent to 0.7 of an adult man and an adult woman to 0.74. This implies that a family with two children had 3.14 equivalent adults, giving a share of food consumption for each equivalent adult of $54.80/3.14 = 17.45$ per cent. The share of expenditure for lodging was 22.47 per cent; following the same criteria gives a share of expenditure for an adult equivalent of 7.15 per cent. Since it was not clear whether the quotations mentioning board referred to all the meals in a day or just a subset, we assumed that if a worker received board, this implied a wage increase of 14 per cent; if she/he received board **and** lodging, this implied a wage increase of 20 per cent.

Wages in Patagonia

The 1907 DNT *Boletín* reported on the wages of *peones* in the districts of La Pampa, Río Negro, Santa Cruz, Chubut and Tierra del Fuego (Table A.1.)⁸ Based on this information, we assumed

⁶ María Florencia Correa Deza and Esteban Nicolini, 'Consumption Patterns of Workers' Families in Argentina between 1907 and 1935', Unpublished Mimeo, Universidad Nacional de Tucumán, 2014.

⁷ INDEC, 'Valorización mensual de la canasta básica alimentaria y de la canasta básica total. Aglomerado Gran Buenos Aires, Abril de 2004', press release ISSN 0327-7968, 7 May 2004, available at https://www.indec.gob.ar/ftp/indecinforma/nuevaweb/cuadros/74/canasta_04_04.pdf, last access 26 Sept. 2019.

⁸ DNT, *Boletín del Departamento Nacional del Trabajo* (Buenos Aires: DNT, 1907), p. 369.

that wages in each occupational category in each of the four provinces in Table A.1 (excluding La Pampa) were a proportion of wages in that category in La Pampa. For instance, each occupational category in Santa Cruz is assumed to have a wage rate 20 per cent higher than the wage in that category in La Pampa.

Given that Neuquén was not in the DNT report and that there is no other information available about wages in that province, we assumed that, through geographic proximity, wages there were similar to those in Río Negro (see Map A.1).

Other Methodological Assumptions

Adjustment of wage and price levels. We transformed 1912 rates⁹ to 1914 values using the price index in the article by DNT economist Alejandro Bunge.¹⁰

Conversion of daily to monthly wages. Although most of the wage rates in our sources were daily, some were monthly; for the conversion to daily rates, we assumed that there were 25 working days per month.¹¹

Entrepreneurial profits. In the census, the names of some occupational categories (*comerciantes, industriales, hacendados, agricultores* – merchants, manufacturers, yeomen, farmers, etc.)¹² suggest that their income was not generated by actual labour, but that it was more like an entrepreneurial profit linked to the administration of capital or land. The individuals included in these categories total 624,702. In these cases, we assumed that their income had already

⁹ DNT, *Boletín* (1912), pp. 1084–94, as used in the main text.

¹⁰ Inflation was quite mild until 1914 and increased substantially afterwards. Alejandro Bunge, ‘Costo de la vida en Argentina entre 1910 y 1917’, *Revista de Economía Argentina*, 1: 1 (1918), pp. 39–63.

¹¹ If the working day lasted for nine hours we arrive at a monthly total of 2,700 hours (25*12*9), which is the figure for England between c. 1870 and 1910. See Hans-Joachim Voth, ‘Time and Work in Eighteenth-Century London’, *The Journal of Economic History*, 58: 1 (1998), pp. 29–58.

¹² República Argentina, *Tercer Censo Nacional de la República Argentina*, Vol. 4: *Población* (Buenos Aires: Rosso, 1916), pp. 200–397.

been taken into account in the calculation of returns to capital, land and livestock, and therefore we set their income from labour equal to zero.¹³

Active vs. non-active population. After excluding the 624,702 ‘entrepreneurs’, the proportion of individuals within the active population for whom we had direct information about wages in the sources was 65.25 per cent.

Table A.1: *Wages in Patagonia*

	La Pampa	Río Negro	Santa Cruz	Chubut	Tierra del Fuego
Monthly wages according to DNT, <i>Boletín</i> (1907) ^a	50	50	60	40	45
Full daily wage ^b	2.4	2.4	2.88	1.92	2.16
Relative wage to La Pampa	1	1	1.2	0.8	0.9
Notes: ^a In all cases board and lodging are included in the monetary wage. ^b The full daily wage is calculated assuming that board and lodging are equivalent to 20 per cent of the monetary wage and that there are 25 working days in a month (see above).					

¹³ We carried out a further estimation of GDP under the assumption that these categories had some labour income, as in the case of other categories. This exercise naturally resulted in an increase in levels of income per capita in every province (the national average increased by 17 per cent), but the relative positions of the provinces and the main qualitative results of the paper remained almost unchanged. The results of this estimation are available upon request.

Map A.1: Political Division of Argentina, 1914

Source: *Tercer Censo Nacional de la República Argentina*, Vol. 1: *Antecedentes y Comentarios* (Buenos Aires: Rosso, 1916), p. 109. Original caption: Population Density.

