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**“Purchasing Power Parities in Latin America, ca 1890-1940”**

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(Preliminary version, please do not quote)

*Abstract*

The paper presents a new set of purchasing power adjusted exchange rates and purchasing power adjusted per capita GDP and real wages for a group of five Latin American countries (Argentina, Brazil, Chile, Colombia and Uruguay). The PPP estimates are based on consumption baskets in two benchmark years: around the turn of the century and the interwar years.

The results obtained using different available GDP estimates and wages at current prices are compared to the commonly used international comparisons provided by the Maddison dataset at 1990 international Geary-Khamis dollars in the case of per capita GDP, and with the Williamson database for wages.

## **1. Introduction**

International comparisons of pre-1950 per capita GDP levels are mainly based on Angus Maddison's database. This database is expressed in 1990 international Geary-Khamis dollars. This means that in order to obtain relative per capita GDP levels, we use a retropolation of the 1990 relative levels by the growth rate of per capita GDP at constant prices of each country. Besides the well-known Maddison database a new set of estimates for the Latin American countries, based on Maddison's 1990 benchmarks, but using other GDP series, is found in Bértola and Ocampo (2010).

The risks of using this procedure are obvious and are mainly dependent on changes in relative prices within countries and between countries. The problems arising from this procedure are added to the quality of GDP per capita estimates, particularly in earlier times, in the different countries, thus making historical comparisons risky.

The purpose of this paper is to make a first attempt to test the changes in relative per capita GDP and real wage levels that arise by using different purchasing power parities prior to World War I and for the inter-war period. The PPP estimates presented in this paper are so far limited to a consumption basket, which is not the consumption basket of any particular country, but the one that Jeffrey Williamson (1995) used to construct his real wage database. This consumption basket is adapted from country to country according to the special diet, but trying to keep a similar structure of intakes of calories, proteins, carbohydrates and fat.

Section 2 presents the PPP estimates. Section 3 discusses the results of adjusting real wages by the PPP estimates and the comparison with Williamson's results. Section 4 presents the obtained benchmark GDP estimates by the combination of our PPP and different available per capita GDP figures at current prices in pre World War I and in the inter-war years. In this section also the results are compared to those arising from the Maddison database and to those arising from the more recent estimates by Bértola and Ocampo (2010). Section 4 concludes. The Statistical Appendix presents data and information on the methodology used.

## **2. Purchasing power parities**

A proper PPP estimate should take into consideration a set of the different prices representative of the different sectors of an economy. In order to do that, what we need to know, among other things, is the structure of quantities and prices of the domestic economies of the benchmark years.

Most available Latin American GDP estimates do not present this detailed information. Quite on the contrary, in most cases we have series based on volume indices and good decomposition of production within a national account system are almost completely lacking.

While such a research project is worth to undertake, what we will attempt here is a shortcut limited to the production of consumer goods. A comprehensive estimate is not completely out of reach, but is not feasible within the limits of this work. What we are presenting here is an estimate based on the purchasing power parity that arises by

combining the nominal exchange rate with the domestic cost of a basic consumer basket.

Our methodology for constructing purchasing power parities (PPP) relies mostly on Bértola *et al* 1999 & 1998 and Williamson 1995. In addition we propose new information for Brazil, Colombia and Chile. We estimate purchasing power parity (PPP) convertors at two points in time, the same as the papers referred, that is, 1905 as representative for the period 1870-1913 and 1927 for the interwar period (1914-1940). The idea is to consider United Kingdom as the reference country, and compare each country in terms of an equivalent consumption basket.

For some countries, such as Argentina (1914, 1938), Uruguay (1914, 1927), Brazil (1892) and United Kingdom (1905, 1927) we basically reproduce the estimations of Bértola *et al* (1999), which some are based on Williamson (1995). In addition, we provide new information for Chile (1902, 1938), Brazil (1938) and Colombia (1938). The data for United States is from Williamson (1995).

We work with consumer baskets which include the principal food items and housing, two of the main groups of the expenditure family budget. The information about the structure of the “equivalent consumption basket” is taken from Bértola *et al* (1999). The points selected were the ones closer to the British prices of 1905 and 1927. Bértola *et al* (1999) took the consumption basket of Uruguay as the base, and then constructed similar baskets for United Kingdom and Argentina. Then, through the British basket they elaborate one for Brazil (1892). An important point of these baskets is that they try to be equivalent in terms of the content of food in terms of calories, proteins, fat and carbohydrates. The consumption structure of Argentina (1914), Uruguay (1914) and United Kingdom (1905) are not so different in terms of products, but some conversions were necessary to equilibrate the consumption of different types of meat. The detailed structure of the basket and the sources used are presented in the statistical appendix.

Compared to the “bare bones subsistence basket” of a family of two adults and two children calculated by Allen (2001), our basket is much “rich” in terms of calories. Our basket includes more food items and provides, on average, little less than 3.000.000 calories per year, the double of the bare bones subsistence basket which yields 1.455.750 per year. Nevertheless, Allen (2001) uses a basket of goods that correspond to a “poverty line” to build a price index for Europe from the middle ages to the First World War, and seems to be a very much a premodern basket<sup>1</sup>, while our basket is based on some societies which have already reached income levels much higher than subsistence ones.

Housing is an important component of the consumer baskets but a complex item to compare among countries, because of possible differences in the quality and size of the houses we are comparing. We use two methods to estimate rents, which yields different results. On the one hand, we consider direct information based on rates for three-rooms houses. On the other hand we include an indirect estimation based on the budget share of rents in relation to food considering the average distribution of household expenditure. We prefer the first method, as it really tries to compare the price of a

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<sup>1</sup> Allen (2001).

similar item in different countries, while the rent share may blur differences in the living standards of the population and reflect differences in relative prices between countries.

As shown in Table 1, housing shares are different when using these two procedures for all the cases, except from Great Britain 1927 where the results are quite similar. Panel 1 presents the budget shares when using the information of the rent of three rooms, and panel 2 displays the results where the rent share is drawn from budget data.

**Table 1. Budget shares: food and housing**

1) MEASURE BASED ON THE RENT OF THREE ROOMS							
<b>Budget shares: food and housing 1890-1913s</b>							
	ARG 1914	BR 1892	CH 1902	COL	UY 1914	GB1 1905	
Food		0.53	0.90	0.77		0.54	0.89
Housing		0.47	0.10	0.23		0.46	0.11
Total		1.00	1.00	1.00		1.00	1.00
<b>Budget shares: food and housing, 1914-1940s</b>							
	ARG 1938	BR 1937	CH 1938	COL 1938	UY 1927	GB 1927	
Food		0.36			0.76	0.46	0.77
Housing		0.64			0.24	0.54	0.23
Total		1.00			1.00	1.00	1.00
2) INDIRECT MEASURE OF HOUSING							
<b>Budget shares: food and housing 1890-1913s</b>							
	ARG 1914	BR 1892	CH 1902	COL	UY 1914	GB1 1905	
Food		0.72		0.84		0.79	0.72
Housing		0.28		0.16		0.21	0.28
Total		1.00		1.00		1.00	1.00
<b>Budget shares: food and housing, 1914-1940s</b>							
	ARG 1938	BR 1937	CH 1938	COL 1938	UY 1927	GB 1927	
Food		0.75	0.69	0.69	0.79	0.77	0.76
Housing		0.25	0.31	0.31	0.21	0.23	0.24
Total		1.00	1.00	1.00	1.00	1.00	1.00

Sources: See Appendix

These two procedures determined two sets of PPP indexes, where PPP1 uses information of rent for three-rooms and PPP2 is based on the relative budget share of housing in relation to food. Comparing both results, (Table 2), we observe that by applying the second procedure we obtain lower PPP levels, and therefore, lower cost of living -in relation to Great Britain-, with the only exception of Colombia (1938). These results may call our attention to the necessity of obtaining more accurate information about the quality of housing we are comparing and the impact on the expenditure budget. However, up to now, we believe that using prices of three rooms is a better approximation to the concept of “equivalent housing”, so we will keep on using PPP1 to adjust real wages and GDP per capita.

Table 2 presents the PPP exchanges rates compared to the nominal exchange rates and to previous available estimates. Our new estimates show, as expected, similar results as those of Bértola, Camou and Porcile (1999). The methodology and sources are quite similar and differences depend on minor adjustments. The only important difference

arises in Uruguay 1914 because we correct the figures for housing. Compared to similar and previous estimates by Williamson, our new results show higher PPP values for Argentina 1914 and 1938, but lower for Brazil 1937. The differences are not negligible. For these cases the differences between our estimates and those of Williamson (1995) are mainly due, as mentioned by Bértola, Camou and Porcile, 1999, by the fact that Williamson did not have real PPP estimates, but used the relative per capita GDP then available from Maddison estimates.

**Table 2. Purchasing power parities, ca 1890-1940**

	PPPs 1890-1913				Nominal exchange rate: local currency per pound	PPP1/NER	PPP2/NER
	BCP (1999)	W (1995)	BR (2010) (PPP1)	BR (2011) (PPP2)			
Argentina 1914	16.90	14.84	16.81	9.91	11.45	1.47	0.87
Brasil 1892	61.00		60.84		20.10	3.03	
Colombia							
Chile 1902			14.88	11.08	15.45	0.96	0.72
Uruguay 1914	7.3		8.60	4.73	4.70	1.83	1.01
United States 1909		6.48	6.48		4.86	1.33	
United Kingdom 1905	1.00	1.00	1.00		1.00		
PPPs 1914-1940							
	PPPs 1914-1940				Nominal exchange rate: local currency per pound	PPP1/NER	PPP2/NER
	BCP (1999)	W (1995)	BR (2010) (PPP1)	BR (2011) (PPP2)			
Argentina 1938	11.19	9.27	11.20	5.28	4.70	2.38	1.12
Brasil 1937		42.29		33.30	57.30		0.58
Colombia 1938			4.52	7.51	8.19	0.55	0.92
Chile 1938			72.89	71.57	132.56	0.55	0.54
Uruguay 1927	4.97		4.97	4.73	4.70	1.06	1.01
United States 1927		7.57	7.57		4.86	1.56	
United Kingdom 1927	1.00	1.00	1.00		1.00		

BCP (1999): Bértola, Camou & Porcile (1999)

W (1995): Williamson (1995)

BR (2010): Bértola & Román (2010)

BR (2011): Bértola & Román (2011)

Sources: See Appendix

The important differences obtained between the PPP and the nominal exchange rates clearly speak in favour of the need of estimating PPP exchange rates and are a warning about the biased results that can be obtained if nominal exchange rates are used. Only in Chile 1902 and Uruguay 1927 the difference between the PPP and the nominal exchange rate is negligible.

If the relation between the PPP and the nominal exchange rates is above unity, it means that the cost of living is relatively higher in the Latin American countries than in the UK, and the other way round. The results show that in most cases, the Latin American cost of living was higher than the British, excepting for Brazil, Colombia and Chile during the interwar years.

As shown in Table 1, the housing shares –based on the prices of three rooms- that we used for constructing the PPP are the decisive item explaining this higher Latin American cost of living. While the food basket used to be cheaper in Latin America, housing was extremely expensive in the Latin American cities. More research is needed in order to better understand if there exist important differences in the quality of housing we are comparing.

Another possible bias in our estimates is the fact that our prices are mainly urban, and particularly the price of housing. The fact that still the main part of the population lived in rural areas, particularly in countries like Colombia and Chile, may lead to different results.

### 3. PPP adjusted real wages

Table 3 shows the results of applying the different PPP estimates to the available nominal wage data and the comparison with previously available estimates.

We used the urban wages for unskilled labour in the building sector, with very few exceptions. Data for different categories of wage earners is shown for some countries. Our purpose, following Williamson (1995) is to compare the PPP real wage of the unskilled building worker, a comparable category across countries. As already mentioned, our results are very similar to those obtained by Bértola, Camou and Porcile. In relation to previous results by Williamson we obtain higher relative figures for Brazil.

**Table 3. PPP real wages, ca 1890-1940**

Benchmark 1890-1913			
	<b>BCP (1999)</b>	<b>PPP real wages W (1995)</b>	<b>B&amp;R(2010)</b>
Argentina 1914	78.6	89.24	78.79
Brazil 1892	26.0		26.33
Chile 1902 (nominal wage 1902 Eyzaguirre y Errázurez)			75.74
Chile 1902 (nominal wage 1905, Matus 2009)			44.26
Uruguay 1914	77.2		65.34
United States 1909		171.6	171.58
United Kingdom 1905		100	100
Benchmark 1914-1940			
	<b>BCP (1999)</b>	<b>PPP real wages W (1995)</b>	<b>B&amp;R(2010)</b>
Argentina 1938	80.4	100.4	80.37
Brazil 1937 (*)		36.7	45.04
Colombia 1938 (ILO)			27.49
Colombia 1938 (López-Oribe 2010)			55.76
Chile 1938 (*)			29.94
Uruguay 1927	64.6		66.16
United States 1927		165.9	165.9
United Kingdom 1927		100	100

Sources: See appendix

(\*) For Brazil (1937) and Chile (1938) we used PPP2 based on the rent share instead of the price of three rooms.

On Table 4, we can find the PPP real wages relative to Great Britain, in 1905 and in 1927. The Chilean case stands out showing very low figures. We need more research in order to test whether we are really considering the right kind of wages to be compared with those of other countries.

Our further research will try to find comparable categories of skilled workers, in order to see whether differences in PPP real wages differ between different skill groups. We hope that ongoing research can shed light on whether these benchmarks are reasonable or whether they have to be further improved, both in terms of the consumption basket and the nominal wages.

**Table 4. PPP real wage relative to UK in 1905 and 1927**

<b>GB 1905=100</b>	<b>B&amp;R2010</b>	<b>GB 1927=100</b>	<b>B&amp;R2010</b>
Argentina	83.1	Argentina	79.7
Brasil	40.5	Brasil (*)	45.0
Colombia		Colombia (with nominal wage ILO)	50.4
Chile (with nominal wage Eyzaguirre y Errázurez 1903)	80.9	Colombia (with nominal wage López-Oribe)	102.2
Chile (with nominal wage Matus 2009)	44.3	Chile (*)	29.9
Uruguay	67.0	Uruguay	66.2
United Kingdom	100.0	United Kingdom	100.0

Sources: See appendix

(\*) For Brazil (1937) and Chile (1938) we used PPP2 based on the rent share instead of the price of three rooms.

#### 4. PPP per capita GDP

Table 5 shows the results of applying the different PPP estimates to the available per capita GDP estimates at current prices and the comparison with previously available estimates. Then we compared our results across countries and with other estimates of GDP per capita PPP and real wages PPP. Also, we calculate GDP per capita relative ratios, taking GB as the country reference, and compared them to Bértola & Ocampo (2010) and Maddison (2003) figures.

We do not find any systematic change in our results with respect to the previously available. In some cases we obtain lower positions of the Latin American countries in relation to Britain, as compared to Maddison and Bértola and Ocampo (2010). This is particularly the case with Brazil in 1892 and with Chile in 1938. Otherwise, our results show slightly higher Latin American relative positions, especially Uruguay 1914 and 1927, Argentina 1938 and Brazil in 1937. In some cases we do not find any significant difference.

However, given the fact that both the strategy applied to obtain these benchmarks and the sources of information used are so different as compared to Maddison (2003) and Bértola and Ocampo (2010), the differences obtained through the different estimates are, with some exceptions, remarkably small. These are really good news, as the results seem to say that the figures we are working with are relatively reliable.

Our further work will try to focus on the possibilities to improve the construction of the PPPs, and will also be dependent on the improvement of the GDP estimates themselves. With reference to PPP exchange rates, we need to get prices for other sectors of activity and to get accurate GDP estimates in order to correctly weight the different prices.

**Table 5: PPP per capita GDP levels.**

Benchmark 1890-1913	Per capita GDP relative to the United Kingdom 1905				Rates		Range	
	B&R (2010)	Maddison (1990	GK	Bértola & Ocampo	Maddison/	B&O/B	Min	Max
		dollars)		(2010)	B&R	&R		
Argentina							0.70	0.97
With GDP De la Paolera	0.70		0.77	0.70	1.10	1.00		
With GDP OXLAD	0.80				0.97	1.14		
Brasil							0.06	0.17
With GDP Goldsmith 1899 & IBGE	0.07		0.16	0.17	2.18	2.28		
With GDP Goldsmith 1899 & OXLAD	0.06				2.81	2.94		
With GDP Goldsmith 1913 & OXLAD	0.07				2.22	2.32		
Colombia							0.15	0.23
With GDP GRECO			0.23	0.15				
Chile							0.50	0.65
With GDP Rodriguez Weber & Braun	0.55		0.50	0.51	0.91	0.93		
With GDP Rodriguez Weber	0.65				0.77	0.79		
Uruguay							0.50	0.60
With GDP Bértola & Bertino-Tajam & BCU	0.60		0.52	0.50	0.87	0.84		
United States							1.03	1.12
With GDP Johnston & Williamson	1.12		1.03		0.92			
Benchmark 1914-1940	Per capita GDP relative to the United Kingdom 1927				Rates		Range	
	B&R (2010)	Maddison (1990	GK	Bértola & Ocampo	Maddison/	B&O/B	Min	Max
		dollars)		(2010)	B&R	&R		
Argentina							0.72	0.82
With GDP de la Paolera	0.78		0.78	0.82	1.00	1.04		
With GDP OXLAD	0.72				1.08	1.13		
Brasil (*)							0.18	0.28
With GDP IBGE	0.27		0.20	0.18	0.75	0.69		
With GDP OXLAD	0.28				0.73	0.67		
Colombia							0.27	0.31
With GDP GRECO	0.31		0.27	0.28	0.87	0.91		
Chile (*)							0.39	0.53
With GDP Braun et al	0.39		0.52	0.53	1.34	1.38		
Uruguay							0.69	0.77
With GDP Bértola & Bertino-Tajam & BCU	0.77		0.71	0.69	0.93	0.90		
United States							1.05	1.24
With GDP Johnston & Williamson	1.05		1.24		1.18			

Sources: See appendix

(\*) For Brazil (1937) and Chile (1938) we used PPP2 based on the rent share instead of the price of three rooms.

## 5. Conclusions

The findings of this very empirical paper are as follow.

The cost of living of some Latin American cities, both before and after WWI, was slightly higher than the cost of living in Britain, mainly due to the high cost of housing. This may be put in relation to the role played by immigration and fast process of urbanization. An urban bias may exist in these estimates and further research is needed to go deeper in the quality of housing we are comparing.

With reference to PPP real wages, our results do not differ too much from previous estimates, but we are able to provide new benchmarks for other countries. The reliability of our estimates and whether they are compatible with historical contexts is something that remains to be checked by our and other's research.

When used to get international relative positions in terms of per capita GDP, the results obtained are not so different from the results obtained by very different techniques and sources. We expected a higher range of variation than the one obtained. This is good news.



## 6. References

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## 7. Statistical Appendix

### *Basket shares*

Basket shares for Uruguay (1914 & 1927), Argentina (1914 & 1938), Great Britain (1905 & 1927) and Brazil (1892) were taken from Bértola et al (1999): “The basket share was based on Uruguay information and then adapted to that of Argentina and Great Britain” and from the structure of Great Britain, they estimate the basket share for Brazil (1892) (Bértola et al 1999: 4). The information for GB was based on Williamson (1995): Table A3.1 and A3.2, in turn based on Board of Trade, “Report of an enquiry by the Board Of Trade into working Class Rents, Housing and Retail Prices together with the Standard Rates of Wages prevailing in certain occupations in the principal Industrial Towns of the United Kingdom”, Parliamentary Papers, 1908, Accounts and Papers (46), cd. 3864, vol. CVII, and “Report of an enquiry by the Board Of Trade into working Class Rents, Housing and Retail Prices with the Rates of Wages in certain Occupations in Industrial Towns of the United Kingdom in 1912”, Parliamentary Papers, 1913, Accounts and Papers (26), cd. 6955, vol. LXVI.

For Brazil (1937) Colombia (1938) and Chile (1938) we used the same basket share of Uruguay (1927) and Argentina (1938) except from yerba. For Chile (1902) we used the same basket share of Uruguay (1914) and Argentina (1914) except from yerba.

The PPPs for United States is from Williamson (1995): Table A3.1 and A3.2

### *Food Prices*

Argentina (1914 & 1938): prices were taken from Bértola et al (1999) based on Williamson (1995): Table A3.1. The price for yerba for 1914 is from Tornquist, E. (1919): *The economic development of Argentina in the last fifty years*; Buenos Aires; p.268; and for 1938 is from Bértola et al (1999).

Uruguay (1914): retail prices of Montevideo were taken from Bértola et al (1999) based on Statistical Yearbook of Uruguay, 1930 and 1936, with some exceptions. Prices of coffee, pork, lamb, mutton, bacon and cheese were taken from Boletín de Estadística Municipal; and butter from Ministerio de Industrias (1927): *El salario real (1914-1926)*; República Oriental del Uruguay.

Uruguay (1927): prices were taken from Bértola *et al* (1999) based on Statistical Yearbook, 1930 and 1936 with some exceptions. The prices of cheese, butter and coffee are lineal interpolations based on figures from Ministerio de Trabajo (1946): *Revista de la Dirección General de Asuntos Económicos*, April, Year 1, N°1, p 42-43.

Brazil (1892): prices were taken from Bértola et al (1999) based on M. Lahmeyer Lobo "Condiciones de vida de los artesanos y de la clase obrera en Rio de Janeiro en la década de 1880 hasta 1920" in HISLA,V, 1985.

Brazil (1937) prices were taken from Williamson (1995): Table A3.3 based on ILO Yearbook of Labour Statistics.

Chile (1902): prices were taken from Eyzaguirre, G. Errázurez J. (1903): *Monografía de una familia obrera de Santiago*, Imprenta Litografía y encuadernación Barcelona, Santiago de Chile, p.50-51.

Chile (1938): retail prices of Santiago were taken from Anuario Estadístico (1939).

Colombia (1938): average retail prices of Bogotá are from ILO (1939): *Yearbook of Labour Statistics*.

#### *Rent prices:*

Argentina (1914): rents were taken from Bértola et al (1999) in turn based on Yujnovsky, O. (1974): "Políticas de vivienda en la ciudad de Buenos Aires, 1880-1914", Desarrollo Económico, N°54, p. 358 (one room monthly, adjusted according to price differences in GB according to Williamson (1995), Table A3.3).

Argentina (1938): rent is from Bértola et al (1999) based on *Clínica del Trabajo Revista de Profilaxis y Seguridad*, Higiene, Asistencia Social y Legislación, marzo-abril 1941, p.34 (one room monthly, adjusted according to price differences in UK according to Williamson (1995), Table A3.3).

Uruguay (1914 & 1927): rents are from Ministerio de Industrias (1927): *El salario real (1914-1926)*; República Oriental del Uruguay, considering an apartment with 3 rooms. The figure for 1927 actually corresponds to 1926.

Brazil (1892): rent is from Bértola et al (1999) based on E. M. Lahmeyer Lobo "Condiciones de vida de los artesanos y de la clase obrera en Rio de Janeiro en la década de 1880 hasta 1920" en: HISLA,V, 1985.

Chile (1902): rent is from Eyzaguirre, G. y Errázurez J. (1903): *Monografía de una familia obrera de Santiago*, Imprenta Litografía y encuadernación Barcelona, Santiago de Chile, p.50-51.

Colombia (1938): we estimate the rent based on the monthly rent in 1936 reported in López-Urbe, M. (forthcoming): *Salarios, vida cotidiana y condiciones de vida en Bogotá durante la primera mitad del siglo XX*, Universidad de los Andes Facultad de Ciencias Sociales Departamento de Historia, (one room monthly, adjusted according to price differences in UK according to Williamson (1995), Table A3.3).

#### *Rent and housing shares:*

Argentina (1907): budget share for 1907 from the *Boletín del Departamento Nacional del Trabajo*, data kindly provided by Esteban Nicolini.

Argentina (1935): distribution of expenditure for 1935 based on ILO (1935): *Yearbook of Labour Statistics*.

Brazil (1934): we estimate the rent as the budget share of rent in relation to food considering the average distribution of household expenditure of San Pablo in 1934 based on ILO (1934) *Yearbook of Labour Statistics*.

Chile (1911): distribution of expenditure based on Matus (2006).

Chile (1928): we estimate the rent as the budget share considering the household expenditure for Santiago in 1928 reported in Matus (2009).

Colombia (1938): distribution of expenditure based on López-Urbe, M. (forthcoming): *Salarios, vida cotidiana y condiciones de vida en Bogotá durante la primera mitad del siglo XX*, Universidad de los Andes Facultad de Ciencias Sociales Departamento de Historia.

Uruguay (1914): distribution of expenditure based on Ministerio de Industrias (1927): *El salario real (1914-1926)*; República Oriental del Uruguay. For (1936): Ministerio de Industrias y Trabajo (1946): *Revista de la Dirección General de Asuntos Económicos*; Año 1, N°1. Montevideo, Uruguay

United Kingdom (1905 & 1927): Ward and Devereux (2003): p. 833

#### *Exchange rates*

For Argentina (1914 & 1938), Brazil (1937) exchange rate were taken from Williamson (1995): Table A3.1 and A3.3. For Uruguay (1914 & 1927) exchange rate were taken from Bértola et al (1999). For Brazil (1892) exchange rate is from Bértola et al (1999) based on *Instituto Brasileiro de Geografia y Estadística*.

For Chile (1902) we consider the average exchange rate 1901-1902 based on Matus, M. (2006): peniques per pounds and for 1938 exchange rate is from Braun et al (2000).

Colombia (1938) exchange rate is from Global Financial Data.

For United States, the figure is from Williamson (1995).

#### *Nominal wages*

Argentina (1914 & 1938) nominal daily wages of unskilled building labor were taken from Williamson (1995): Table A3.1

Uruguay (1914 & 1927) nominal hourly wages for unskilled building were taken from Bértola et al (1999).

Brazil (1892) monthly nominal wages of unskilled buliding were taken from Bértola et al (1999) based on E. M. Lahmeyer Lobo " Condiciones de vida de los artesanos y de la clase obrera en Rio de Janeiro en la década de 1880 hasta 1920", HISLA,V, 1985.

Brazil (1937) wage per hour of building labourer unskilled in Río de Janeiro taken from ILO (1938): *Yearbook of Labour Statistics*.

For Chile, for the first benchmark, we worked with alternatives figures of nominal wages: an average of the lower wages reported in Matus (2009) for 1905 that actually correspond to textile; the nominal wage of building labourer for 1906 taken from

Rodriguez-Weber (2009); and the nominal wage of a metalworker in 1902 based on a family case studied by Eyzaguirre G. and Errázurez J. (1903).

Data of nominal wage per hour of worker unskilled for Colombia (1938) and Chile (1938) become from ILO (1938): *Yearbook of Labour Statistics*, Table XIV.

#### *Nominal GDP and population*

##### Argentina

We consider two series of nominal GDP in current pesos:

- a) 1884-1995: Della Paolera, G. & Taylor, A.M. (2003): *A New economic history of Argentina*, Cambridge University Press, figures expressed in convertible pesos
- b) 1900-2000: OXLAD based on Mitchell (1993): *International historical statistics. The Americas 1750-1988*, Stockon Press for the figures for 1900-1969. The sources Mitchell (1993): 73 report are IMF *International Financial Statistics*, UN *Yearbook of National Accounts Statistics* and *Statistics of National Income and Expenditure*; and ECLAC *Statistical Abstract of Latin America*

Population: Since 1870 Della Paolera & Taylor (2003) and 1900 onward figures from Maddison (2003).

##### Brazil

We consider three estimations of nominal GDP in current prices:

- a) 1889-1913: GDP in milreis from Goldsmith, R. (1986): *Brasil 1850 – 1984: Desenvolvimento financeiro sob um Sècul de Inflação*
- b) 1900-onward: Instituto Brasileiro de Geografia e Estatística (IBGE), National Accounts system (IBGE/SCN 2000 Anual) which for the period 1900-1947 are taken from IPEA based on the variation of the GDP deflator and the annual real GDP. These last figures are from Reis, E. et al., (2003), “O seuclo XX nas contas nacionais” in IBGE (2007): *Estatísticas do Século XX*, Rio de Janeiro
- c) 1900-onward: GDP in milreis from OXLAD. Figures for 1900-1961 are from Mitchell (1993) and figures for 1962-2000 are from IBGE (2002). Mitchell (1993) report that the figures from Brazil to 1947 are from or based on Contador, C. and Haddad, C. (1975): *Producto real, moeada e precos: a experiencia brasielira no period 1861-1870*”, *Revista Brasileira de Estatística*, XXXVI, 143, july-sept.

##### Colombia

1905-1997: GDP in current pesos from Banco de La República (1999): *El desempeño macroeconómico colombiano. Series estadísticas (1905 - 1997)*.

Population: 1900 onwards from Maddison (2003)

##### Chile

Nominal GDP in current prices:

1940-1995. GDP in currents pesos are taken from Braun, J., Braun, M., Briones, I. and Díaz, J. (2000) “Economía Chilena 1810-1995. Estadísticas Históricas”, *Documento de Trabajo*, N°187, Pontificia Universidad Católica de Chile, p. 21, Table 1.1

1860-1930: We used the series of Gross Domestic Income estimated by Rodriguez-Weber, J. (2009): "Los tiempos de la desigualdad. La distribución del ingreso en Chile, entre la larga duración, la globalización y la expansión de la frontera, 1860-1930", Master Thesis on Economic History, Universidad de la República, Uruguay.

For the gap 1930-1940 we calculated the nominal GDP deflating the real GDP (constant pesos of 1995) by the price consumer index, both series taken from Braun et al (2000): Table 1.1 and Table 4.1

Population: 1870 onwards from Maddison (2003)

#### Uruguay

1870-1936: Nominal GDP in current pesos is from Bértola, L. and Calicchio, L, Camou, M., Rivero, L. (1998): *El PBI uruguayo y otras estimaciones, 1870-1936*, Programa de Historia Económica, Facultad de Ciencias Sociales, Montevideo.

1937-1955: Nominal GDP in current pesos from Bertino, M. & Tajam, H. (1999): *El PBI de Uruguay 1900-1955*, Instituto de Economía, Facultad de Ciencias Económicas y de Administración, Montevideo.

1956-onward: Nominal GDP in current pesos from Banco Central del Uruguay.

#### Great Britain

1870-2008: Nominal GDP in current pounds is from Lawrence H. Officer, "What Was the U.K. GDP Then?" Measuring Worth, 2010.

<http://www.measuringworth.com/ukgdp/>

#### United States

1870-2008: Nominal GDP in current dollars are from Louis Johnston and Samuel H. Williamson, "What Was the U.S. GDP Then?" MeasuringWorth, 2010

<http://www.measuringworth.org/usgdp/>

All series of gross domestic product in international Geary-Khamis are from Maddison (2003).

#### *Real wages index*

For Chile real wage index is from Braun, et al (2000).

All other figures of real wage index (1913=100) are from Williamson, J. (1999): Real wages inequality and globalization before 1940, *Revista de Historia Económica*, Vol. 17, special number.

Tabla A.1. Purchasing power parities, real wages and GDP, Argentina (1914) & GB (1905)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>AR 1914</i>	<i>RU 1905</i>	<i>AR 1914</i>	<i>RU 1905</i>	<i>AR 1914</i>	<i>RU 1905</i>
	<i>pesos</i>	<i>pennies (d)</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>pesos</i>	<i>kgs y lt</i>
Bread (kg)	91,40	1255,51	456	456	0,20	2,75
Flour and Meal (kg)	8,81	155,76	55	55	0,16	2,83
Beef & veal (kg)	118,28	969,16	300	55	0,39	17,62
Pork (kg)		969,16		55		17,62
Lamb & Mutton (kg)		1490,09		82		18,17
Bacon & Sausage (kg)		757,71		43		17,62
Butter & Margarine (kg)	25,77	343,61	18	12	1,43	28,63
Cheese (kg)		848,02		55	0,89	15,42
Milk (lt)	51,23	1120,61	365	365	0,14	3,07
Eggs (doz)	19,44	288,00	24	24	0,81	12,00
Potatoes (kg)	33,04	283,20	300	300	0,11	0,94
Sugar (kg)	18,32	207,05	47	47	0,39	4,41
Tea & Coffee (kg)	25,11	951,54	12	24	2,09	39,65
Yerba(kg)	7,68		12		0,64	
<b>Total food annual</b>	399,08	9639,42				
Total food weekly	7,67	185,37				
Rent (3 rooms / week)	6,94	23,25				
<b>TOTAL WEEKLY</b>	<b>14,61</b>	<b>208,62</b>				
	0,53	0,89				
Exchange rate (per pound)						
E	11,45	1				
<b>PPP</b>	<b>16,81</b>					
Price levels (related to UK 1905=100)						
PF	86,78	100,00				
PR	625,54	100,00				
P	146,82	100,00				
Nominal wage	pesos/daily	schillings/weekly				
unskilled	2,83	25,64				
PPP real wage index						
unskilled	78,79	100,00				
Nominal GDP PC in current prices						
With GDP Della Paolera & Taylor	506,09					
With GDP Oxlad	576,18					
GDP pc PPP adjusted						
With GDP Della Paolera & Taylor	30,1					
With GDP Oxlad	34,3					

#### Definitions

E: Official exchange rate.

PPP: Purchasing power parity based on food and rent prices.

PF: Relative price of food converting via E.

PR: Relative rent converting via E.

P: Weighted relative price of food and rent.

Source: see appendix

Tabla A2. Purchasing power parities, real wages and GDP, Brazil (1892) & GB (1905)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>BRA 1892</i>	<i>RU 1905</i>	<i>BRA 1892</i>	<i>RU 1905</i>	<i>BRA 1892</i>	<i>RU 1905</i>
	<i>mil reis</i>	<i>d</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>kgs y lt</i>
Bread (kg)		1,255.51		456		2.75
Flour and Meal (kg)		155.76		55		2.83
Rice (kg)	43.60		40		1.09	
Charque (kg)	409.97		110		3.73	
Bacalao (kg)	397.80		60		6.63	
Frijoles (kg)	944.06		260		3.63	
Mandioca (kg)	185.94		450		0.41	
Bacon & Sausage (kg)	223.08	1,409.69	145	80	1.54	17.62
Beef & veal (kg)		969.16		55		17.62
Pork (kg)		969.16		55		17.62
Lamb & Mutton (kg)		999.45		55		18.17
Butter & Margarine (kg)		343.61		12		28.63
Cheese (kg)		848.02		55		15.42
Milk (lt)		1,120.61		365		3.07
Potatoes (kg)		283.20		300		0.94
Eggs (doz)		288.00		24		12.00
Sugar (kg)	122.75	207.05	50	47	2.46	4.41
Tea & Coffee (kg)	184.06	951.54	24	24	7.67	39.65
<b>Total food annual</b>	<b>2,511.26</b>	<b>9,800.76</b>				
Total food weekly	48.29	188.48				
Rent (3 rooms / week)	5.38	23.25				
<b>TOTAL WEEKLY</b>	<b>53.68</b>	<b>211.73</b>				
Exchange rate (per pound)						
E	20.1	1				
<b>PPP</b>	<b>60.84</b>					
Price levels (related to UK1905=100)						
PF	306	100				
PR	276	100				
P	303	100				
Nominal wage						
	monthly	weekly				
Unskilled		89	25.64			
PPP real wage index						
Unskilled	26.33	100.00				
Nominal GDP PC in current prices						
With GDP Goldsmith 1899 & IBGE	204.28					
With GDP Goldsmith 1899 & OXLAD	158.70					
With GDP 1913 & OXLAD	200.67					
GDP pc PPP adjusted						
With GDP Goldsmith 1899 & IBGE	3.36					
With GDP Goldsmith 1899 & OXLAD	2.61					
With GDP 1913 & OXLAD	3.30					

#### Definitions

E: Official exchange rate.

PPP: Purchasing power parity based on food and rent prices.

PF: Relative price of food converting via E.

PR: Relative rent converting via E.

P: Weighted relative price of food and rent.

Source: see appendix



Tabla A.3. Purchasing power parities, real wages and GDP, Chile (1902) & GB (1905)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>CH 1902</i>	<i>RU 1905</i>	<i>CH 1902</i>	<i>RU 1905</i>	<i>CH 1902</i>	<i>RU 1905</i>
		<i>pennies (d)</i>		<i>kgs y lt</i>	<i>pesos</i>	<i>kgs y lt</i>
Bread (kg)	114,00	1255,51	456	456	0,25	2,75
Flour and Meal (kg)	11,00	155,76	55	55	0,20	2,83
Beef & veal (kg)	210,00	969,16	300	55	0,70	17,62
Pork (kg)		969,16	0	55		17,62
Lamb & Mutton (kg)		1490,09	0	82		18,17
Bacon & Sausage (kg)		757,71	0	43		17,62
Butter & Margarine (kg)	15,64	343,61	18	12	0,87	28,63
Cheese (kg)		848,02	0	55	0,98	15,42
Milk (lt)	41,61	1120,61	365	365	0,11	3,07
Eggs (doz)	9,60	288,00	300	24	0,03	12,00
Potatoes (kg)	33,60	283,20	24	300	1,40	0,94
Sugar (kg)	23,88	207,05	47	47	0,51	4,41
Tea & Coffee (kg)	57,34	951,54	24	24	2,39	39,65
Yerba(kg)	0,00					
<b>Total food annual</b>	<b>516,66</b>	<b>9639,42</b>				
Total food weekly	9,94	185,37				
Rent (3 rooms / week)	3,00	23,25				
<b>TOTAL WEEKLY</b>	<b>12,94</b>	<b>208,62</b>				
	0,77	0,89				
Exchange rate (per pound)						
E	15,45	1				
<b>PPP</b>	<b>14,88</b>					
Price levels (related to UK 1905=100)						
PF	83,27	100,00				
PR	200,45	100,00				
P	96,33	100,00				
Nominal wage			pesos/daily	schillings/weekly		
Unskilled average of the lower wages from textile in (Matus, 2009)		1,46		25,64		
Unskilled building labourer (Rodríguez-Weber, 2009)		4,18				
Nominal wage of a metal worker (Eyzaguirre & Errázuriz, 1903)		2,50				
PPP real wage index						
Unskilled average of the lower wages from textile in (Matus, 2009)		44,26		100,00		
Unskilled building labourer (Rodríguez-Weber, 2009)		126,78				
Nominal wage of a metal worker (Eyzaguirre & Errázuriz, 1903)		75,74				
Nominal GDP PC in current prices						
With GDP Rodríguez & Braun		375,68				
With GDP Rodríguez		445,62				
GDP pc PPP adjusted						
With GDP Rodríguez & Braun		25,245				
With GDP Rodríguez		29,945				

Notes

E: Official exchange rate.

PPP: Purchasing power parity based on food and rent prices.

PF: Relative price of food converting via E.

PR: Relative rent converting via E.

P: Weighted relative price of food and rent.

Source: see appendix

Tabla A.4. Purchasing power parities, real wages and GDP, Uruguay (1914) & GB (1905)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>UY 1914</i>	<i>RU 1905</i>	<i>UY 1914</i>	<i>RU 1905</i>	<i>UY 1914</i>	<i>RU 1905</i>
	<i>pesos</i>	<i>pennies (d)</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>pesos</i>	<i>kgs y lt</i>
Bread (kg)	45.60	1255.51	456	456	0.10	2.75
Flour and Meal (kg)	6.05	155.76	55	55	0.11	2.83
Beef & veal (kg)	66.00	969.16	300	55	0.22	17.62
Pork (kg)		969.16		55		17.62
Lamb & Mutton (kg)		1490.09		82		18.17
Bacon & Sausage (kg)		757.71		43		17.62
Butter & Margarine (kg)	4.50	343.61	18	12	0.25	28.63
Cheese (kg)		848.02		55	0.40	15.42
Milk (lt)	29.20	1120.61	365	365	0.08	3.07
Eggs (doz)	4.80	288.00	24	24	0.20	12.00
Potatoes (kg)	30.00	283.20	300	300	0.10	0.94
Sugar (kg)	9.40	207.05	47	47	0.20	4.41
Tea & Coffee (kg)	9.60	951.54	12	24	0.80	39.65
Yerba(kg)	3.36		12		0.28	
<b>Total food annual</b>	208.51	9639.42				
Total food weekly	4.01	185.37				
Rent (3 rooms / week)	3.46	23.25				
<b>TOTAL WEEKLY</b>	<b>7.47</b>	<b>208.62</b>				
	0.54	0.89				
Exchange rate (per pound)						
E	4.7	1				
<b>PPP</b>	<b>8.60</b>					
Price levels (related to UK 1905=100)						
PF	110.46	100.00				
PR	760.26	100.00				
P	182.87	100.00				
Nominal wage	pesos/daily	schillings/weekly				
unskilled	1.2	25.64				
PPP real wage index						
unskilled	65.34	100.00				
Nominal GDP PC in current prices						
With GDP pc	263.82					
GDP pc PPP adjusted	30.695					
Definitions						
E: Official exchange rate.						
PPP: Purchasing power parity based on food and rent prices.						
PF: Relative price of food converting via E.						
PR: Relative rent converting via E.						
P: Weighted relative price of food and rent.						
Source: see appendix						

Tabla A.5. Purchasing power parities, real wages and GDP, Argentina (1938) & GB (1927)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>AR 1927</i>	<i>RU 1927</i>	<i>AR 1927</i>	<i>RU 1927</i>	<i>AR 1927</i>	<i>RU 1927</i>
	<i>pesos</i>	<i>pennies (d)</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>pesos</i>	<i>pennies (d)</i>
Bread (kg)	145,92	2.280,00	456	456	0,32	5,00
Flour (kg)	10,45	330,00	55	55	0,19	6,00
Rice (kg)	8,28	115,20	18	18	0,46	6,40
Beef (kg)	160	12.450,00	400	300	0,40	41,50
Bacon (kg)	0	1.456,00		40	0,75	36,40
Butter and margarine (kg)	28,8	882,00	18	18	1,60	49,00
Cheese (kg)	17,8	1.164,00	20	40	0,89	29,10
Milk (liter)	54	2.196,00	360	360	0,15	6,10
Eggs (doz)	14,4	662,40	24	24	0,60	27,60
Potatoes (kg)	42	720,00	300	300	0,14	2,40
Sugar (kg)	19,74	371,30	47	47	0,42	7,90
Coffee (kg)	13,68	1.480,80	12	24	1,14	61,70
Yerba(kg)	8,52		12		0,71	
<b>Total food annual</b>	<b>523,59</b>	<b>24.107,70</b>				
Total food weekly	10,07	463,61				
Rent (3 rooms / week)	18,02	138,46				
<b>TOTAL WEEKLY</b>	<b>28,09</b>	<b>602,07</b>				
Exchange rate (per pound)						
E	4,7					
<b>PPP</b>	11,20					
Price levels (related to UK 1927=100)						
PF	110,90	100,00				
PR	664,65	100,00				
P	238,25	100,00				
Nominal wage						
	pesos/hour	pound/hour				
unskilled	0,63	0,07				
PPP real wage index						
unskilled	80,37	100				
Nominal GDP PC in current prices						
With GDP de la Paolera	868,72					
With GDP OXLAD	801,52					
GDP pc PPP adjusted						
With GDP de la Paolera	77,6					
With GDP OXLAD	71,6					

Definitions

E: Official exchange rate.

PPP: Purchasing power parity based on food and rent prices.

PF: Relative price of food converting via E.

PR: Relative rent converting via E.

P: Weighted relative price of food and rent.

Source: see appendix

Tabla A.6. Purchasing power parities, real wages and GDP, Brazil (1937) & GB (1927)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>BR 1937</i>	<i>RU 1927</i>	<i>BR 1937</i>	<i>RU 1927</i>	<i>BR 1937</i>	<i>RU 1927</i>
	<i>milreis</i>	<i>pennies (d)</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>milreis</i>	<i>pennies (d)</i>
Bread (kg)	729.60	2,280.00	456	456	1.60	5.00
Flour (kg)	99.00	330.00	55	55	1.80	6.00
Rice (kg)	28.80	115.20	18	18	1.60	6.40
Beef (kg)	750.00	12,450.00	300	300	2.50	41.50
Bacon (kg)	180.00	1,456.00	40	40	4.50	36.40
Butter and margarine (kg)	171.00	882.00	18	18	9.50	49.00
Cheese (kg)	238.00	1,164.00	40	40	5.95	29.10
Milk (liter)	378.00	2,196.00	360	360	1.05	6.10
Eggs (doz)	63.36	662.40	24	24	2.64	27.60
Potatoes (kg)	285.00	720.00	300	300	0.95	2.40
Sugar (kg)	58.75	371.30	47	47	1.25	7.90
Coffee (kg)	88.80	1,480.80	24	24	3.70	61.70
Yerba(kg)						
<b>Total food annual</b>	<b>3070.31</b>	<b>24,107.70</b>				
Total food weekly	59.04	463.61				
Rent (3 rooms / week)	26.04	149.55				
<b>TOTAL WEEKLY</b>	<b>85.08</b>	<b>613.16</b>				
Exchange rate (per pound)						
E	57.3					
<b>PPP</b>	33.30					
Price levels (related to UK 1927=100)						
PF	53.34	100.00				
PR	78.77	100.00				
P	59.19	100.00				
Nominal wage						
	milreis/hour	pound/hour				
unskilled		1.05		0.07		
PPP real wage index						
unskilled	44.23	100				
Nominal GDP PC in current prices						
With GDP IBGE	1053.15					
With GDP OXLAD	1085.64					
GDP pc PPP adjusted						
With GDP IBGE	31.6					
With GDP OXLAD	32.6					

Definitions

E: Official exchange rate.

PPP: Purchasing power parity based on food and rent prices.

PF: Relative price of food converting via E.

PR: Relative rent converting via E.

P: Weighted relative price of food and rent.

Source: see appendix

Tabla A.7. Purchasing power parities, real wages and GDP, Chile (1938) & GB (1927)

	<i>Cost of the consumer basket</i>		<i>Quantitis by item</i>		<i>Prices</i>	
	<i>CH 1938</i>	<i>RU 1927</i>	<i>CH 1938</i>	<i>RU 1927</i>	<i>CH 1938</i>	<i>RU 1927</i>
	<i>pesos</i>	<i>pennies (d)</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>pesos</i>	<i>pennies (d)</i>
Bread (kg)	934.80	2,280.00	456	456	2.05	5.00
Flour (kg)	102.30	330.00	55	55	1.86	6.00
Rice (kg)	59.22	115.20	18	18	3.29	6.40
Beef (kg)	2,424.00	12,450.00	400	300	6.06	41.50
Bacon (kg)		1,456.00		40		36.40
Butter and margarine (kg)	160.38	882.00	18	18	8.91	49.00
Cheese (kg)	202.60	1,164.00	20	40	10.13	29.10
Milk (liter)	478.80	2,196.00	360	360	1.33	6.10
Eggs (doz)	1,800.00	662.40	288	24	6.25	27.60
Potatoes (kg)	135.00	720.00	300	300	0.45	2.40
Sugar (kg)	95.88	371.30	47	47	2.04	7.90
Coffee (kg)	123.12	1,480.80	12	24	10.26	61.70
Yerba(kg)	66.72		12		5.56	
<b>Total food annual</b>	<b>6582.82</b>	<b>24,107.70</b>				
Total food weekly	126.59	463.61				
Rent (3 rooms / week)	56.26	149.55				
<b>TOTAL WEEKLY</b>	<b>182.86</b>	<b>613.16</b>				
Exchange rate (per pound)						
E	132.56					
<b>PPP</b>	71.57					
Price levels (related to UK 1927=100)						
PF	83.27	100.00				
PR	200.45	100.00				
P	96.33	100.00				
Nominal wage	pesos/hour	pound/hour				
unskilled	1.50	0.07				
PPP real wage index						
unskilled	29.40	100				
Nominal GDP PC in current prices						
With GDP Braun	3302.50					
GDP pc PPP adjusted						
With GDP Braun	46.1					
Definitions						
E: Official exchange rate.						
PPP: Purchasing power parity based on food and rent prices.						
PF: Relative price of food converting via E.						
PR: Relative rent converting via E.						
P: Weighted relative price of food and rent.						
Source: see appendix						

Tabla A.8. Purchasing power parities, real wages and GDP, Colombia (1938) & GB (1927)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>COL 1938</i>	<i>RU 1927</i>	<i>COL 1938</i>	<i>RU 1927</i>	<i>COL 1938</i>	<i>RU 1927</i>
	<i>pesos</i>	<i>pennies (d)</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>pesos</i>	<i>pennies (d)</i>
Bread (kg)	109,44	2.280,00	456	456	0,24	5,00
Flour (kg)	14,30	330,00	55	55	0,26	6,00
Rice (kg)	3,96	115,20	18	18	0,22	6,40
Beef (kg)	192,00	12.450,00	400	300	0,48	41,50
Bacon (kg)		1.456,00		40		36,40
Butter and margarine (kg)	18,00	882,00	18	18	1,00	49,00
Cheese (kg)	14,00	1.164,00	20	40	0,70	29,10
Milk (liter)	32,40	2.196,00	360	360	0,09	6,10
Eggs (doz)	8,64	662,40	24	24	0,36	27,60
Potatoes (kg)	42,00	720,00	300	300	0,14	2,40
Sugar (kg)	8,46	371,30	47	47	0,18	7,90
Coffee (kg)	3,36	1.480,80	12	24	0,28	61,70
Yerba(kg)			12			
<b>Total food annual</b>	<b>446,56</b>	<b>24.107,70</b>				
Total food weekly	8,59	463,61				
Rent (3 rooms / week)	2,75	138,46				
<b>TOTAL WEEKLY</b>	<b>11,34</b>	<b>602,07</b>				
Exchange rate (per pound)						
E	8,19					
<b>PPP</b>	4,52					
Price levels (related to UK 1927=100)						
PF	54,27	100,00				
PR	58,28	100,00				
P	55,19	100,00				
Nominal wage						
	pesos/hour	pound/hour				
Unskilled (ILO)	0,09	0,07				
Unskilled (Lopez-Uribe 2010)	0,18					
PPP real wage index						
Unskilled (ILO)	27,49	100				
Unskilled (Lopez-Uribe 2010)	55,76					
Nominal GDP PC						
	182,37					
GDP pc PPP adjusted						
	40,34					
Definitions						
E: Official exchange rate.						
PPP: Purchasing power parity based on food and rent prices.						
PF: Relative price of food converting via E.						
PR: Relative rent converting via E.						
P: Weighted relative price of food and rent.						
Source: see appendix						

Tabla A.9. Purchasing power parities, real wages and GDP, Uruguay (1927) & GB (1927)

	<i>Cost of the consumer basket</i>		<i>Quantities by item</i>		<i>Prices</i>	
	<i>UY 1927</i>	<i>RU 1927</i>	<i>UY 1927</i>	<i>RU 1927</i>	<i>UY 1927</i>	<i>RU 1927</i>
	<i>pesos</i>	<i>pennies (d)</i>	<i>kgs y lt</i>	<i>kgs y lt</i>	<i>pesos</i>	<i>pennies (d)</i>
Bread (kg)	59,28	2.280,00	456	456	0,13	5,00
Flour (kg)	7,10	330,00	55	55	0,13	6,00
Rice (kg)	3,96	115,20	18	18	0,22	6,40
Beef (kg)	124,00	12.450,00	400	300	0,31	41,50
Bacon (kg)	0,00	1.456,00		40	0,00	36,40
Butter and margarine (kg)	4,89	882,00	18	18	0,27	49,00
Cheese (kg)	15,16	1.164,00	20	40	0,76	29,10
Milk (liter)	36,00	2.196,00	360	360	0,10	6,10
Eggs (doz)	6,96	662,40	24	24	0,29	27,60
Potatoes (kg)	18,00	720,00	300	300	0,06	2,40
Sugar (kg)	8,46	371,30	47	47	0,18	7,90
Coffee (kg)	11,49	1.480,80	12	24	0,96	61,70
Yerba(kg)	4,56		12		0,38	
<b>Total food annual</b>	<b>299,88</b>	<b>24.107,70</b>				
Total food weekly	5,77	463,61				
Rent (3 rooms / week)	6,69	138,46				
<b>TOTAL WEEKLY</b>	<b>12,46</b>	<b>602,07</b>				
Exchange rate (per pound)						
E	4,7					
<b>PPP</b>	4,97					
Price levels (related to UK 1927=100)						
PF	63,52	100,00				
PR	246,81	100,00				
P	105,67	100,00				
Nominal wage						
unskilled	pesos/hour	pound/hour				
	0,23	0,07				
PPP real wage index						
unskilled	66,16	100				
Nominal GDP PC in current prices						
	387,3					
GDP pc PPP adjusted						
	77,99					

Definitions

E: Official exchange rate.

PPP: Purchasing power parity based on food and rent prices.

PF: Relative price of food converting via E.

PR: Relative rent converting via E.

P: Weighted relative price of food and rent.

Source: see appendix