**Working Paper CLIO-INFRA: Labourers’ real wages**

1. Title

- Building labourers’ real wages, 1820-2010.

2. Author(s)

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3. Production date

- 15-3-2013

4. Version

- 1st version.

5. Variable group(s)

- Wages and prices.

6. Variable(s)

-Building labourers’ real wage by country – Daily building labourers’ wage divided by a daily subsistence basket

r.

7. Unit of analysis

- number of subsistence baskets.

8. Keywords (5)

Building labourer, wage, price, world.

9. Abstract (200 words)

- The building labourers’ real wage is given annually for the period 1850-2010.

10. Time period

- 1820-2000.

11. Geographical coverage

- Entire World.

12. Methodologies used for data collection and processing

- Bibliographical research, research of published and Online Databases, and cross-analysis of various datasets

13. Data quality

i. Central statistical agencies

ii. Historical reconstructions

iii. Estimates

iv. Conjectures

Virtually all benchmark data after the 1920s are derived indirectly from Central Statistical Agencies and therefore probably better classify as historical reconstructions. The remaining data are estimates.

14. Period of collection

Jan/2013 and Jan/2014.

15. Data collectors

- Pim de Zwart, Bas van Leeuwen and Jieli van Leeuwen-Li.

16. Sources

The wage and price series shown in this chapter are taken from three sources: (A) a variety of studies on historical real wages that appeared in academic journals and books; (B) the British Colonial Blue Books (circa 1840-1912); and (C) the October Enquiries of the International Labour Organisation (1924-2008). These data were then converted into subsistence ratios, which indicate how many times the daily wage of a male unskilled construction labourer can buy the daily subsistence basket. This methodology has the advantage of providing an absolute yardstick to compare welfare across countries and time periods and, hence, is conceptually close (but not identical) to purchasing power parities. Finally, in order to fill gaps in the data, interpolations were made (D) on the basis of real wages indices from the (older) literature.

1. To start, for much of the 19th century data we draw on economic histories. Much European data came from Allen’s pioneering study (2001) on European wages and prices from the late Middle Ages to the First World War.[[1]](#endnote-1) Data for Istanbul came from the study by Ozmucur and Pamuk (2002), which was based on over 6 000 account books from the soup kitchens of pious foundations and the Topkapı Palace. In addition, we took data for Japan from Bassino and Ma (2005), for several Southeast Asian countries from Van der Eng and Bassino (2013), for India from Allen (2007), for China from Allen *et al.* (2011), for Argentina, Bolivia, Chile, Colombia, Mexico and Peru from Arroyo Abad *et al.* (2012), for the United States from Allen *et al.* (2012), and for Indonesia from De Zwart and Van Zanden (2012). These studies each draw on a variety of sources that are too extensive to discuss here.
2. The Colonial Blue Books (1840-1912) contain data that were collected by the colonial administrators in the various colonies of the British Empire and sent each year to the Colonial Office in London, in response to questionnaires sent out by the latter. Frankema and Van Waijenburg (2012) worked with these data for nine British African colonies, with the earliest observation dating from 1870. We extended their series, where possible, to 1850, and added estimates for South Africa (De Zwart, 2011). In addition, we added data from several non-African colonies, especially in Oceania, Latin America and the Caribbean. Data from the Blue Books are not ideal, since price data do not always reflect retail prices (but prices for produce) and wages are not always representative for the majority of the population, but these are currently the only figures available for many of Europe’s former colonial possessions.
3. Since 1924, the International Labour Organisation (ILO) has conducted an annual survey, called the October Inquiry, to obtain data on wages and prices worldwide.[[2]](#endnote-2) Every year the ILO has sent two questionnaires (one relating to wages and hours of work, the other to retail prices) to national statistical agencies, which were to complete the questionnaires with the information already available to them (and thus not to conduct specific surveys in order to supply the data).[[3]](#endnote-3) Hence, while the price data are roughly consistent, the wage information returned for the various countries could differ significantly; while some reported average wages per hour from an establishment survey, others reported legislated minimum or maximum wage rates for certain occupations, and others returned minimum wage rates based on collective agreements, etc. (see Freeman and Oostendorp, 2001). These wage data thus require some form of standardisation before they can be used. Since 1983, this work has been performed by Freeman and Oostendorp (2001), Harsch and Kleinert (2011), and Oostendorp (2012). In addition, the number of countries included expanded from 15 in 1924 to over 50 in the 1950s, after which the number of countries has fluctuated (after 1983 it contains data on over 130 countries!).
4. Real wage series for various countries in the 19th and 20th centuries are also available from other (older) literature (*e.g.* Mitchell, 2007; Williamson 1998; Scholliers and Zamagni, 1995) as well as from some more recent literature on wages and prices (*e.g.* Van Leeuwen, 2004; 2007). In addition, in a few cases we included special reports, such as on the period 1950-1970 in China for which little data is available (*e.g.* Survey on cities and counties in Guangxi, 1985; Yulin City Gazetteer, 1993). The lack of standardisation in the methodology makes direct comparisons on the basis of these data impossible. However, in order to deal with gaps in the data, those real wage series are used for interpolation in a few cases.

17. Text

After the price and wage data were collected, they needed to be standardised. This required first dealing with wage and price ranges. If ranges were reported, we took the logarithmic average of the wages, while for the prices we took the simple geometric mean. Second, standardisation required a modification of the territorial unit, since many of the data were given at the regional level, often with multiple cities/regions for one country. This modification was performed by taking averages across regions in one country. It is important to stress that virtually all our data stem from urban areas. This can make some difference. For example, in France in 1930 the hourly wage rate of a cabinet maker in Paris was 6.75 francs, versus 5.32 francs in the provincial cities. However, this qualification is less applicable to the case of the building labourers used in this chapter. The wage rate in Paris in 1930 for these labourers was, at 4.17 francs an hour, identical to the rate in provincial cities. Similar observations can be made for the developing economies. Third, arriving at a consistent dataset required a conversion into common units. As already mentioned, for prices this problem is less severe, since most prices are standard retail price data. However, wages can be reported in average rates, minimum or maximum rates, or earnings. Considering only the ILO data, it appears that 70% of the data concern average wage rates or comparable data, minimum rates and maximum rates account for 15% and 0.7% respectively, while earnings comprise the remaining 14% of observations. We followed the procedure of Freeman and Oostendorp (2001) and converted all data into average rates, because this reduces the error margin. This conversion was done using a regression analysis in which we regressed the wage on dummy variables, indicating country, industry, pay concept and time. This was necessary only for the period prior to 1984, since data from the later period were obtained from Oostendorp (2011), and were already converted into average rates. Finally, we converted all wages into daily rates; wages from the ILO were reported as hourly rates, and we have assumed an eight-hour working day for all countries throughout the entire time period. While it is clear that this assumption does not hold, consistent data on working hours per country per year have not yet been gathered. Future research may help to adjust our calculated real wage rates by providing information on working hours.

Second, how representative are wage labourers for the general working populace? Allen (2001) found the wage of an unskilled labourer in the building industry to be fairly representative for total wage development in the early modern period. This may have changed in the modern period and may differ per country. It has been argued that since the start of the 20th century in certain, especially developed countries, what has driven economic development is skills. In this case one might expect that it would be skilled wages rather than unskilled wages that mainly reflected general wage development. Table 4.3 reports the population-weighted wages of building labourers and craftsmen in the world. We can see that the skill premium over the past 60 years underwent a major decline, suggesting that the supply of skills in this field outpaced the demand. On the one hand, this was caused by the educational revolution during this period and, on the other, by the increasing development of technology in our societies, which has led to a reduction of the role of skilled building labour in favour of skilled people in services and mechanical engineering. More research into this issue is necessary. Yet for now we suggest that, when comparing wages globally, the most meaningful baseline is unskilled male wages in the building industry.

Third, in many pre-industrial developing economies, wage income is often only a small part of total household income. Only a part of the labour force was engaged in full-time wage employment. However, it is clear that the share of the population in paid employment has increased over the past 200 years.[[4]](#endnote-4) But even in the 21st century the share of wage employment clearly can differ by region. Whilst in Europe around 80 per cent of the working population is in wage labour, in Sub-Saharan Africa this holds for only about 20/30 per cent (World Bank Development Report, Chap. 1, 2013). It is important to keep these limitations in mind when reviewing these data.

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1. This includes various cities in England, the Netherlands, Belgium, France, Italy, Spain, Germany, Austria and Poland. His data builds on studies by the famous International Scientific Committee on Price History in the 1930s and 1940s. [↑](#endnote-ref-1)
2. Published for 1924 to 1945: *International Labour Review*; for 1934-57: *Yearbook of Labour Statistics*; 1951-63: *Statistical Supplement* to the *International Labour Review*; for 1964+ *Bulletin of Labour Statistics*; after 1983 data online. [↑](#endnote-ref-2)
3. Also see <http://laborsta.ilo.org/applv8/data/labocte.html> [↑](#endnote-ref-3)
4. For more information on the rise of wage labour across the globe see the Global Collaboratory on the History of Labour Relations: <https://collab.iisg.nl/web/labourrelations>. [↑](#endnote-ref-4)