Appendix to the data on Wages and Prices in South Africa, 1835-1910

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Data used in the paper

P. de Zwart, 'South African Living Standards in Global Perspective, 1835-1910', *Economic History of Developing Regions* 26, 1 (2011) 49-74.

Notes

Silver Value: Silver value per pound sterling were taken from the excel sheet of Gregory Clark, 'England prices and wages since the 13th century', on the *Global Price and Income History* website: http://gpih.ucdavis.edu/Datafilelist.htm#Europe: Last update 10 April 2006. During the entire period under examination the pound was worth 104.6 grams of silver.

Wages: For those wages discussed in this paper consistent series were found, and only a few one year gaps were filled by interpolation. For some years, not the average wages were noted down, but minimum and maximum rates. Assuming that the minimum wages were paid more often than maximum wages, the average rate was derived by using a lognormal average, the most common and accepted method to correct for overestimation: Lognormal average wage = (Lognormal minimum wage + Lognormal maximum wage) / 2.

Wheat: Price series for wheat were found for the Cape Colony from 1836 to 1870. Because there is a correlation between Bread and Wheat (and the Bread prices themselves were too high to serve as an alternative) the following formula was used to calculate the price for Wheat for the remainder of the time period under discussion.

$$\text{WHEAT} = 0.1692 + 16.403\ \text{BREAD} \qquad R^2 = 0.5532$$

For Natal, prices for wheat were found throughout the nineteenth century, prices for the twentieth century were extrapolated. Small gaps were filled by interpolation.

Peas & Beans: Price series for peas and beans were found for the Cape Colony from 1836 to 1870. Because it seemed reasonable to assume a significant level of correlation between Peas & Beans and Bread, the following formula was used to calculate the price of Peas & Beans for the remainder of the time period under discussion:

$$\text{PEAS \& BEANS} = 0.2576 + 11.216\ \text{BREAD} \qquad R^2 = 0.5153$$

For Natal no price series for peas and beans were found, these were replaced by extra quantities of rice or bread.

Meat: Price series of both beef and pork were found for the Cape and Natal, but because beef was cheaper during the entire period under consideration, beef was used in the baskets. A few small gaps in the series were filled by interpolation.

Fish: Only for the Cape Colony price series of fish were found and used in the barebones basket. In contrast to most of the other series in the dataset, the prices for fish are export prices. Some more significant gaps in the late nineteenth century were filled by interpolation.

Butter: For the Cape Colony three different types of butter were found: first 'butter' without further specification for the period 1836-1855, after that butter was subdivided in two series, one for fresh butter and one for salt butter. For the early period the normal butter was used, before switching to salt butter in 1856 (which was cheaper than fresh butter), only during the years in the early twentieth century fresh butter was used, due to a lack of prices for salt

butter in those years. For Natal salt butter was used for the entire period under examination. One year gaps were filled by interpolation.

Soap: Prices of soap for the Cape Colony were taken from both 'average prices of consumables' and import and export prices. For Natal all soap prices are import prices. In some cases, the price of soap was given per cwts: 1 cwt was 112 lbs (according to a note in the Statistical Tables). Unfortunately, there were a number of big gaps in the price series in the earlier period, but because the series were not very volatile, these could be filled by interpolation

Cotton: All cotton prices were import prices for paid for at the Port of Natal. Because almost all cotton in South Africa was imported from the United Kingdom, it assumed that prices in the Cape Colony were similar to the prices in Natal, and due to a lack of cotton import prices at the Cape, the same series were used for both colonies. Gaps were filled by interpolation.

Candles: Candle prices in both the Cape and Natal were taken from the import and export tables in the sources. Small gaps were filled by interpolation.

Fuel: Coal prices were found only as imports in the port of Cape Town. No prices were found for coal in Natal, but because almost all coal in South Africa was imported from the United Kingdom, it is assumed that prices were similar in both Colonies, and the same prices series were used. Gaps were filled by interpolation. The price of coal was given per Lb., but for the CPI we needed prices per MBtu. According to the website University of Wisconsin at Stevens Point, and the Wisconsin Energy Education website:
http://www.uwsp.edu/cnr/wcee/keep/Mod1/Whatis/energyresourcetables.htm
1 Lb. Coal (Anthracite) is worth 12,500 Btu = 0.0125 MBtu. This conversion is almost similar to the conversion used by Allen et al.: 'the energy content of coal was rated at 27,533 Btu's per kilogram' (Allen et al. 2007, 35).

Metric Conversions: All prices given in the sources were given in English measures: avoirdupois pounds (lbs.), gallons and yards. The barebones and respectable baskets require metric measures, thus the English measures were converted into metric using Peter Lindert's excel sheet: 'English vs. Metric', on the *Global Price and Income History* website: http://gpih.ucdavis.edu/Converting.htm: Last update 10 April 2006. Prices for wheat and peas & beans were given per bushel. According to the 'Weight vs. Volume' sheet on the same website, 1 bushel weights 27.2154 kilograms.

Baskets: The caloric and protein contents per product in the baskets were taken from the table below.

Caloric and Protein Contents per Product. Source: Allen et al. (2011)

	Metric unit	**Calories per unit**	**Grams of protein per unit**
Rice	Kg.	3620	75
Bread	Kg.	2450	100
Wheat	Kg.	3420	113
Beans/peas	Liter	1125	71
Meat	Kg.	2500	200
Fish	Kg.	1301	192
Cheese	Kg.	3750	214
Butter	Kg.	7268	7
Beer	Liter	426	3
Wine	Liter	850	0