

Methodology in Colonial Data reconstruction –  
nineteenth century 'South Africa'

Ersa 2011



# INTRODUCTION

The aim of this project is to:

- analyse the economic development of 19<sup>th</sup> century South Africa in terms of financial deepening and widening.
- The main method is to gather specific information on annual output and value added in each of the most important economic sectors, following the System of National Accounts (SNA) used in contemporary economic-statistical research.

# GDP

- Conventional approach to measure well-being or quality of life.
- To reconstruct national income extensive data concerning production and prices, foreign trade, government receipts and expenditure, consumption and savings were collected and processed.
- The calculations of output were the starting point of the project.
- Initially the research focussed on the estimations of value added in agriculture, mining, fisheries and the limited information available on industries.
- Major research was undertaken to reconstruct the movement of agricultural output and the prices in the various sectors of the economy.

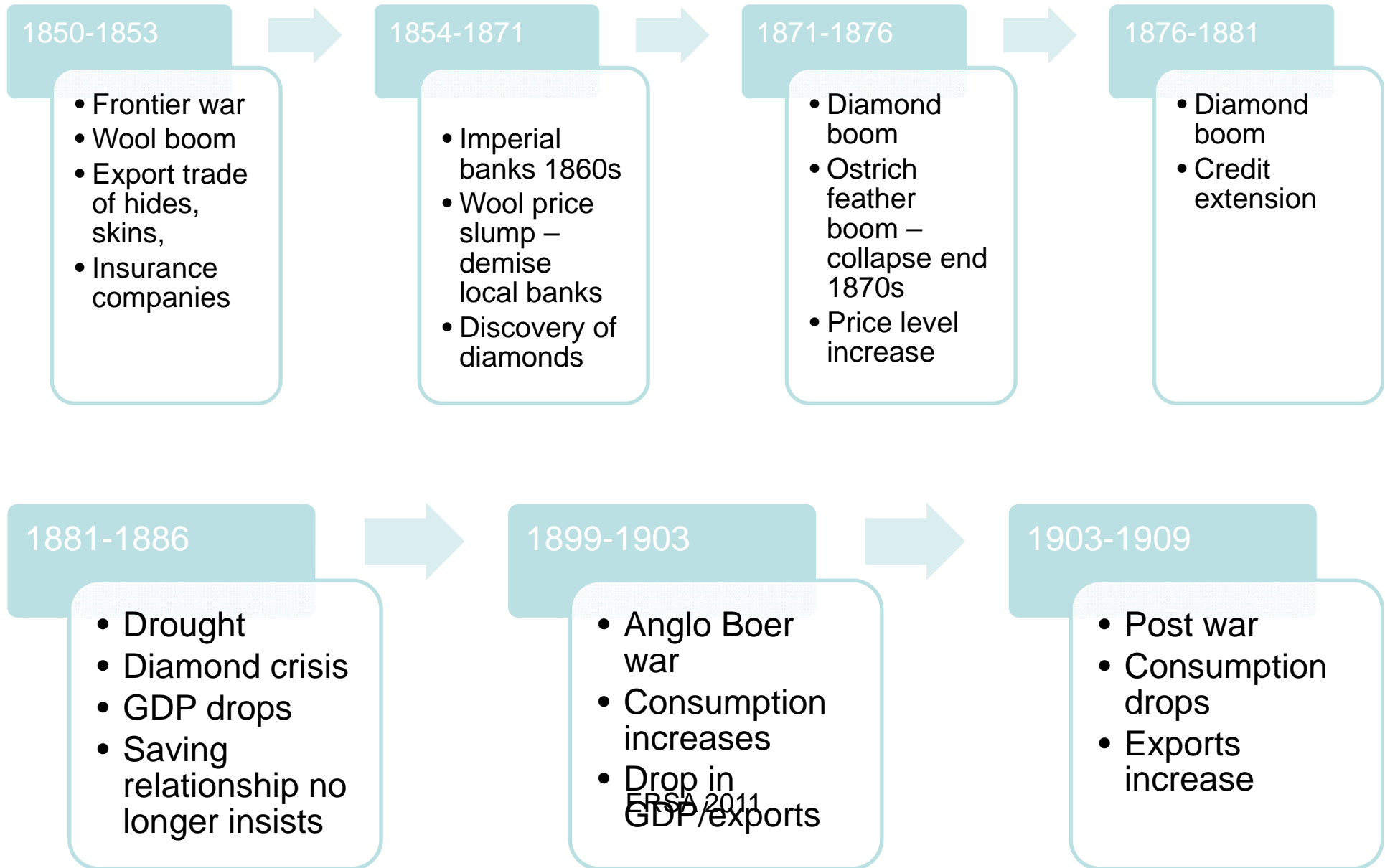
## FURTHER WORK

- The calculation of output information and the availability of historical series is a big contribution to reconstruction of the period 1850 -1909 for interpretation purposes.
- The process is however not nearly completed and a lot of issues must still be addressed:
  - Technically not all data and methods are fully exploited.
  - Measures for Service output must be further researched, although transport and trade is extensively available.
  - Capital expenditure for the private sector must be derived.
  - Integration must still take place between the GGP and the GDP.
  - Deflation techniques used to turn nominal output into real output should be improved.
  - For international comparative perspective, some harmonisation with historical national accounts in various countries must be done. It must be ascertained that at least some minimum standards of methodology is reached.

## SOURCES CONSULTED

- Cape of Good Hope. **Blue book for the Colony of Cape of Good Hope.** Cape Town: Solomon. From 1876 to 1886
- **Summaries of statistics compiled for the Colonial Blue Book 1876.** (G61-77)
- Cape of Good Hope. Department of the Colonial Secretary. **Statistical register.** Cape Town: [s.n.] 1886-1909
- Public Finance: **Estimates of revenue and expenditure.** Annually from 1854 to 1909.
- **Statistics return 1855.** (A14-57)
- **Census of the Colony of the Cape of Good Hope 1865.** (G20-66)
- **Census of the Colony of the Cape of Good Hope 1875.** (G42-76)
- **Census of the Colony of the Cape of Good Hope 1891.** (G6-92)
- Census Office. **Results of a Census of the Colony of the Cape of Good Hope as on the Night of Sunday, the 17<sup>th</sup> April, 1904.** Cape Town: Cape Times Ltd, for Government Printer, 1905.  
Cape

# Time Line



## BACKGROUND 1850 -1909

- Recession: 1862 – 1867
- Upswing: 1868- 1872
- Recession: 1873 – 1874
  - Drop in wool exports
  - Falling commodities prices: wheat and flour
- Upswing:1875-1889
- Eastern border war: 1877 – 1879
- Transvaal: 1877
- Zulu and Pedi: 1879
- Recession: 1881 – 1886
  - Collapse of share market 1881
  - influx of foreign capital fell
  - too large extension of easy credit
  - Cape Commercial Bank liquidated
  - bubble of diamond share burst
  - decrease in exports of diamonds
  - 1884, 1885 – reduced prices of wool and ostrich feathers (p186)
  - insolvencies and bankruptcies
  - tighten credit

## 1881 -

- 1881: poor yield of crop
  - declining market for wine, brandy, dried fruit in Kimberley
- Recovery: 1886 – 1887
  - Improvement in European wool market
  - Good rain
- Recovery of diamond industry
  - Flight of money capital from the Cape to Tvl
  - Diversion of capital to Tvl
  - Cape trade towards TVL
- Recession: 1888 - 1891
  - Speculation in gold market
  - Price increases in share
  - 1889- Mining share prices collapsed, decline in total market value of gold shares declined to 50%
  - Banks curtailed credit
  - 7 of the 8 local banks closed down
    - 1890: Union Bank of Cape Town, Cape of Good Hope Bank, Paarl Bank, The Natal Bank in Kimberley,
    - 1891: African Banking Corporation (ABC) absorbed 3 local banks
    - Standard bank and Bank of Africa
    - Stellenbosch District Bank only independent bank





## Timeline continue

- Rivalry with Natal for trade:
  - Durban through Natal
  - Lourenco Marques on Delagoa Bay into Eastern TVL
  - 1892 – railroad - Cape to TvI
- Upswing: 1893 - 1897
- Recession in TVL 1897 - 1898
- Boer War 1899 -1902
- 1903 – 1909 Reform
- Upswing:1906 – 1909

## Gross Domestic Product or Gross Geographic Product

- Since the data for the Colonies are gathered and analysed separately it is the Gross Geographic Product that is calculated.
- This means that all transactions involving residents of other provinces are treated as exports or imports
- Three different approaches to estimating GDP:
- Income Method
- Production method
- Expenditure Method

## Income method

	<b>Colonial Data available</b>
Compensation of employees	Government employees
Net operating surplus	
Consumption of fixed capital	
<b>GDP at factor cost</b>	

## Production method

	Colonial Data available
<b>Primary Sector</b>	
Agriculture	Census data (Quantities) + Production prices annually
Forestry	
Fishing	Annual
Mining and quarrying	Annual ( Quantities and prices)
<b>Secondary Sector</b>	None (Census data on number of industries only in
Manufacturing	*
Electricity, gas and water	
Construction (contractors)	
<b>Tertiary Sector</b>	
Wholesale and retail trade, catering, accommodation	
Transport, storage and communication	
Financial intermediation, insurance, real-estate and business services	Bank information available – but not services
Community, social and personal services	Government expenditure data
GDP at basic prices	

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## Expenditure Method

	Colonial Data available
Final consumption expenditure by households	Imports for home consumption Locally produced goods for consumption not reported
Final consumption expenditure by general government: Individual consumption: Education, health and welfare Collective consumption: Defence, law and order and public administration	Government expenditure and capital formation total
Gross fixed capital expenditure: Government Private	Public works None
Change in inventories	
Residual item	
<b>Gross domestic expenditure</b>	
Exports of goods and services	Complete distinction between : exports overseas, exports colonial produce, exports non-colonial produce, in transit over land Species and bullion
<i>Minus</i> Imports of goods and services	Complete distinction between: Foreign goods South African produce (exclusive of raw gold) From countries outside British South Africa
<b>Expenditure on gross domestic product (at market prices)</b>	

- [Blue BOOKS CC \(18-11-2010\).xlsx](#)

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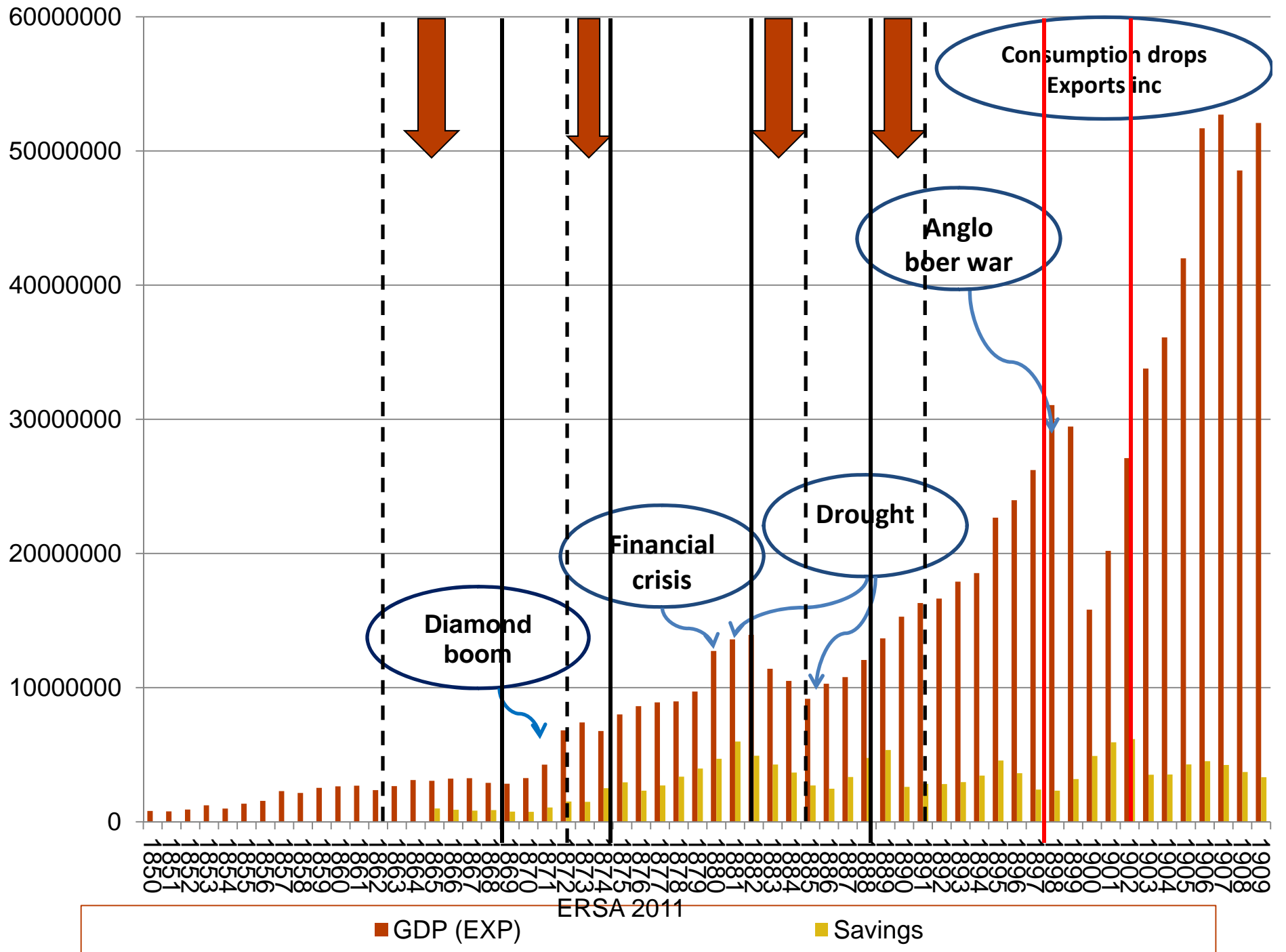


## PRICE INDICES

- The methodology currently used is statistically simple and may not be advanced enough for analysis purposes.
- The methodology used is the Paasche indices based on weighting which change only at limited and elected years.
- The problem with using constant weights , or weights that change only periodically is that the structure are kept unchanged whilst new products are introduced continuously and this mistake will be incorrectly taken up in the index.

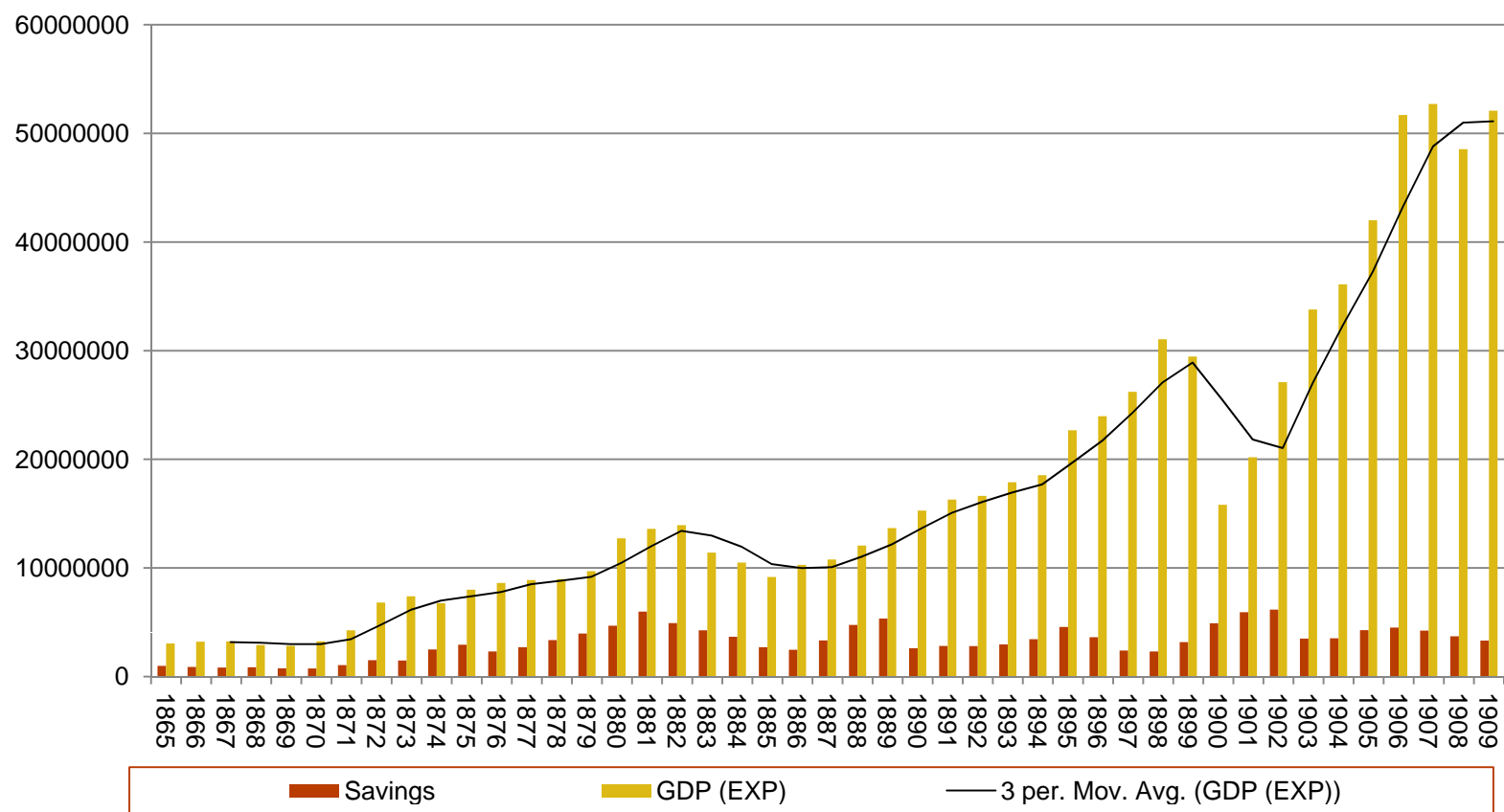
	CC	Natal
Oatmeal	X	X
Flour	X	X
Mealies		X
Mealie meal		X
Mutton	X	X
Beef	X	X
Pork	X	X
Eggs		X
Milk		X
Dried Fruit		X
Potatoes		X
Rice		X
Sugar		X
Butter	X	X
Tea	X	X
Tobacco	X	X
Wine	X	X
Brandy	X	X
Beer		X
Lamp oil	X	
Candles		X
Paraffin		X
Wood		X
Coal		X
Bread		X
Cheese		X
Coffee		X
Men suit –ready made		X
Boots	X	X
Socks		X
Calico per yds.		X
Trousers	X	X
Hats		X
Flannel shirts	X	X
Ladies Costumes		X
Blankets	X	X
Mattresses (horse hair or straw)	X	
Sheets per pair		X

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## Smoothed GDP and Savings (1865 – 1909)



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