

# The evolution of wealth in a periphery economy. Estimates for Uruguay in the long-run (1860-1940)



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# Outline

1. Motivation - Background
2. Expected results
3. Data estimations
4. Results
5. Conclusions

# 1. Motivation - Background

- I. Recent work on wealth estimates and efforts to generate new data by the core economies - few insights from the periphery.
- II. There are no precedents of wealth estimation in Uruguay, but :
  - I. Vaillant (1873)
  - II. Ochoa (1948)
- III. Uruguay integrated *"the group of non-European countries which at the [beginning of] twentieth century can be classified as developed"* (Foreman-Peck 1995:105). Their natural resource endowments enabled to adopt a fast expansion trajectory. On the eve of the WWI, it reached levels of **income per capita** on a par with the richest economies of Europe. But after 1910 starts a divergence process which will endure until the end of the 20th Century.
- IV. *"...Despite the transformations in the Uruguayan economy in the first three decades of the 20th century, the accumulation regime of the end of the 19th century was maintained. ..."* (Bertino et al 2005, p.417)

## 2. Expected results

Three expected results:

I. In the long run, the gap between Uruguay and the “world leaders” countries regarding wealth per capita (pc) should show a similar trajectory than income pc gap, and, in consequence, lower ratios of wealth per cápita.

II. According to the idea of Uruguay “as a rich country” (Vaillant, 1876; Foreman and Peck, 1995; Barrán and Nahum, 1978), we should expect high levels of wealth as a percentage of total income in the international comparison.

III. Regarding wealth composition, we should expect a predominance of the land and agricultural assets as the main component of Uruguayan wealth, opposed to the financial and housing assets of the developed countries.

## 3. Data estimation

### I. Main sources:

- I. Vaillant (1873): land for housing and farming, working capital, money supply from banks (current prices – Contribución directa)
- II. 1893 onwards: agricultural capital investment, private railways, and coins.
- III. 1925 onwards: "other assets" includes the legal banking reserve and the value of products, machinery and agricultural assets.

### II. Data corrections:

- I. 1876, 1893, 1900 and 1910 distribution of land and farms: were estimated by linear interpolation.
- II. Discrepancies in the internal value distribution: we consider as valid the total wealth value in each year and reassign values by category based on the percentage distribution presented by Ochoa (1948:802).
- III. Items corresponding to public wealth was subtracted to obtain the private wealth, and the total wealth was re-estimated considering these differences.
- IV. Net wealth is obtained subtracting liabilities from gross wealth.

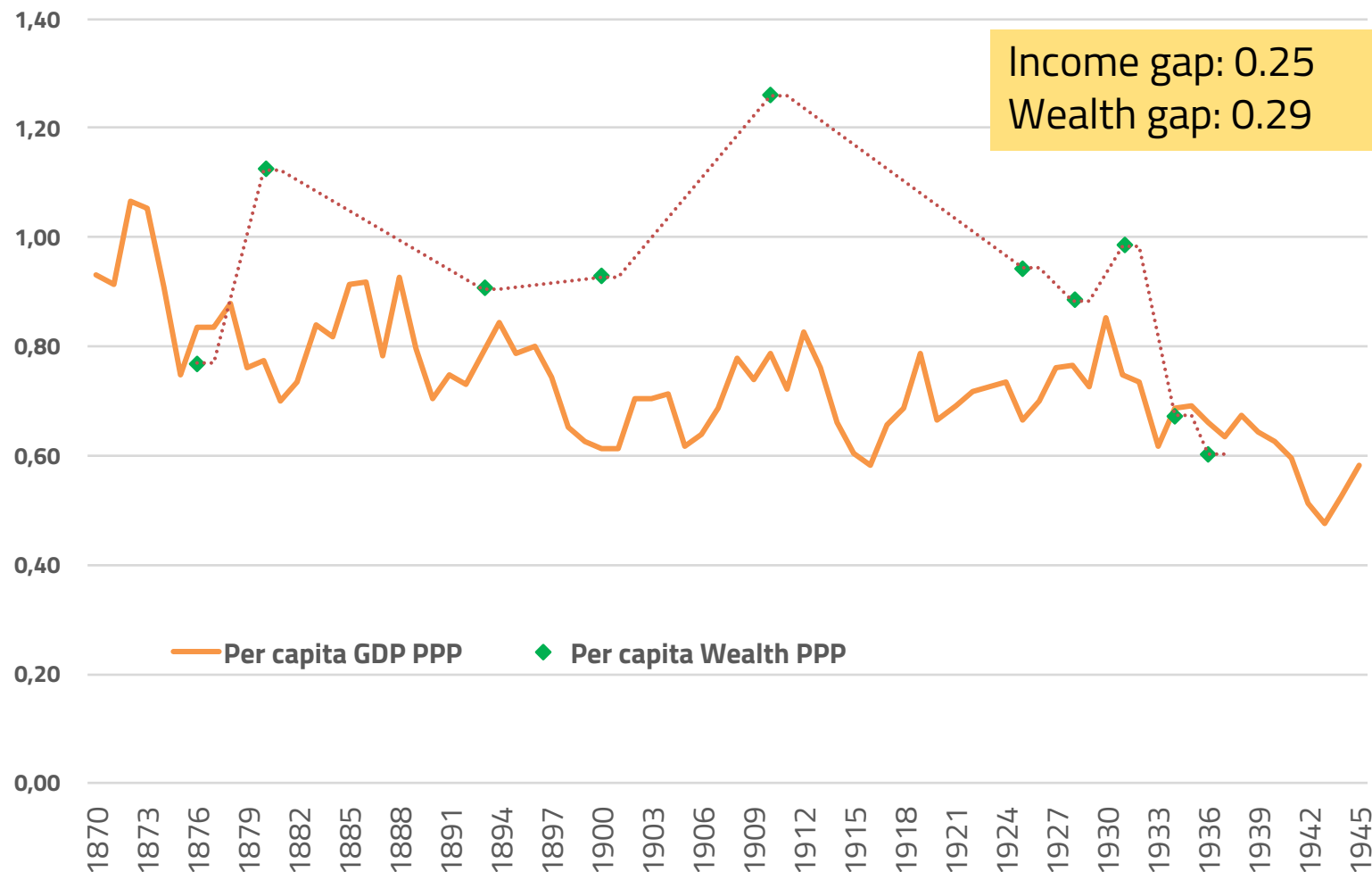
## 3. Data estimation

### III. Liabilities estimations:

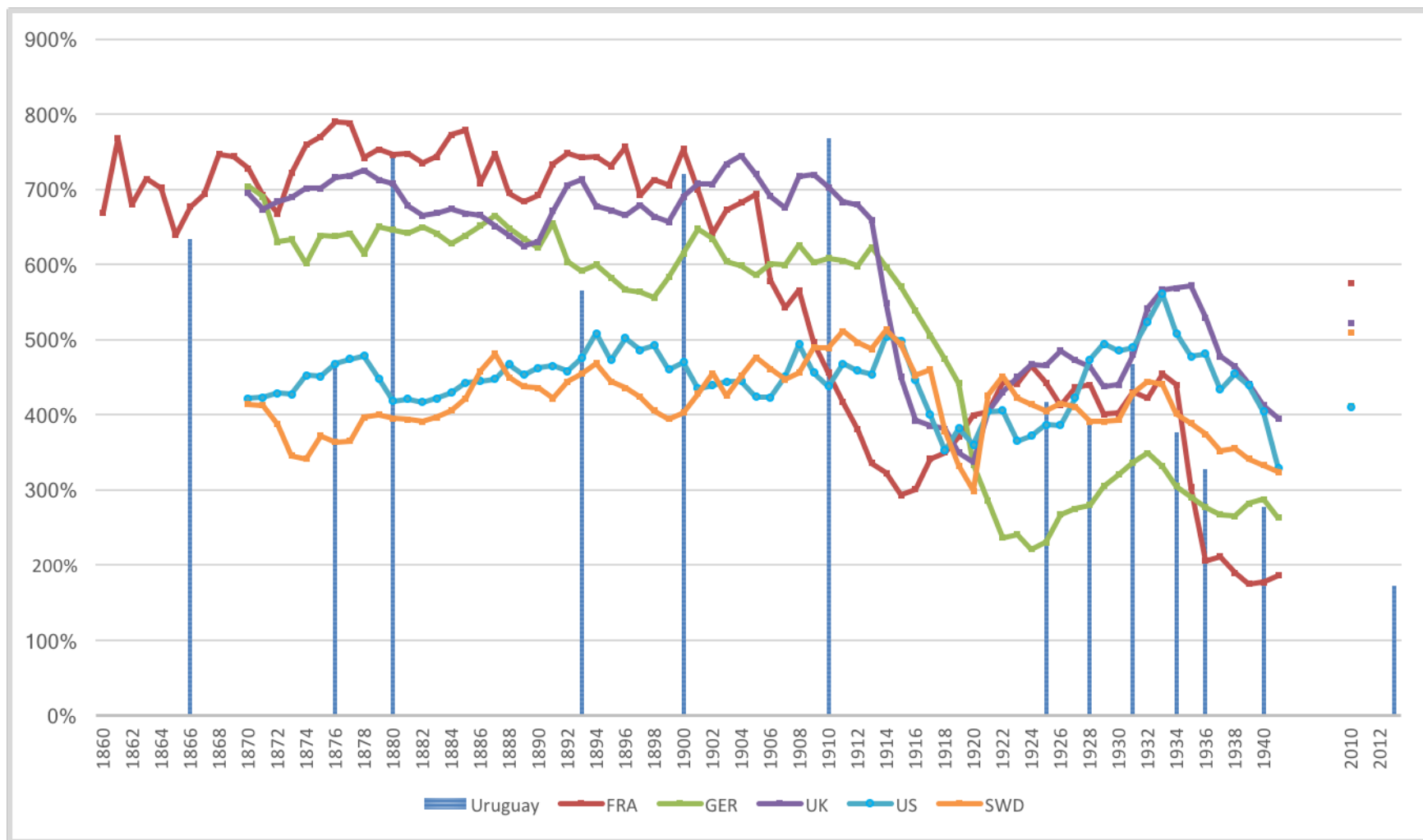
- I. Barrán & Nahum (1971:493): “1892, at least a 20 percent of total real estate was mortgaged”. We use this figure as initial reference. Statistical Yearbooks (1909-1910, 1928, 1936 and 1940): annual constitution and cancellation of mortgages for 1887-1940 and 1900-1940, respectively.
- II. 1870-1886: moved by the evolution of the commercial credits. According to Barrán & Nahum (1971), the mortgage debts entailed a sort of liability close to commercial credits.
- III. Cancellations 1870-1899: we use the structural relation between both – constituted and canceled mortgages– in 1900-1930 ( $r=0.83$ )

### IV. Match Ochoa (1948) classification with Piketty (2014) categorization of assets.

## 1. Wealth gap – PIB gap (core countries = 1)



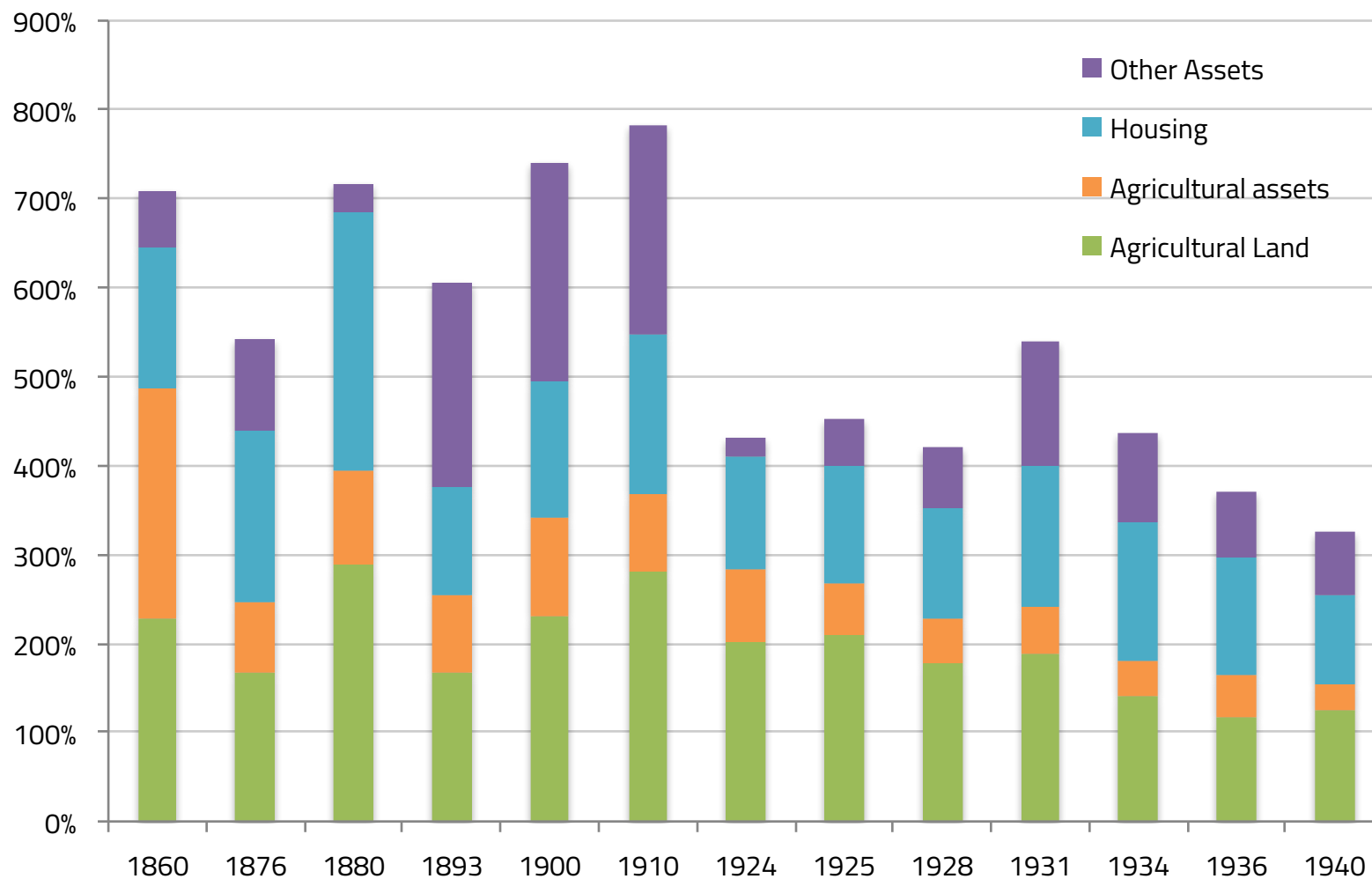
2- Wealth income ratios in Uruguay and other countries. 1876-1940 (selected years)



SOURCE: own estimation based on Piketty and Zucman (2014), Waldenström (2017) and De Rosa (2016)

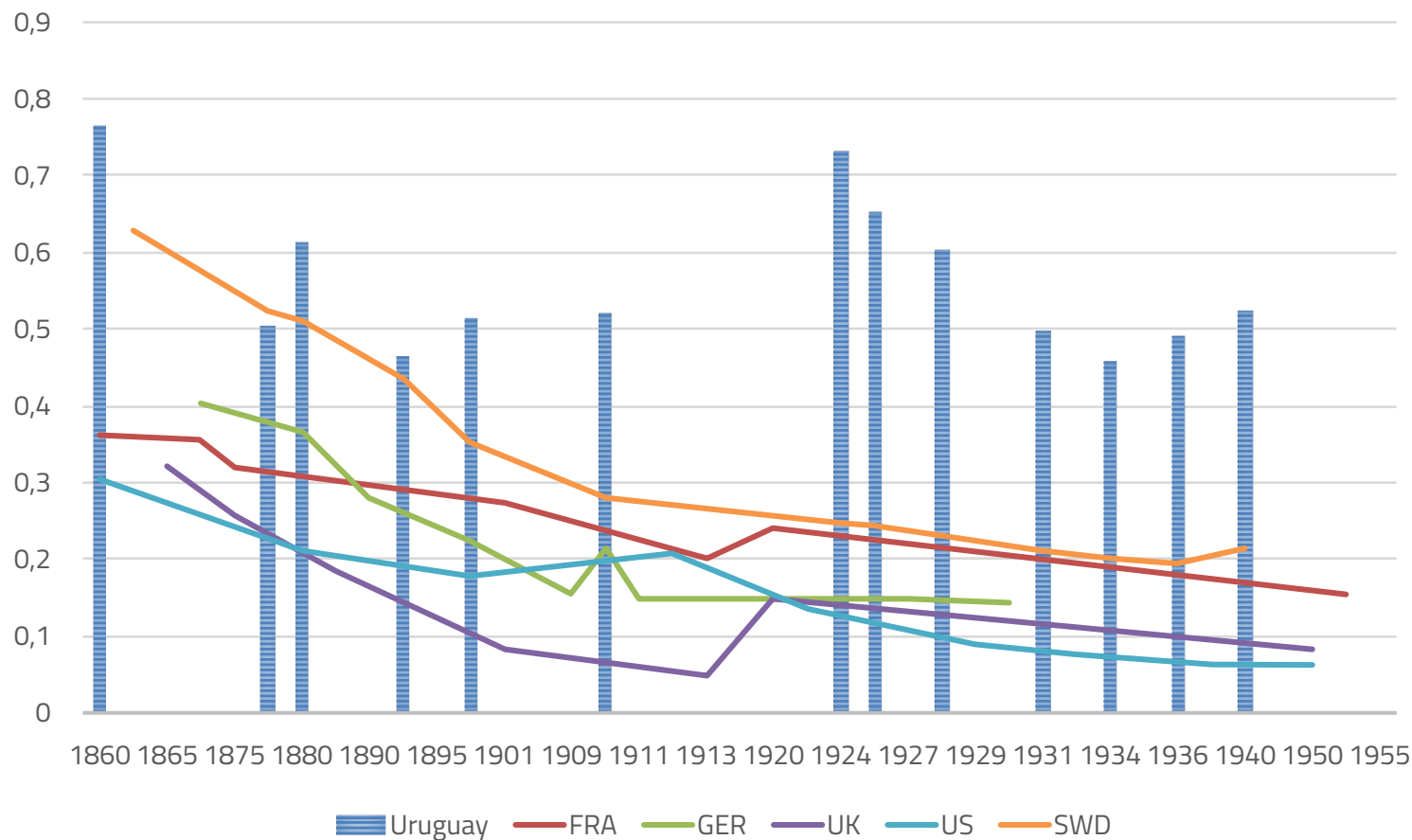


## 3- Uruguayan wealth composition. 1860-1940 (selected years)



SOURCE: own estimation

Evolution of the Agricultural Land and Assets as a percentage of the Private Wealth  
(1860-1940 – Selected countries and years)



SOURCE: own estimation based on Piketty and Zucman (2014), Waldenström (2017), Ochoa (1948).

Wealth decomposition and accumulation

$$\beta_{nt+1} = \frac{(1+g_{wst})(1+q_t)}{(1+g_t)} \beta_{nt}$$


Where:

$(1 + g_{wst}) = 1 + \frac{s_t}{\beta_{nt}}$ : saving-induced wealth growth rate.

$(1 + q_t)$ : capital-gains-induced wealth growth rate

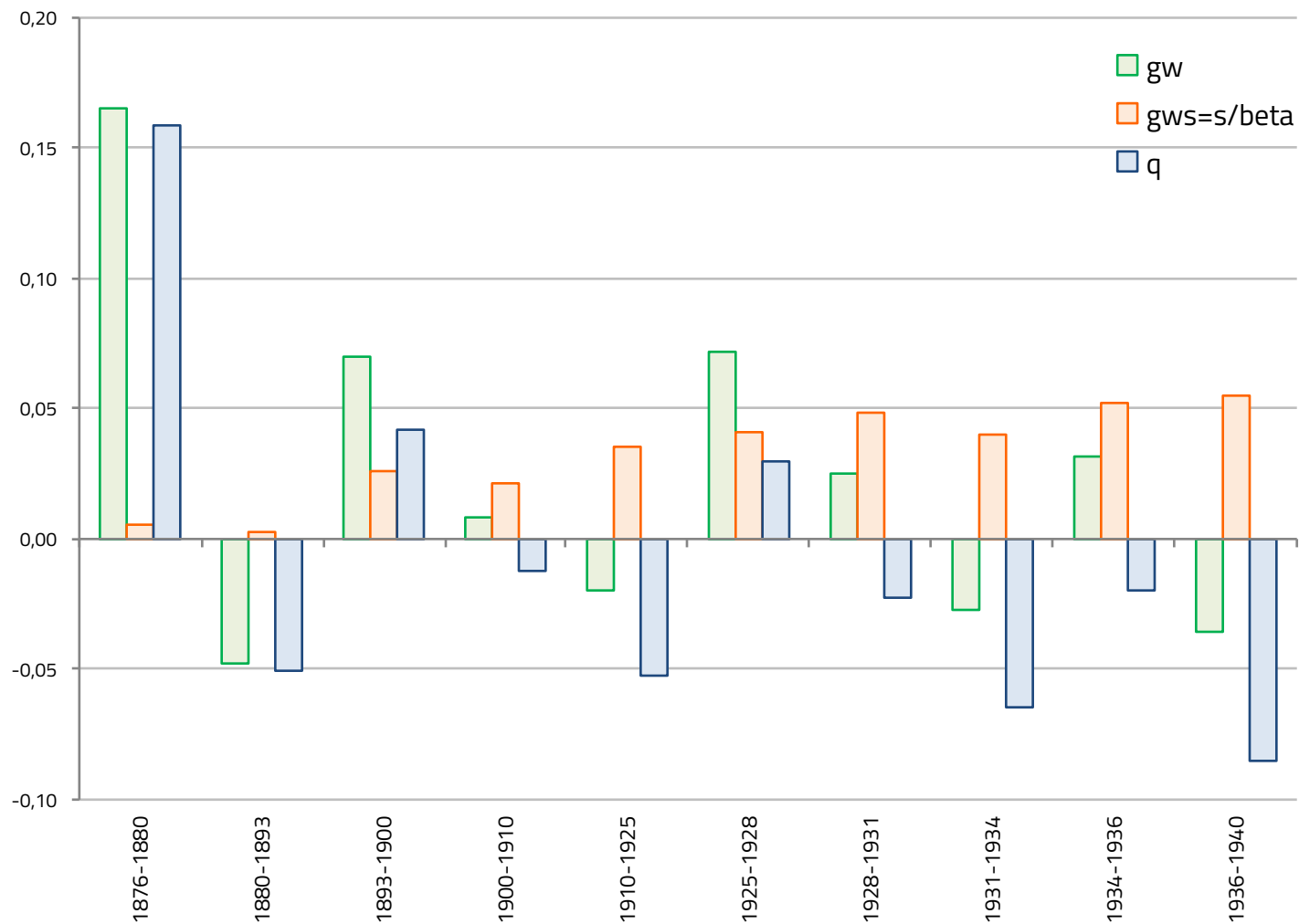
$(1 + g_t) = \frac{Y_{t+1}}{Y_t}$ : growth rate of national income.

$$(1 + g_k) = (1 + g_{wst})(1 + q_t)$$

  
Real growth rate of wealth

- Wealth in constant prices.
- Saving rate: "marginal propensity to save" ( $s=DS/DY$ )

## Wealth decomposition and accumulation



SOURCE: Savings: own estimation based on, Román (2017), Wealth: see text

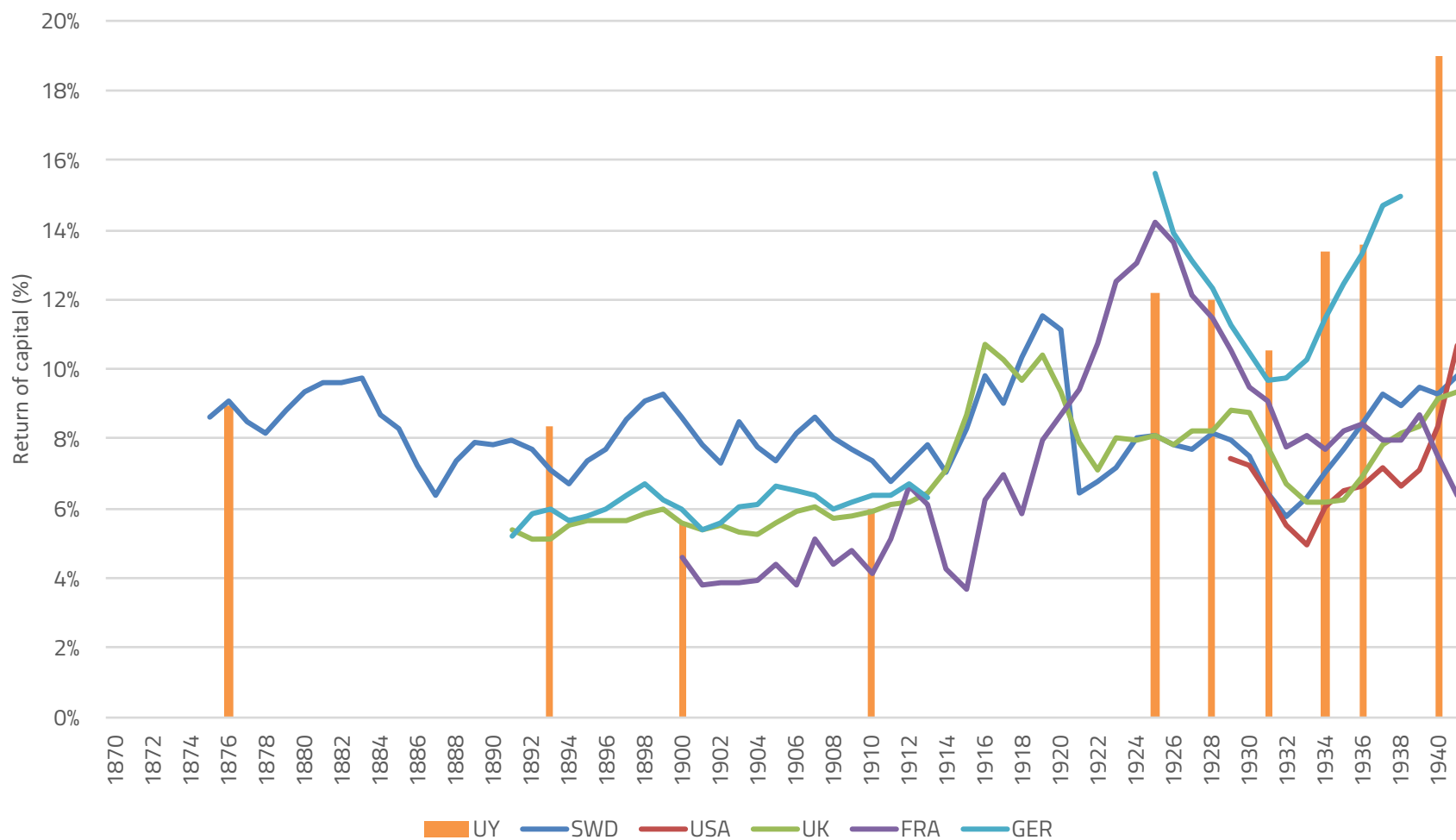
## Wealth decomposition and accumulation

**Table 3. Accumulation of Private Wealth in Uruguay, 1876-1940**

	Market-value private wealth- income ratios (%)		Real growth rate of national wealth (%)	Savings-induced wealth growth rate (%)	Capital gains-induced wealth growth rate (%)
	$\beta_t$	$\beta_{t+n}$	$g_w$	$g_{ws} = s/\beta$	$q$
1876-1880	4,68	7,45	0,1652	0,006	0,158
1880-1893	7,45	5,65	-0,048	0,003	-0,050
1893-1900	5,65	7,20	0,070	0,026	0,042
1900-1910	7,20	7,68	0,009	0,021	-0,013
1910-1925	7,68	4,18	-0,019	0,035	-0,053
1925-1928	4,18	3,86	0,072	0,041	0,030
1928-1931	3,86	4,68	0,025	0,049	-0,022
1931-1934	4,68	3,77	-0,027	0,040	-0,065
1934-1936	3,77	3,28	0,032	0,052	-0,019
1936-1940	3,28	2,77	-0,035	0,055	-0,085
1876-1910	4,685	7,68	0,016	0,020	0,00
1910-1940	7,682	2,77	-0,006	0,043	-0,05
1876-1940	4,685	2,77	0,006	0,031	-0,02

SOURCE: Savings: own estimation based on, Román (2017), Wealth: see text

## Wealth decomposition and accumulation



SOURCE: own estimation based on, Waldenström (2017), Ochoa (1948).

# Conclusions

- We obtain levels of  $\beta$  coefficients which evolve in a similar trajectory to those evidenced by the core European countries. In terms of relative development, our findings replicate the results derived from considering the evolution of GDP pc
- In terms of relative development, our findings replicate the results derived from considering the evolution of income.
- Our findings of similar cycles, compared to the European economies, of the wealth-income ratio variations after the WWI in a peripheral economy like Uruguay would indicate that prices are a powerful transmission channel in the de-cumulation of wealth, even in those economies whose wealth composition is based mainly on fixed assets such as land
- The developing of the Uruguayan economy during the period led us to conclude that the transition between the agrarian based model of development, predominant in the 19th century, to the import substitution model, from the 1930s onward, had severe costs regarding wealth and savings. The wealth structure could amplify this result since fixed assets –mainly land and agricultural assets– were the patrimonial base of the accumulation since the 19th century.

Thanks!