The Gold Standard and the rules of the game: Lesson from the Uruguayan experience

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The Gold Standard: core vs. periphery

- Gold Standard (David Hume's **price-specie-flow mechanism)** and the **"rules of the game"** whereby countries are supposed to increase (decrease) interest rates to help the "self-correcting" flows predicted by the model to adjust trade balance deficits (surpluses)
- **Core countries** with central banks violated the "rules of the game" due to their central position in the banking market and their monopoly on paper currency emission, manipulated the discount rate and affected the credit volume (Bloomfield, 1959)
- Morys (2013) and Bazot et al. (2022) provide empirical evidence that central banks in Gold Standard countries practiced volatility smoothing

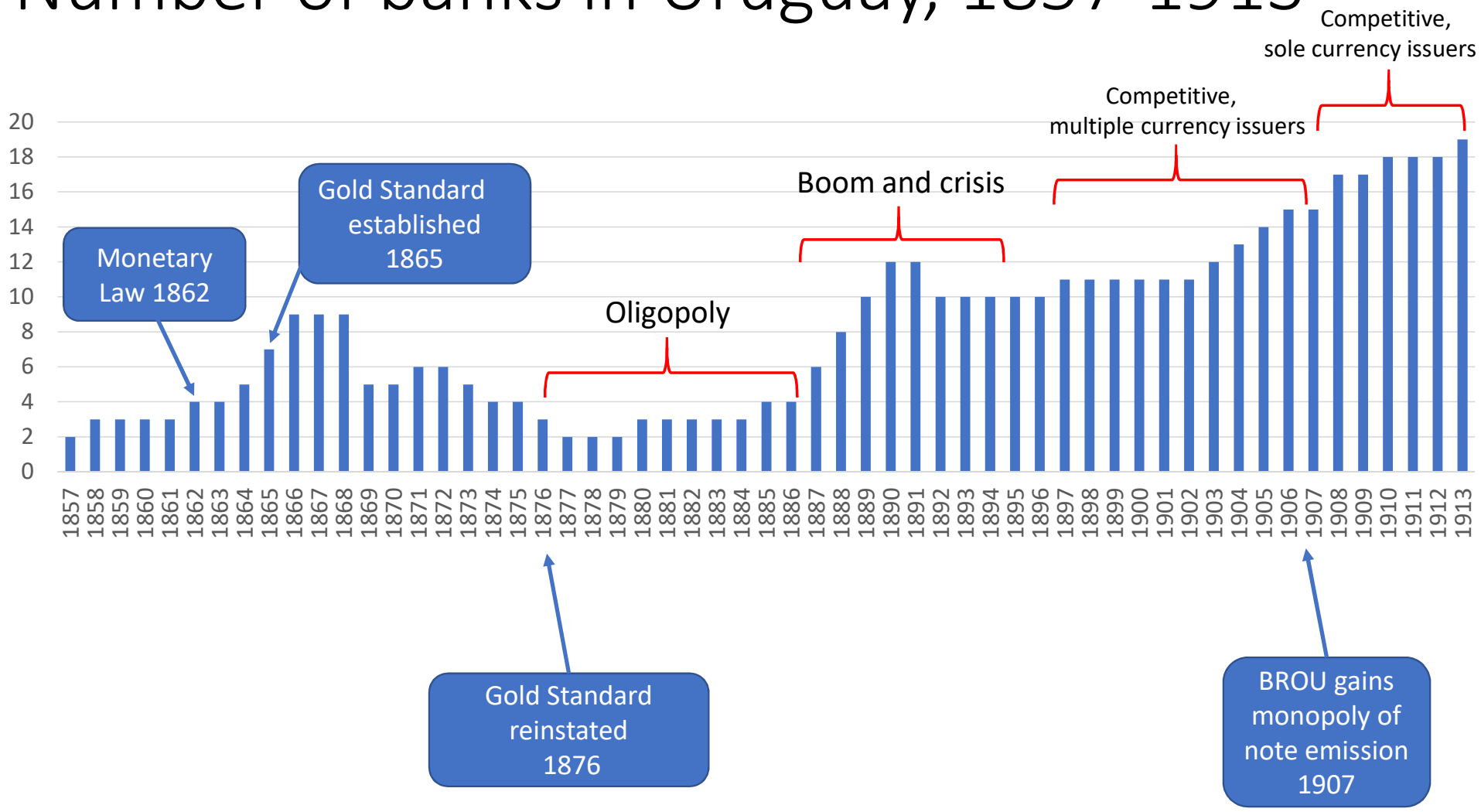
The Gold Standard: core vs. periphery

- **Peripheral countries** with less-established (or without) central banks "had less discretion than central banks and, indeed, were more wholehearted followers of the rules of the game, as popularly interpreted (Ford, 1989)."
- **Exposed to external shocks** (faced fixed international prices for their exports of primary goods and for imports of manufactures and capital goods) and had difficulty maintaining the Gold Standard because adjustments had to occur through changes in income
- An exception, Scandinavian countries had a certain degree of success in adhering to the Gold Standard (their large banks took on central banking functions)

Motivation and objectives

- How did **Uruguay** stay on the Gold Standard for 38 years with no central bank (**free banking system**)?
- *Hypothesis*: *Banco Comercial* and *London and River Plate Bank*- consistently broke the "rules of the game", changing their volume of credit in the opposite direction as gold reserves
- These two private banks **provided stability of money and credit** for their clientele (large merchants involved in international trade) and played the central bank's role
- Political economy dimension, especially because the period until the mid-1890s is deflationary

Number of banks in Uruguay, 1857-1913



Literature: Empirical evidence

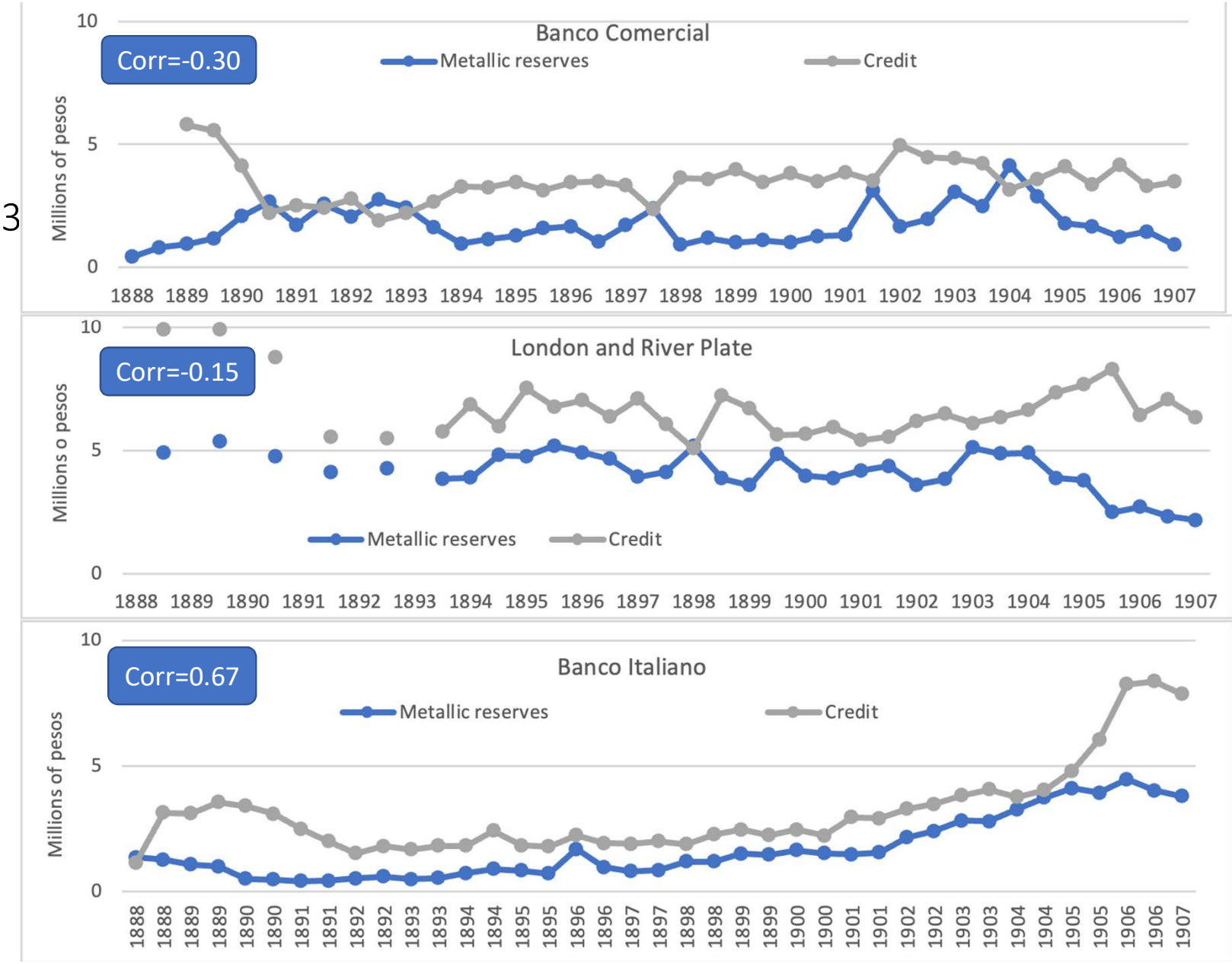
- Arthur Bloomfield (1959) presented evidence for 11 countries during Gold Standard showing that central bank **domestic (credit)** and **international assets (gold)** moved in opposite directions in 60% of years in 1880-1893
- Using VARs, Bazot et al. (2022) show for a sample of 20 countries **with central banks** consistently cushioned their domestic money from international shocks
- For the **US** with **no central bank** and highly regulated banking system, money supply was less shielded from international shocks (Bazot et al., 2022)

Metallic reserves and credit co-movement Uruguayan banks, 1885-1913

Bank	Years for which data is available (number of year-to-year changes)	Percentage of years for which gold and credit move in opposite directions
Banco Comercial	1885-1913 (28)	61%
London and River Plate Bank	1885-1913 (28)	61%
Banco Italiano	1887-1913 (25)	31%
English Bank of the River Plate	1886-1890 (4)	50%
Bank of Spain and the River Plate	1888-1892, 1898-1903 (10)	33%
Banco Nacional	1887-1891 (4)	50%
BROU	1896-1913 (17)	41%
Banco Popular	1904-1913 (9)	22%

Metallic reserves and credit

bi-annual data, 1888-1913

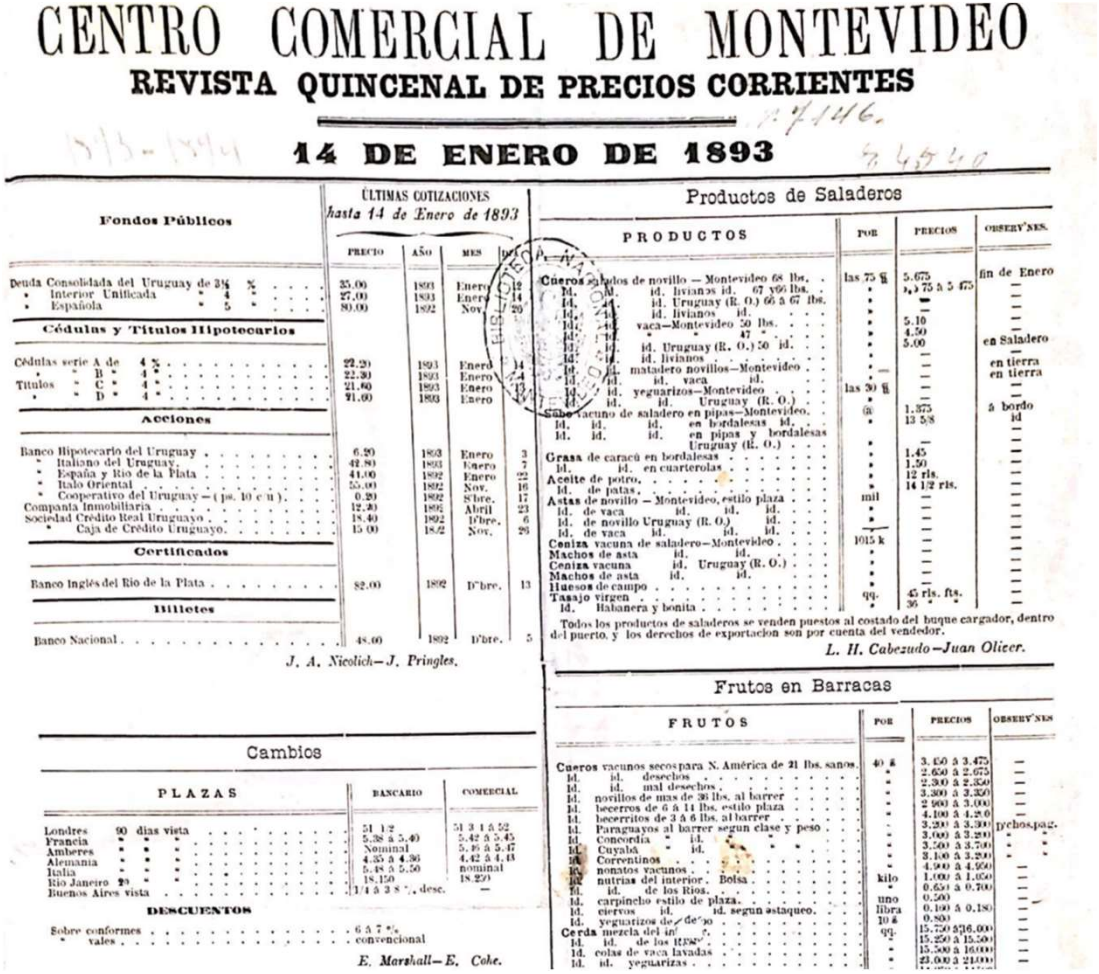


New dataset (hand collected)

- New dataset for **peripheral** countries
- Data frequency: Monthly
- Sample period: Nov 1876 – Dec 1913
- Uruguayan discount (market rate)

  Bills of exchange discounted at the *Bolsa de Comercio*
- Exchange rate (based on the price of 3-month bills of exchange) but converted to spot rate
- Source: *Boletin de la Bolsa de Comercio de Montevideo* and Uruguayan financial press (*El Siglo*, *La Democracia*, *La Idea*, La *Nación*, *El Bién Público*, *El Hilo Eléctrico*, etc)

New dataset (hand collected)



CENTRO COMERCIAL DE MONTEVIDEO

REVISTA QUINCENAL DE PRECIOS CORRIENTES

14 DE ENERO DE 1893

Fondos Públicos

ÚLTIMAS COTIZACIONES hasta 14 de Enero de 1893

	PRECIO	AÑO	MES	DÍA
Deuda Consolidada del Uruguay de 3½ %	35.00	1893	Enero	12
" Interior Unificada " 4 "	27.00	1893	Enero	14
" Española " 5 "	80.00	1892	Nov.	29
Cédulas y Títulos Hipotecarios				
Cédulas serie A de 4 %	22.20	1893	Enero	14
" " B " 4 "	22.30	1893	Enero	14
Títulos " C " 4 "	21.60	1893	Enero	13
" " D " 4 "	21.60	1893	Enero	
Acciones				
Banco Hipotecario del Uruguay	6.20	1893	Enero	3
" Italiano del Uruguay.	42.80	1893	Enero	7
" España y Rio de la Plata	41.00	1892	Enero	22
" Ralo Oriental	55.00	1892	Nov.	16
" Cooperativo del Uruguay—(ps. 10 c u).	0.20	1892	S'bre.	17
Compañía Inmobiliaria	12.20	1892	Abril	23
Sociedad Crédito Real Uruguayo	18.40	1892	D'bre.	6
" Caja de Crédito Uruguayo.	15.00	1892	Nov.	29
Certificados				
Banco Inglés del Rio de la Plata	82.00	1892	D'bre.	13
Billetes				
Banco Nacional	48.00	1892	D'bre.	5

J. A. Nicolich—J. Pringles.

Cambios

PLAZAS	BANCARIO	COMERCIAL
Londres 90 dias vista	51 1/2	51 3/4 á 52
Francia " " "	5.38 á 5.40	5.42 á 5.45
Amberes " " "	Nominal	5.46 á 5.47
Alemania " " "	4.35 á 4.36	4.42 á 4.43
Italia " " "	5.48 á 5.50	nominal
Rio Janeiro 30 "	18.150	18.270
Buenos Aires vista	1/4 á 3/8 %, desc.	—

DESCUENTOS

Sobre conformes . . . . . 6 á 7 %.
" vales . . . . . convencional

E. Marshall—E. Cohe.

Productos de Saladeros

PRODUCTOS	POR	PRECIOS	OBSERV'NES.
Cueros salados de novillo — Montevideo 68 lbs.	las 75 ℔	5.675	fin de Enero
Id. id. id. livianos id. 67 y⅝ lbs.	"	" 75 á 5.475	—
Id. id. id. Uruguay (R. O.) 66 á 67 lbs.	"	—	—
Id. id. id. livianos id.	"	—	—
Id. id. vaca—Montevideo 50 lbs.	"	5.10	—
Id. " " " 47 "	"	4.50	—
Id. id. id. Uruguay (R. O.) 50 id.	"	5.00	en Saladero
Id. id. id. livianos	"	—	—
Id. id. matadero novillos—Montevideo	"	—	en tierra
Id. id. id. vaca id.	"	—	en tierra
Id. id. yeguarizos—Montevideo	las 50 ℔	—	—
Id. id. id. Uruguay (R. O.)	"	—	—
Sebo vacuno de saladero en pipas—Montevideo.	@	1.375	á bordo
Id. id. id. en bordalesas id.	"	13 5/8	id
Id. id. id. en pipas y bordalesas Uruguay (R. O.)	"	—	—
Grasa de caracú en bordalesas	"	1.45	—
Id. id. en cuarterolas	"	1.50	—
Aceite de potro.	"	12 rls.	—
Id. de patas.	"	14 1/2 rls.	—
Astas de novillo — Montevideo, estilo plaza	mil	—	—
Id. de vaca id. id. id.	"	—	—
Id. de novillo Uruguay (R. O.) id.	"	—	—
Id. de vaca id. id. id.	"	—	—
Ceniza vacuna de saladero—Montevideo	1015 k	—	—
Machos de asta id. id.	"	—	—
Ceniza vacuna id. Uruguay (R. O.)	"	—	—
Machos de asta id. id.	"	—	—
Huesos de campo	"	—	—
Tasajo virgen	qq.	45 rls. fts.	—
Id. Habanera y bonita	"	36 " "	—

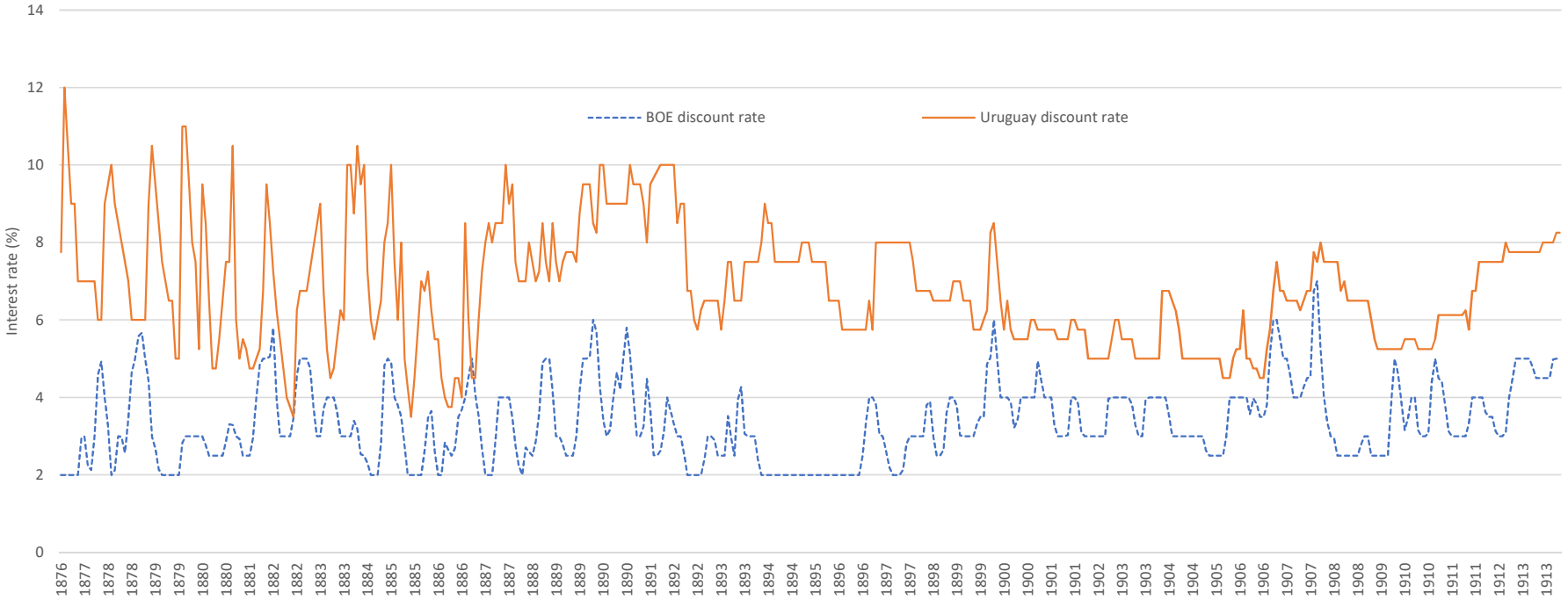
Todos los productos de saladeros se venden puestos al costado del buque cargador, dentro del puerto, y los derechos de exportacion son por cuenta del vendedor.

L. H. Cabezudo—Juan Oliver.

Frutos en Barracas

FRUTOS	POR	PRECIOS	OBSERV'NES
Cueros vacunos secos para N. América de 21 lbs. sanos.	40 á	3.450 á 3.475	—
Id. id. desechos	"	2.650 á 2.675	—
Id. id. mal desechos	"	2.300 á 2.350	—
Id. novillos de mas de 30 lbs. al barrer	"	3.300 á 3.350	—
Id. becerros de 6 á 14 lbs. estilo plaza	"	2.900 á 3.000	—
Id. becerritos de 3 á 6 lbs. al barrer	"	4.100 á 4.200	—
Id. Paraguayos al barrer segun clase y peso	"	3.200 á 3.300	prchos.pag.
Id. Concordia " id. " "	"	3.000 á 3.200	" "
Id. Cuyabá " id. " "	"	3.500 á 3.700	" "
Id. Correntinos	"	3.100 á 3.200	" "
Id. nonatos vacunos	"	4.000 á 4.500	—
Id. nutrias del interior. Bolsa	kilo	1.000 á 1.050	—
Id. id. de los Rios.	"	0.650 á 0.700	—
Id. carpincho estilo de plaza.	uno	0.500	—
Id. cierros id. id. segun estaqueo.	libra	0.160 á 0.180	—
Id. yeguarizos de pelo	10 á	0.800	—
Cerda mezcla del in	qq.	15.750 á 16.000	—
Id. id. de los RRES.	"	15.250 á 15.500	—
Id. colas de vaca lavadas	"	15.500 á 16.000	—
Id. id. yeguarizas	"	23.000 á 24.000	—

Uruguayan and Bank fo England (BoE) interest rates



Pass-through rates for Uruguay (VARs)

Period	Dates	Pass-through rate	Number of banks in operation
Entire Gold Standard period	1877m01-1913m12	30.1%	2 to 19
Oligopoly	1877m01-1887m08	19.7%	2 to 4
New banks, boom and 1890 crisis	1887m09-1896m09	34.2%	6 to 10
Competitive, multiple currency issuers	1896m10-1907m17	46.8%	11 to 15
Competitive, sole currency issuers	1907m08-1913m12	41.0%	16 to 19

Pass-through rates for other gold standard countries (Bazot et al., 2022)

Country type		Pass-through rate
Gold Standard countries with central banks	All	20%
	Core: France, Germany, the Netherlands, Belgium and Austria	24%
	Periphery: Denmark, Italy, Sweden, Norway, Finland, Romania, Russia and Japan	17%
Gold Standard country with no central bank	USA	49%

Was Uruguay integrated into world markets?

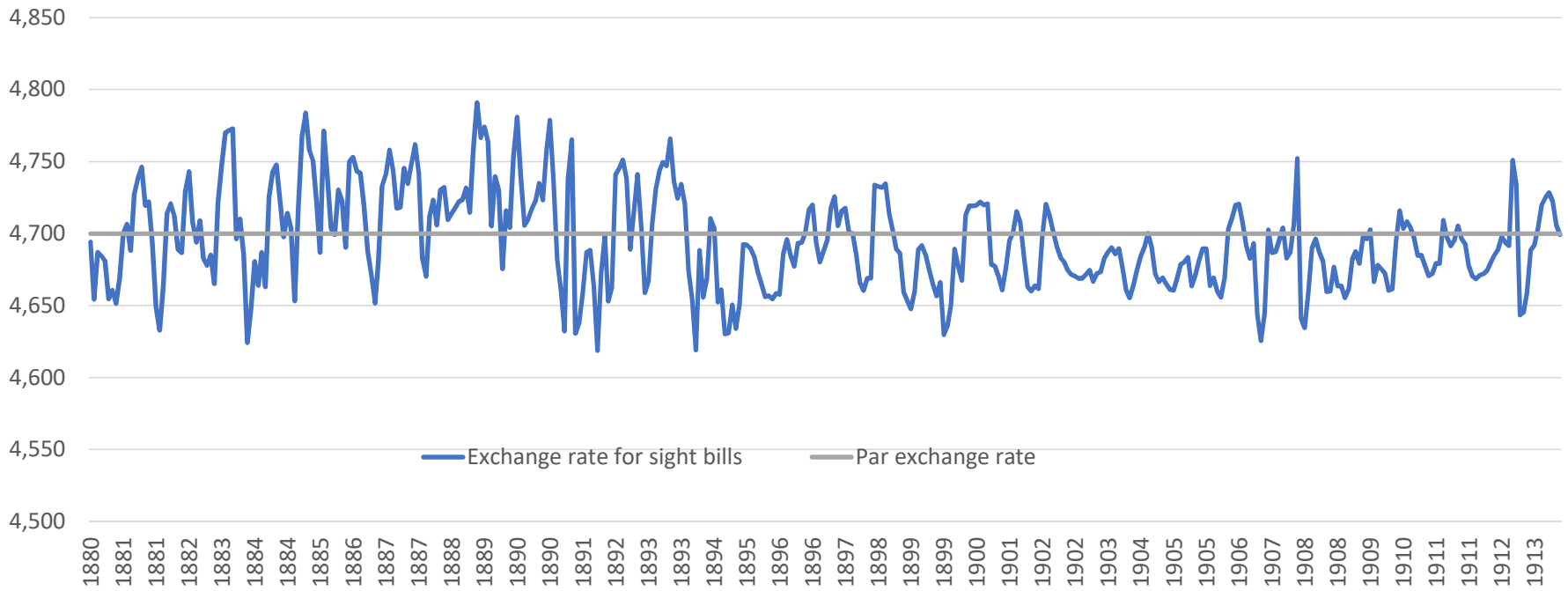
Correlation coefficients for monthly wheat prices in several cities

	January 1879 – December 1913					January 1879 – August 1887				
	London	Paris	Berlin	Budapest	Oslo	London	Paris	Berlin	Budapest	Oslo
London	1.00					1.00				
Paris	0.77	1.00				0.84	1.00			
Berlin	0.66	0.74	1.00			0.90	0.93	1.00		
Budapest	0.61	0.59	0.84	1.00		0.89	0.88	0.95	1.00	
Oslo	0.59	0.64	0.71	0.64	1.00	0.72	0.71	0.72	0.71	1.00
Montevideo	**0.68**	0.66	0.62	0.44	0.44	**0.80**	0.78	0.79	0.77	0.62

Conclusions

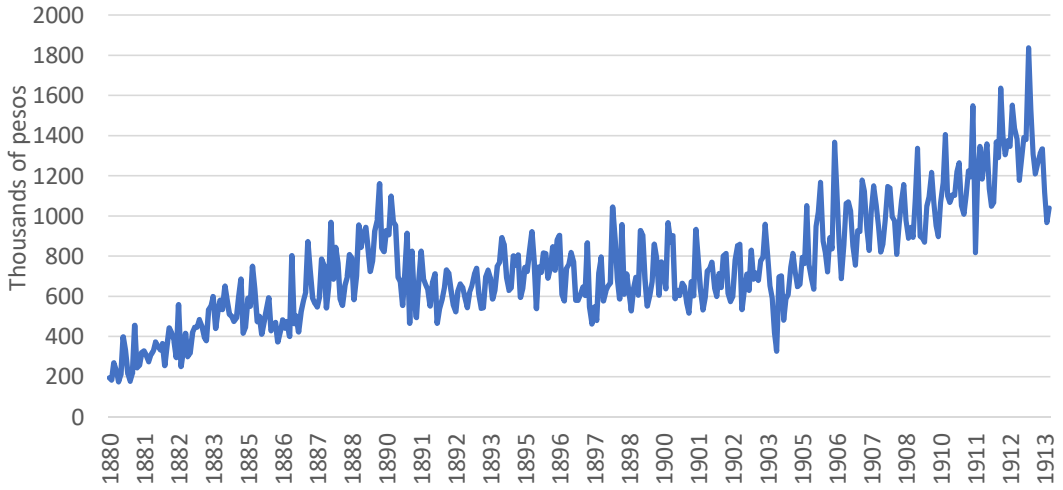
- Two banks –the Banco Comercial and the Uruguayan branch of the London and River Plate Bank- managed credit countercyclically with respect to reserves
- The pass-through depended on the degree of competition in the banking sector
- During the period when the Comercial and LRP had greatest market power, the domestic interest rate was insulated from external shocks to a high degree, similar to what occurred in countries with central banks

Uruguayan spot rate

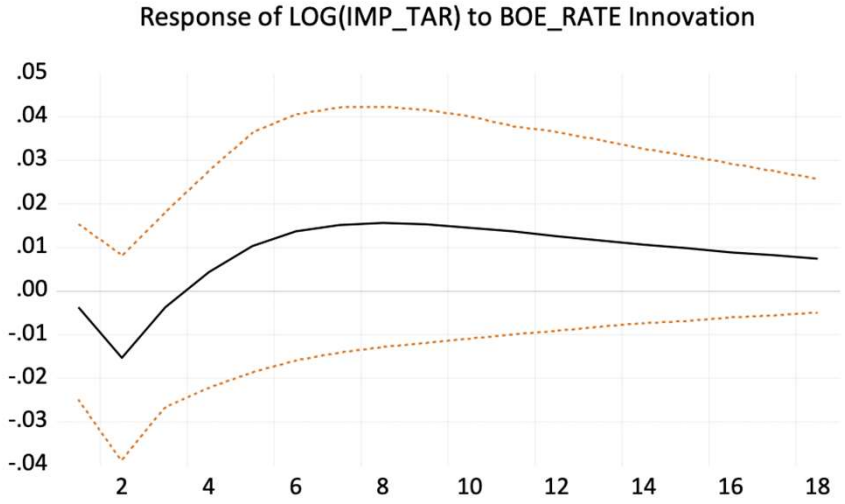


Can Uruguay's low pass-through rate be explained as credit rationing by Banks?

Monthly import tariff recipts, 1880m1 to 1913m12



Impulse response of import tariff receipts to a shock in the BoE rate, 1880m1 to 1913m12



95% confidence interval using Kilian's unbiased bootstrap method