

10th Annual Conference
South-East European Monetary History Network
Vienna, 1st – 2nd October 2015

**Any lessons for today? Exchange-rate stabilisation in
Greece and South-East Europe between economic
and political objectives and fiscal reality, 1841 - 1939**

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Locating the Greek debt crisis in time & place

- Focus on Greek financial crisis misses strong regional pattern...
 - Outside financial help in some form
 - Albania (2014-17), Bosnia-Hercegovina (1999-2015), Bulgaria (1997-2004), Croatia (1994-2006), FYROM (1995-2013), Kosovo (2010-13), Romania (2009-13), Serbia (since 2009), Turkey (1999-2008)
 - Only exception: Montenegro
- ... and needs to be complemented by a historical dimension
 - Key features of experience of Bulgaria, Greece, Romania, Serbia/Yugoslavia
 - Short-lived adherence to Classical gold standard and interwar gold standard
 - Gold standard remains weak while in operation
 - Government debt build-up and default
 - Financial supervision plays important role in joining and adhering to gold
(only Romania 1890-1912 follows gold standard on its own)

Key question & main argument

Why were periods of stable exchange-rates so short in European comparison?

- Time period: 1841 (foundation of the National Bank of Greece) – 1939 (WW II)
- not a lack of conviction (“European aspirations” + economic rationale)...
- ... but a result of weak fiscal institutions

South-East Europe (SEE) as a case of “fiscal dominance”

- “fiscal dominance”: monetary policy which does not follow a rule (such as Bordo&Kydland (1995)’s “gold rule”) but is subjugated to the treasury’s fiscal needs
- Complements research for Italy (Fратиanni&Spinelli 1997, 2001) and Spain (Sabaté et al. 2006, 2015)

“Fighting fiscal dominance. The case of Spain 1874-1998” (Sabaté et al. 2015, EREH)

- Authors shows that Spain fought fiscal dominance by improving domestic institutions
- SEE countries turned to their main lending countries to fight fiscal dominance and pioneered financial supervision (Tuncer 2015)
- SEE countries accepted foreign financial supervision for its potential to secure the long-term political and economic objective of exchange-rate stabilisation

Interpretation supported by SEE-based research

- Lazaretou (2005: 208) argued that “the International Committee for Greek debt management in 1898 provided the legal framework so that the country could enjoy fiscally responsible governments.”
- Avramov (2006: 96): “The only credible threat to Government interference with monetary policy remains external pressure exerted by foreign creditors... The most effective constraints on issuing policy have been imposed through foreign conditionality: closing (or restriction) of the national bank’s window for budget financing have been only possible by outside-driven deep institutional reform.”

“European aspirations” and economic rationale for fixed xr

- Economic rationale: stable xr boost capital imports (Lazaretou 2005)
- “European aspirations”: “Greeks, for reasons that go way deeper than economics, desperately want to remain at the heart of Europe, and euro membership is the ultimate symbol of that.” (Palaiologos 2014: 244)
- Gold standard & financial supervision as international commitment mechanism in the presence of weak domestic institutions (vs. domestic commitment in Kydland&Prescott 1977, North&Weingast 1989)

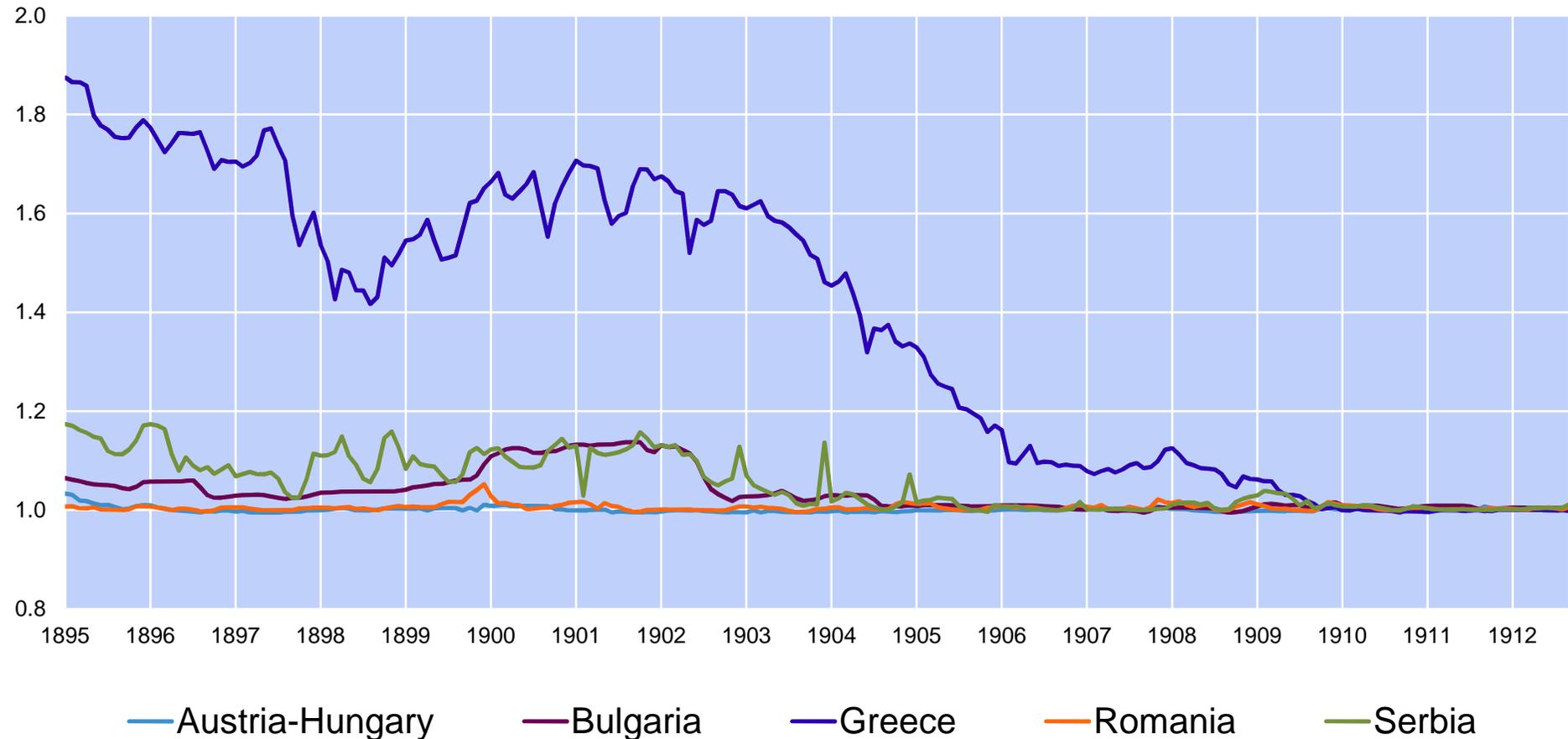
Structure of paper (and presentation)

- Documenting short duration & weakness of gold standard in SEE
- Introduction by case study: gold standard (or bimetallic) legislation but silver and copper coinage 1867-1880s
- How to close budget deficits? Seigniorage vs. capital imports
- Testing for fiscal dominance in South-East Europe
- Some lessons for today

Exchange-rate stabilisation in South-East Europe, 1895-1912

FIGURE I Deviation from Mint Parity for Five South-East European Countries, January 1895–September 1912

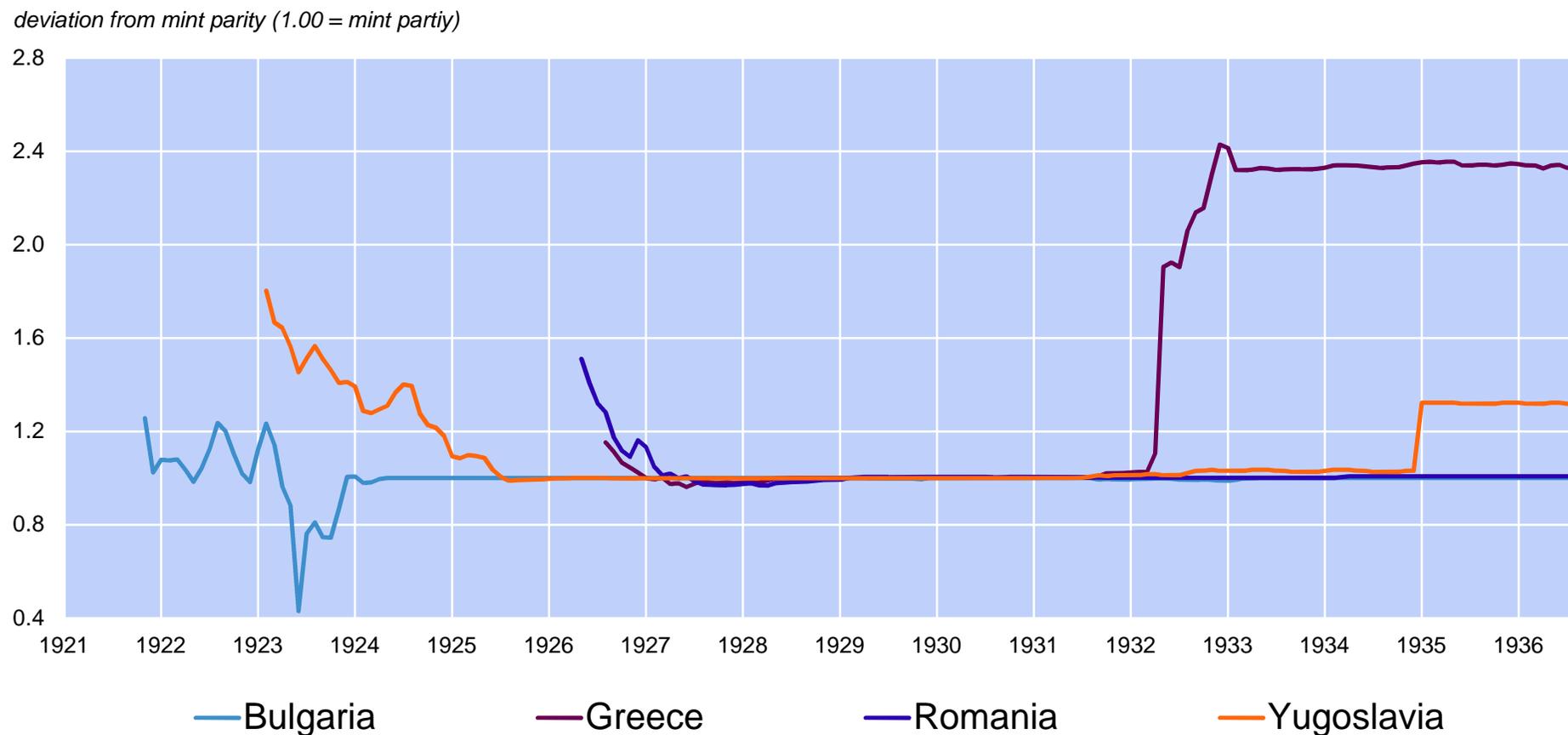
deviation from mint parity (1.00 = mint parity)



Source: *South-Eastern European Monetary and Economic Statistics from the 19th Century to World War II* (2014).

Exchange-rate stabilisation in South-East Europe, 1921-1936

FIGURE II Deviation from Gold Exchange Standard Parity for Four South-East European Countries, 11/1921–9/1936



Source: *South-Eastern European Monetary and Economic Statistics from the 19th Century to World War II* (2014).

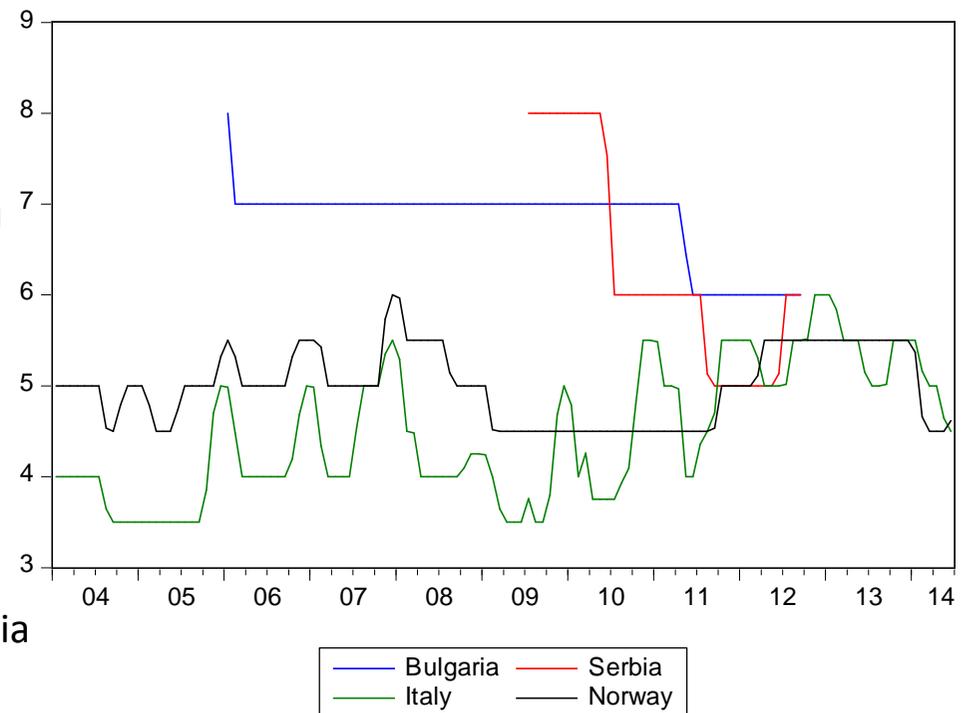
Gold standard adherence of 24 European countries 1870-1936

	Classical Gold Standard (1870-1914)	Interwar Gold Standard (1925-1931)
Western Europe (7) Austria(-Hungary), Belgium, France, Germany, Netherlands, Switzerland, United Kingdom	38 years	8 years 7 months
Nordic countries (4) (Denmark, Finland, Norway, Sweden)	41 years	5 years 5 months
Southern Europe (2) (Italy, Portugal)	22 years	3 years 6 months
South-Eastern Europe (4) (Bulgaria, Greece, Romania, Serbia/Yugoslavia)	9 years	2 years 8 months
Central and Eastern Europe (6) (Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Poland)	n.a.	6 years 4 months

Weak gold standard adherence in SEE

- Highest interest rates
(both short-run and long-run)
- Highly restrictive convertibility regime (Morys 2014)
- Highest levels of depreciation between pre-war and interwar gold standard
 - Bulgaria factor 26.7
 - Greece factor 14.9
 - Romania factor 32.3
 - Yugoslavia factor 11.0
- Interwar gold standard
 - early capital controls in Bulgaria, Yugoslavia
 - largely foreign reserves, little gold
 - (under League of Nations influence, creates problems after Sept. 1931)

Bank rate on European periphery, 1904-1914



2. Introduction by case study: gold standard legislation but silver and copper coinage 1867-1880s

SEE countries pass gold standard (or bimetallic) legislation with the aim of stabilising their exchange-rates with England, France, Germany...

(Romania: 1867; Greece: 1868; Serbia: 1873; Bulgaria: 1881)

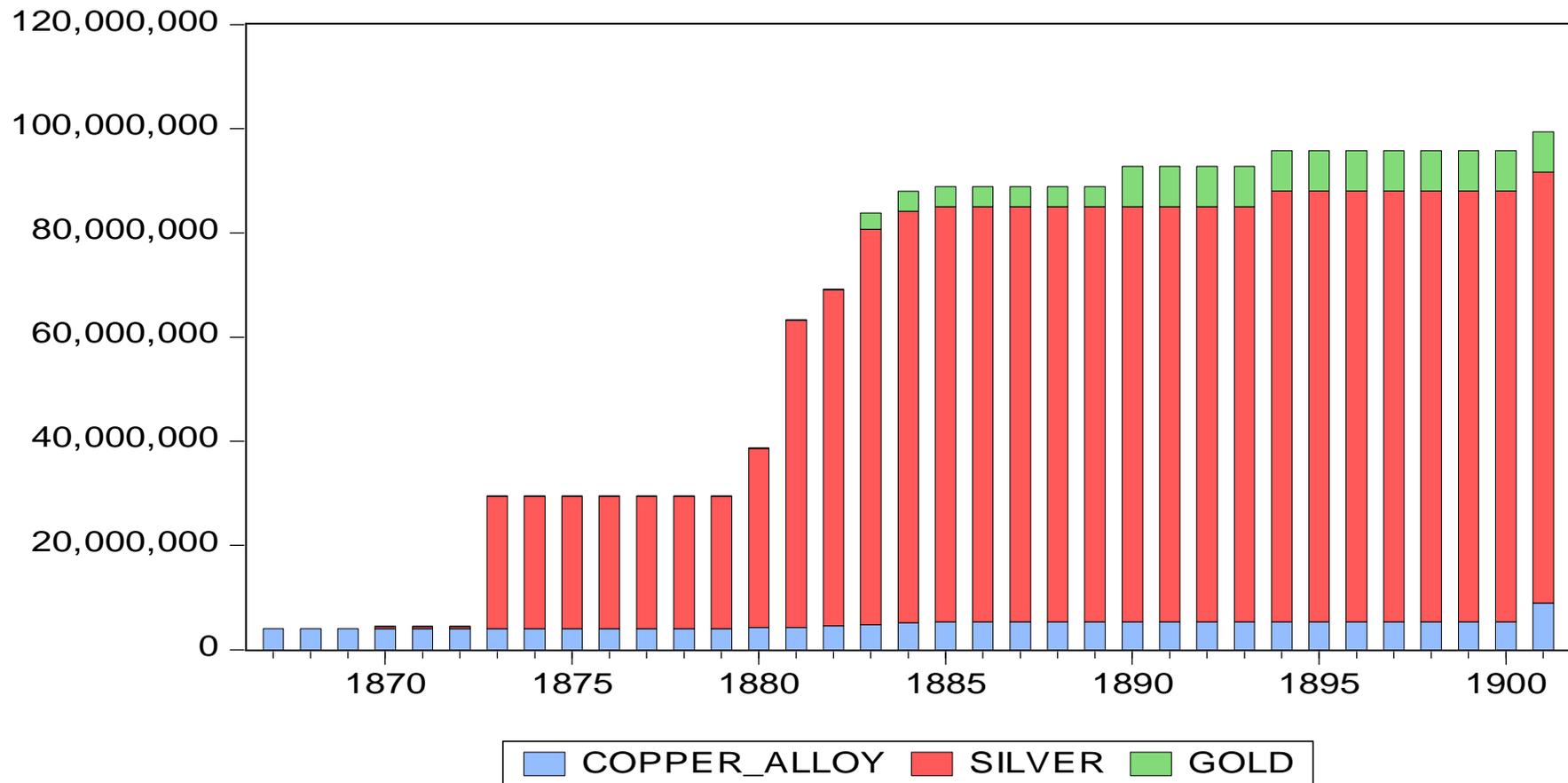
... but they do not implement their legislation

Monetary chaos in all four countries by mid-1880s

“La Roumanie nous offer le triste spectacle du résultat de prétendre de maintenir la *valuta* au niveau de la parité de l’or, sans en posséder une quantité suffisante permettant de l’entourer de toutes les garanties nécessaires à cet effet.”

(Ottomar Haupt, Histoire monétaire de notre temps, Paris 1886, p. 361)

Romanian mintage according to metal, 1867-1901 (nominal value in Romanian leu = French franc)



Source: Romanian Statistical Yearbook (various issues).

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Romanian coinage law of 1867, article 9: “Copper coins will be minted and issued first, for there is a more stringent need for them in circulation. Silver and, later, gold coins will be minted and issued as soon as the financial means allow it.”

Why? Persistent budget deficits → need for seigniorage →

- coinage of cheaper coin (silver, copper alloys)
- loans from central bank (foundation of bank of note issue is motivated by this consideration)

3. How to close budget deficits? seigniorage vs. capital imports

- government budget constraint

$$\Delta S_t = (G_t - T_t) - TR_t$$

increase in consolidated
government debt

“foreign debt”

budget deficit

seigniorage

(revenue through issue of coins and notes)

“domestic debt”

Definition of seigniorage: government revenue through issue of coins and notes
(via government debt held at the central bank)

3. How to close budget deficits?

Seigniorage vs. capital imports (con't)

3 ways to finance the budget deficit but limits to each of them

- capital markets: government debt crisis
- seigniorage: devaluation of the currency, inflation tax
- capital markets & seigniorage: potentially contradictory (currency crisis, debt crisis)

Costs and benefits of the 3 different options can change over time

Capital markets

- not open to newly independent countries
- closed during wartime (1912-1918: Balkan Wars & World War I)
- increasingly difficult access after onset of the Great Depression

Seigniorage

- Domestic resistance to devaluation/inflation tax
- Bond holder resistance: seigniorage & currency mismatch could lead to debt default

7 distinct phases, high regional synchronicity

1. Political independence – first bond issue: *seigniorage* (ca. 1875-1885)

- Romania, Serbia and Bulgaria issue first bond in 1875, 1881 and 1887, respectively
- Greece re-enters international bond market after 1879 debt compromise

2. Access to capital markets – financial supervision: *capital markets & seigniorage* (ca. 1885-1900)

- Only international capital markets can satisfy financing needs
- Countries try to stabilise currencies yet seigniorage remains important
- Greece and Serbia default in 1893 and 1895, respectively, and enter financial supervision
- Bulgaria avoids default only by entering “voluntarily” into financial supervision (1902)
- Romania enacts gold standard legislation (1890)

3. Financial supervision – 1912 (1st Balkan War): *capital markets* (ca. 1900-1912)

- Foreign lenders stabilise currencies in order to secure debt repayment
- Foreign lenders allow further use of capital markets (exception: Greece) but disallow seigniorage
- Bulgaria, Serbia and Greece join the gold standard in 1906, 1909 and 1912, respectively
- Romania relies on domestic commitment mechanism: gold standard

7 distinct phases, high regional synchronicity (con't)

4. War period: 1912-1918: *seigniorage*

- Capital markets closed
- large financial needs due to long war period (Balkan Wars 1912-1913) and heavy fighting

5. Post-war stabilisation: *seigniorage*

- Each country has its own reason for large financial needs yet capital markets remain effectively closed (Bulgaria: Neuilly Treaty 1919, exposure to 1923 German hyperinflation; Greece: Asia Minor catastrophe 1922; Romania: massive territorial expansion)
- Results in exceptionally high devaluation rates compared to pre-1914 parities (Bulgaria: 26.7; Greece: 14.9; Romania: 32.3; Yugoslavia: 11.0)

6. Interwar gold standard: *capital markets*

- Gold standard adherence requires in all cases foreign loans
- League of Nations imposes conditionality, among other no seigniorage

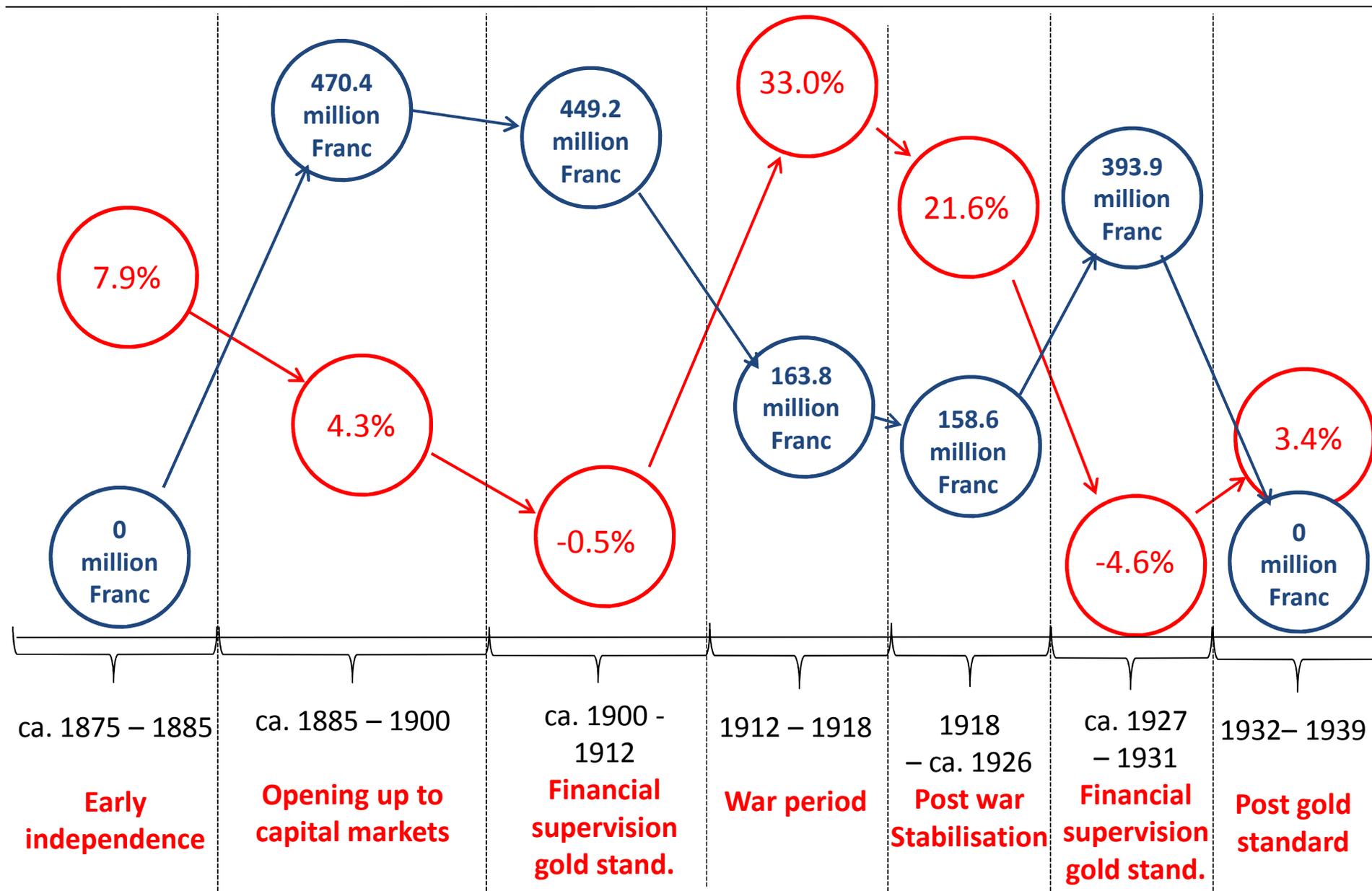
7. Post gold standard: *seigniorage*

- Access to capital market becomes increasingly difficult and is impossible after defaults

Government finance through seigniorage or capital markets? seigniorage as % of total gov. revenue in 7 distinct periods

	seigniorage vs. capital markets	Bulgaria	Greece	Romania	Serbia / Yugoslavia	average
early independence	seigniorage	9.7% (1881-1887)	8.0% (1861-1878)	5.5% (1867-1874)	8.2% (1873-1880)	7.9%
opening up to capital markets	both	3.0% (1888-1903)	8.2% (1879-1897)	3.0% (1875-1889)	3.0% (1881-1895)	4.3%
financial supervision	capital markets	-0.8% (1904-1911)	-1.1% (1898-1911)	-0.2% (1890-1911)	0.0% (1896-1911)	-0.5%
war period	seigniorage	24.0% (1912-1918)	17.8% (1912-1922)	57.3% (1912-1918)	n.a.	33.0%
post-war stabilisation	seigniorage	40.9% (1919-1923)	7.6% (1923-1926)	16.3% (1919-1926)	n.a.	21.6%
interwar gold standard	capital markets	-7.0% (1924-1930)	-1.4% (1927-1931)	-6.4% (1927-1930)	-3.4% (1925-1931)	-4.6%
post gold standard	seigniorage	7.9% (1931-1939)	0.9% (1932-1939)	3.0% (1931-1939)	1.9% (1932-1939)	3.4%

closing the deficit: seigniorage vs. capital imports in 7 distinct periods (seigniorage: regional average; capital imports: regional total)



**How strongly did SEE benefit from capital imports?
Capital exports from 6 main capital exporters, 1919-1932
(US, UK, France, Netherlands, CH and Sweden)**

	Capital exports (bonds & shares) (million \$)	GDP (1929) (million 1990 G-K\$)	Population (1929) (million)
Bulgaria	39	6,723	5.696
Greece	141	14,790	6.315
Romania	166	20,327	17.638
Yugoslavia	140	18,525	13.580
Total	486	61,208	43.229
%: Total / Europe	7.4%	4.0%	8.1%

Sources: League of Nations (1943), Maddison (2009), Morys&Ivanov (2015)

4. Testing for fiscal dominance in Greece and SEE

Fiscal dominance: monetary system is determined by fiscal needs

- Italy (Fратиanni&Spinelli 1997, 2001) and Spain (Sabaté et al. 2006, 2015)

2 step-procedure for testing for fiscal dominance:

(1) money growth accounting

(2) Granger causality: does “budget deficit” Granger cause “seigniorage”?

Money growth accounting

- Similar to “growth accounting”: overall growth is explained by its components
- Friedman&Schwartz 1963, Brunner&Meltzer 1964, Frатиanni&Spinelli (2001)

$$\begin{aligned} M &= m * MB \\ MB &= MB_TC + MB_REST \end{aligned}$$

where

M M3

m money multiplier

MB monetary base (pre-WW II: mostly coins and bank notes in circulation)

MB_TC Treasury Component of MB (coins, bank notes in return for government debt)

Step 1: Money growth accounting Greece 1861-1939

$$M_t = MB_t * m_t = (MBFOR_t + MBDOM_t + MBTC_t) * m_t = (MBTC_t + MBREST_t) * m_t$$

			total growth	MBTC	MBREST	m
Full period	1861	1939	9.8%	4.7%	2.5%	1.2%
contribution in %				47.9%	25.4%	12.6%
I. Early independence	1861	1878	9.5%	6.8%	2.6%	-0.9%
II. Opening to capital markets	1879	1897	5.3%	2.9%	-1.9%	1.5%
III. Financial supervision / g. st.	1898	1911	5.0%	-0.7%	0.7%	5.0%
IV. War period	1912	1922	24.6%	17.8%	8.2%	-3.9%
V. Post-war stabilisation	1923	1926	12.5%	2.1%	6.2%	1.6%
VI. Financial supervision / g. st.	1927	1931	13.2%	-3.2%	-0.6%	16.9%
VII. Post gold-standard	1932	1939	5.6%	1.7%	7.7%	-3.8%

***Prima facie* evidence of fiscal dominance**

Step 2: Granger causality between x_t (budget deficit) and y_t (seigniorage) Greece 1861-1939

$$H_0: \beta_1 = \beta_2 = \dots = \beta_l = 0$$

$$H_{0-A} \quad y_t = \alpha_0 + \alpha_1 y_{t-1} + \dots + \alpha_l y_{t-l} + \beta_1 x_{t-1} + \dots + \beta_l x_{t-l} + \varepsilon_t$$

$$H_{0-B} \quad x_t = \alpha_0 + \alpha_1 x_{t-1} + \dots + \alpha_l x_{t-l} + \beta_1 y_{t-1} + \dots + \beta_l y_{t-l} + u_t$$

		P-value of H_{0-A} “deficit” does not cause “seigniorage”	P-value of H_{0-B} “seigniorage” does not cause “deficit”
All observations (79)	1861-1939	0.0%	69.1%
Domestic regime (60)	1861-1897	0.0%	28.7%
	1912-1926		
	1932-1939		
Financial supervision (19)	1898-1911	67.0%	74.6%
	1927-1931		

Note: VAR estimation based on 1 lag (identical acc. to LR / FPE / AIC / SIC / HQC criteria);
both time series are $I(0)$.

Fiscal dominance prevails in Greece and SEE...

... but financial supervision breaks link: “deficit” no longer G. causes “seigniorage”.

5. Lessons for today

- Lessons for Greece but also other SEE countries given their recent experience with financial supervision
- Argument advanced helps understand why Greek debt crisis happened
- Greek EMU entry in 2001: seigniorage no longer an option, yet capital imports available in unprecedented amounts → 120% debt-to-GDP in 2010 → financial help from W. Europe
- Ambivalence of financial-help-cum-supervision

“That these foreign interventions were ultimately favourable to Greece should not detract from the fact that they were often perceived negatively in Greece. Either because they were accompanied by painful immediate effects or because they were humiliating, they naturally caused a sense of wounded pride among Greeks. Many Greeks expressed negative feelings vis-à-vis Great Britain during the nineteenth century, vis-à-vis the United States in the second half of the twentieth century, and vis-à-vis Germany following the 2009 crisis.” (Kalyvas 2015: 202)

Financial supervision arrangements with Greece 1897 – 1928 – 2015



Athens, 5th July 2015
(Greek referendum)

Celebrating the *όχι* (no) ...



Brussels, 12th July 2015
(negotiations on 3rd EU-IMF bail-out)

... yet saying *ναι* (yes) a week later.

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- Prioritise what Greece desires most: xr stabilisation with W. Europe
- Stay the course with a programme that is – in the eyes of the Greek electorate – far superior to leaving the euro
- Final outcome more important than the noise on the way of getting there