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International Money Orders, 1880s-1930s (and the gold standard)

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Introduction

- Research project on the foundations of historical monetary unions
- We used this as an excuse to digitalize data on information flows between countries (letters, parcels, etc.) to see interplay between information flows, trade flows and (possibly) growth
- Unexpected discovery: data on international money orders (and postal giros/transfers, etc.)
- Potentially the only comprehensive dataset on financial flows between countries over first globalization and interwar period
- One question we aim to answer: did the gold standard (classical and interwar) help "financial integration" for 'normal people'? (pre-war average transmission is about 60 LMU Francs or less than £3).
- Large dataset of small-scale flows and for the whole world (incl. core-core, core-periphery), often identified with international migration, but contains information on composite of all sorts of financial flows. Here we focus on Europe.

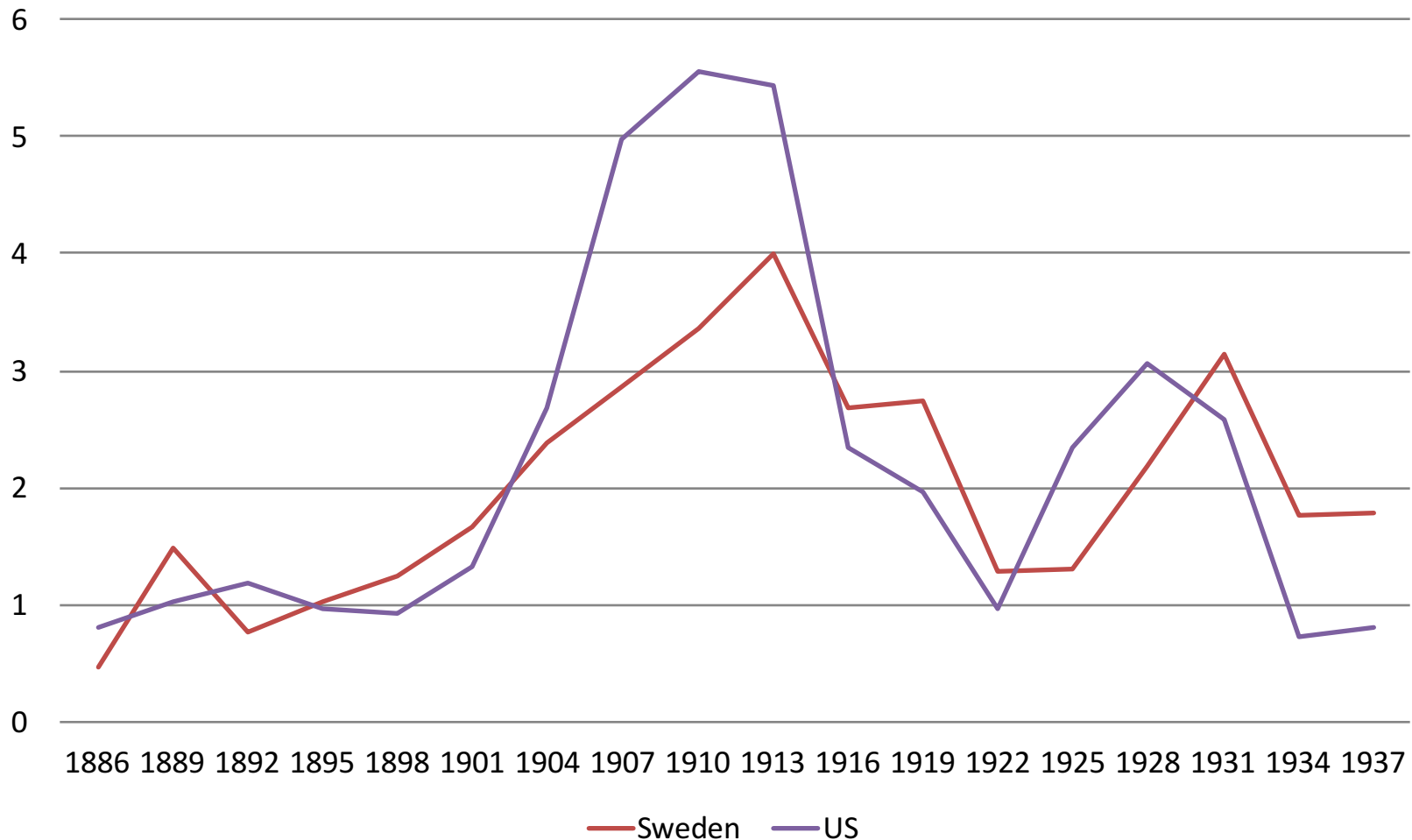# Everyman's financial globalization

Money orders sent (data) within Europe from 7 countries of orgin
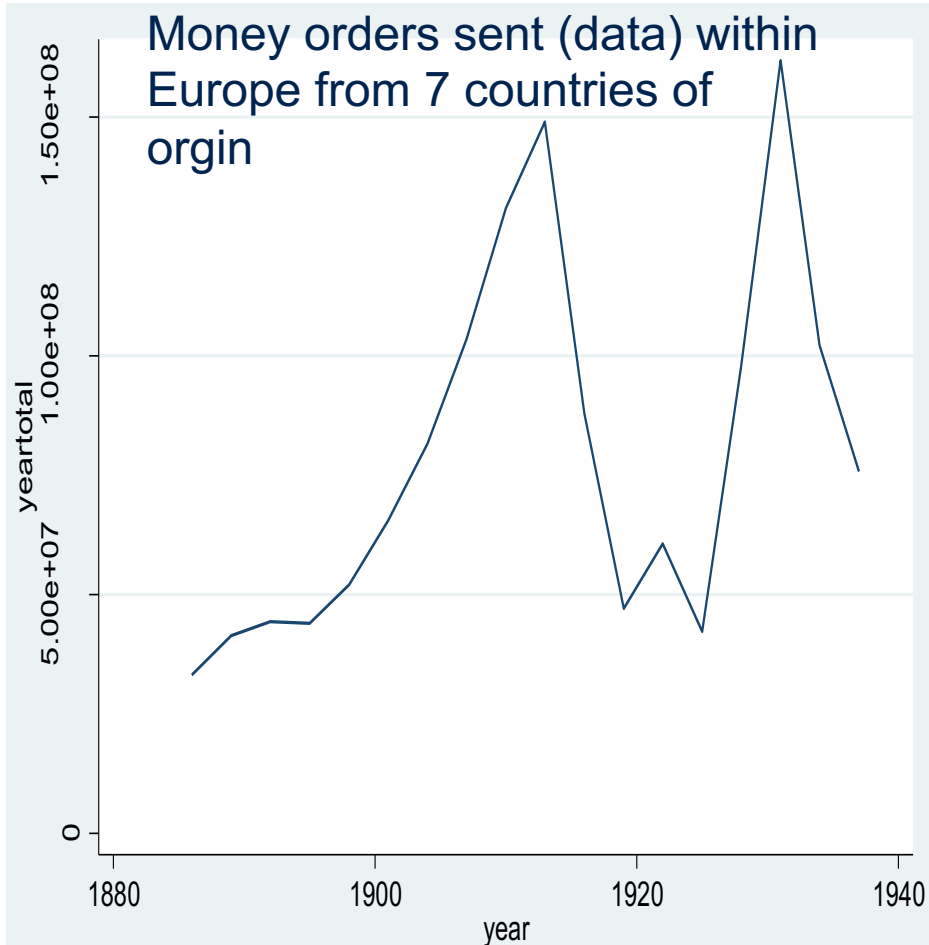
Obstfeld-Taylor (introspection)
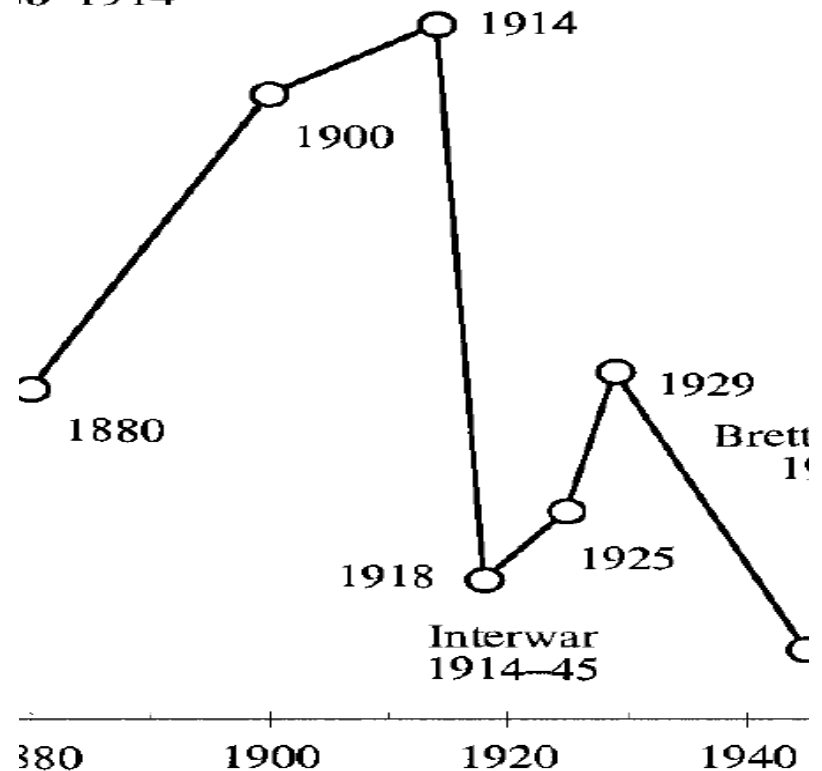
Countries are all with fill coverage: Denmark, Italy, Luxemburg, Norway, Netherlands, Sweden
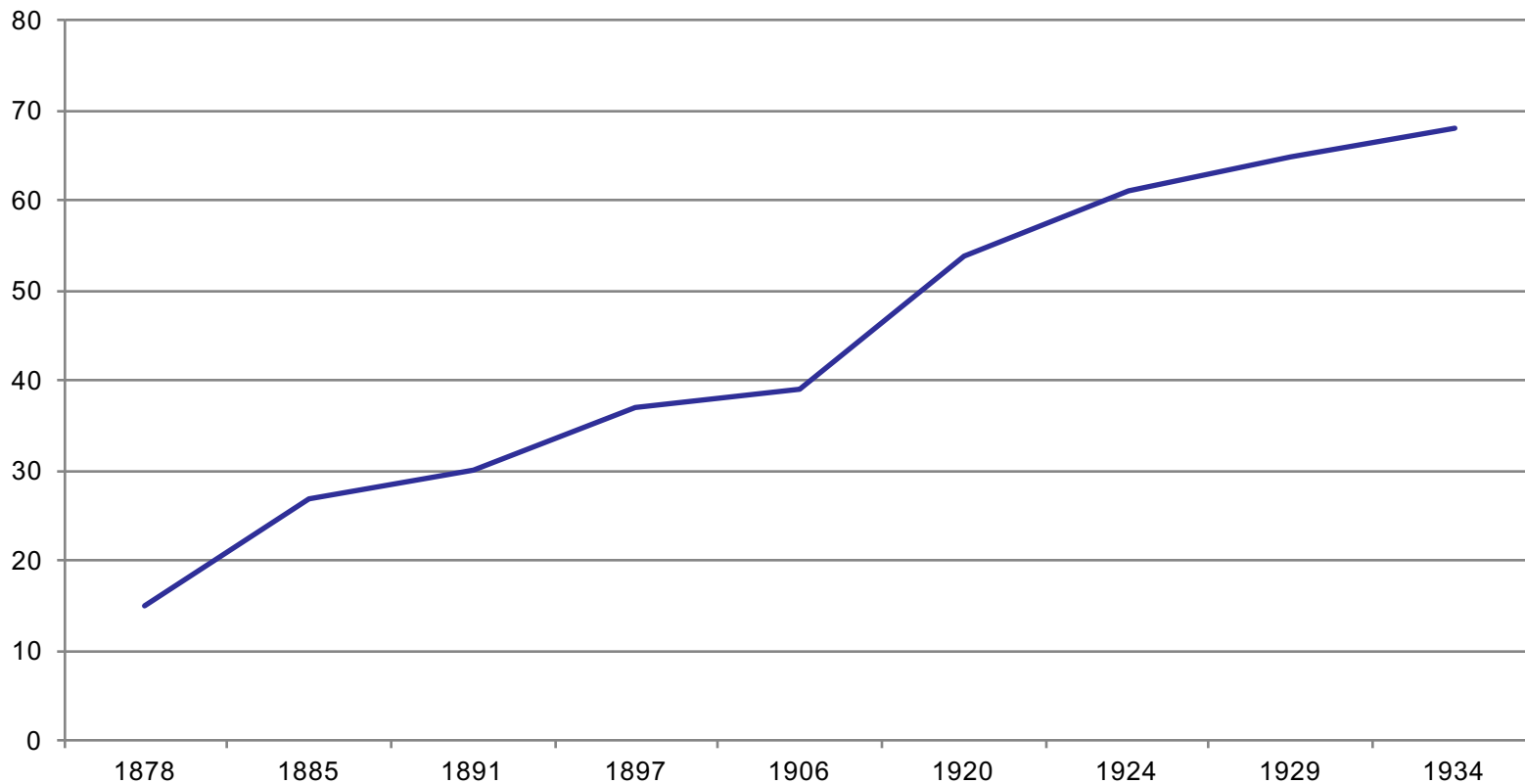
Gold francs sent per capita

Background: UPU

- Founded in 1874 (as General Postal Union), establishing a worldwide postal territory divided into continents, unifying rates and ways to exchange mail, etc., between countries

- In 1878 "special agreement" on postal money orders (*mandats de poste*) signed by a subset of 15 members, with renewed agreements at each postal congress (1885, 1891, 1897, 1906 … 1920, 1924, 1929, 1934).

- In 1920 agreement on postal giros (*virements postals* – postal transfers), in 1934 (maybe earlier) additional supplentary agreements regarding postal travellers checks (these both require bank accounts)

- US, UK and its empire were not subscribers to this agreement, they made bilateral arrangements with many countries (but they were UPU members) – these might have different rules and rates.

Number of Money Order Agreement subscribers worldwide

no. of countries

An example

From Dar-Es-Salam, German East Africa to
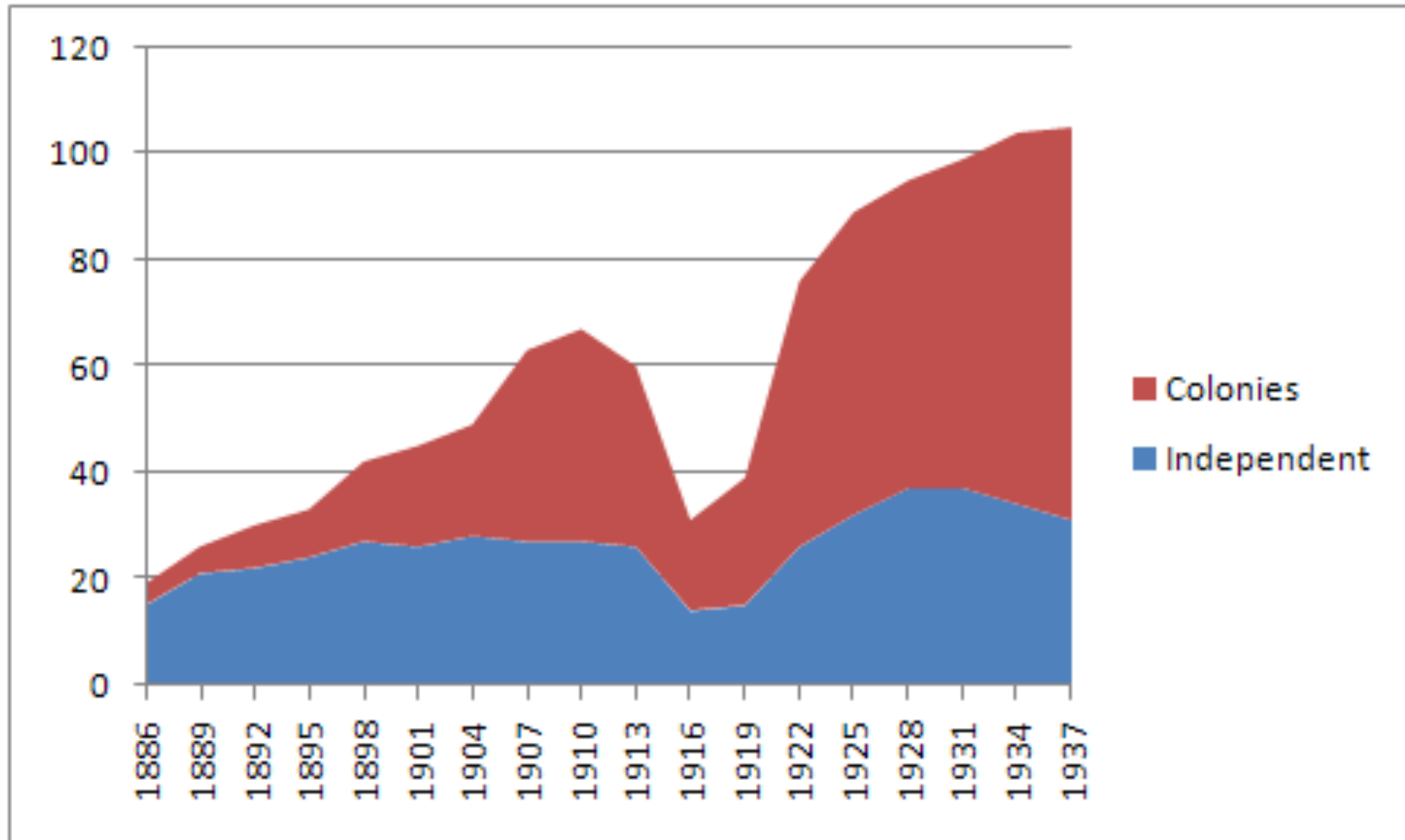Vasco da Gama (nr Goa), Portuguese India, 1914

PAYS D'ORIGINE: ALLEMAGNE (SUITE).

PAYS DE DESTINATION.	REMBOURSEMENTS.			Dans le nombre des envois inscrits aux colonnes 13, 14, 16, 18 et 19 étaient à remettre par exprès :	Mandats de poste.		Recouvrements.	Journaux, etc. servis par abonnement. (Numéros.)
	Objets de correspondance.	Colis.	Montant total des remboursements.		Nombre.	Valeur.		
	Nombre.	Nombre.	Francs.	Nombre.		Francs.	Nombre.	Nombre.
	18	19	20	21	22	23	24	25
I. EUROPE.								
Autriche	414,730	494,160	15,334,660	32,620	1,759,418[2]	78,199,336[2]	66,086	11,410,440
Belgique	18,380	29,930	1,064,910	690	103,421	7,636,385	9,774	2,871,082
Bosnie-Herzégovine et Sandjac de Novi-bazar	420	1,660	32,370		2,123	158,216		11,371
Bulgarie		6,360	244,380		52	2,899		
Crète					1,217	78,052		1,692,348
Danemark	18,030	37,530	1,411,940	3,700	143,364	4,650,951		
Espagne		420	12,050					2,119
France	41,000[4]	76,770[4]	2,453,870[4]	1,600	304,441[4]	19,379,568[4]	9,726	10,877
Grande-Bretagne		6,500	235,900	2,600	118,930[5]	7,326,746[5]		50,624
Grèce	60,400	116,820	3,986,480	4,250	336,343	13,202,210	12,386	1,158,364
Hongrie	15,840[6]	42,540[6]	1,583,370[6]		549,513[7]	42,572,529[7]	4,295	1,748,778
Italie	37,730	40,670	3,209,000	650	78,008	9,487,915	16,619	904,203
Luxembourg		160	4,630		1,397	115,590		
Monténégro	6,800	15,100	489,450		12,977	967,736	1,059	311,647
Norvège	20,820	39,400	1,534,070	2,560	279,917	11,415,910	17,630	2,212,022
Pays-Bas	420	520	24,780		767	59,897	159	19,606
Portugal	4,720	30,200	920,470		8,951	537,175	853	470,041
Roumanie					239,514	13,121,344		6,349,830
Russie d'Europe		3,900[8]	135,130[8]		1,586	142,799		95,570
Serbie		2,550	72,070		24,946[9]	1,836,623[9]	1,854	1,111,485
Suède	16,750	27,280	1,117,180	110	318,992	16,546,347	25,363	7,571,660
Suisse	122,200	135,930	5,518,950	4,210	4,729	376,835	212	290,225
Turquie d'Europe	1,450	3,110	135,220					
II. AFRIQUE.								
Égypte		9,080	267,900		2,286	195,555	106	105,534
Maroc (bureaux de poste allemands)	220	420	19,370		583	38,709		41,884
Tunisie	200	100	4,130		691	55,320	53	
Protectorats allemands	8,210	20,390	1,111,290		6,982	3,539,322		876,313
Colonies britanniques de l'Afrique du Sud					1,092	170,786		
Autres colonies britanniques en Afrique					270	25,326		
Le reste de l'Afrique		210	29,500					120
III. AMÉRIQUE.								
Amérique (États-Unis d'—)		730	49,250		63,048[10]	8,785,910[10]		118,813
Argentine (République —)					442	60,578		
Brésil					377	64,019		182
Canada					1,209	216,463		
Chili	300		1,630		226	24,352	53	
Costa-Rica					22	4,101		
Mexique					294	40,349		
Pérou					47	6,771		
Uruguay					45	7,372		2,666
Colonies britanniques					295	17,730		
» danoises					39	1,992		
» néerlandaises		160	11,870		40	2,999		416
Le reste de l'Amérique								
IV. ASIE.								
Chine (bureaux de poste allemands)	1,800	1,700	83,150		687	64,229		88,772
Chine (bureaux relevant d'autres Administrations de l'Union)					5	185		6
Inde britannique					1,770	341,134		234
Japon					573[11]	80,244[11]		
Siam					24	3,470		

Dataset coverage (senders)

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How did it work?

- Paid in in local currency, but denominated in foreign currency (to be paid out), max. 500, from 1897 max. 1000 Gold Francs (for giros each administration can fix limits)

- The sending administration fixes the exchange rate (freely), and can also fix a charge if currency is the same.

- In general, fees are fixed in Latin Monetary Union (from 1924 in UPU) "gold franc", they are not distance-related (similar to other postal products)

- Transmitted via mail or telegraph

- Valid for for three months from date of expedition (1878), two months from the first day of the month following the expedition (1891), outside Europe six months. 1906: until end of month following the month of expedition, four additional months outside Europe; in 1934, same, but now six months in correspondence with outlying countries.

Stable fees and conditions over time (and inexpensive)

- Conditions for senders did not change substantially (1% fee for small transactions, increasing less then proportional), although for giros (from bank account to bank account) they were much more favorable (1/1000 instead of 1/100).

- National postal administrations (normally government monopolies) fixed exchange rates for their customers. When settling between them, 'official' exchange rates (mint parities and leading exchanges) were used; net debtor had to exchange into net creditor currency

- We do not know if exchange rate margins were applied against customers occurred, but it would be rational for administrations to try to anticipate exchange rate movements (since accounts are settled after payments are made) → if the gold standard creates security (vs. non-gold standard), customers should feel this.

- It is also true that bilateral agreements existed within and outside UPU, especially with countries like UK and US, who did not subscribe the Money Order Agreements. Giro agreements also had existed on a bilateral basis before 1920.

Money orders - Dataset

- UPU international statistics, for mail, first volume 1886, issued regularly until WWI, then every three years (discontinued in 1960s)

- Full data on every third year between 1886 and 1937, 17 cross-sections

- Data for US, UK, Australia and Canada (only pre-1914) has been added from national sources (but not used here)

- Coverage not as comprehensive as for UPU standard items (mail, etc.), but full sample has 21,000+ observations (c. 9000 non-zeros) excluding colonies and after adjustments for non-participating countries that appear in standardized destination lists

- For a first check, we use intra-European traffic between money order member agreement subscribers and years 1901-1913 & 1925-37 only

Top senders (world) in 1910 and 1928

Country 1910	Amount (Mio Fr)	Main destination	Second destination	Country 1928	Amount (Mio Fr)	Main destination	Second destination
US	515.5	Italy (23.1%)	UK (13.3%)	Non-Spanish Morocco	754.3	France (92.6%)	Algeria (6.4%)
Austria	292.5	Hungary (54.1%)	Germany (27.3%)	United States	369.9	Canada (18.6%)	Germany (14.5%)
Hungary	275.0	Austria (82.7%)	Germany (8.4%)	Col It Tripolitania	201.9	Italy (99.9%)	France (0.02%)
Germany	261.4	Austria (31.8%)	Italy (11.2%)	Germany	162.5	Austria (19.8%)	Switzerland (15.6%)
Canada	130.3	US (33.5%)	UK (32.2%)	Korea	111.9	Japan (98.5%)	China (1.3%)
France	106.4	Italy (29.3%)	Germany (19.0%)	Austria	102.3	Germany (54.0%)	Czechoslov. (23.7%)
New S Wales	98.2	Australia (95.1%)	UK (3.1%)	France	98.5	Morocco (23.6%)	Tunisia (16.5%)
Switzerland	81.0	Germany (38.0%)	Italy (30.0%)	Japan	94.9	Korea (73.5%)	Other Jap. Dep. (20.8%)
UK	70.1	US (13.9%)	India (12.5%)	Other Jap. Depend.	71.8	Japan (85.4%)	Korea (12.2%)
South Africa	67.3	Brit. Col. S. Afr. (64.8%)	UK (21.7%)	Switzerland	70.3	Germany (48.5%)	France (18.5%)

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Just for Europe, with Austria-Hungary as one administration, mio Francs [counterflow]

1910

1. Germany to Austria-H.
   81.3 [23.8]
2. Luxembourg to Germany
   37.8 [9.7]
3. France to Italy
   31.2 [10.2]
4. Switzerland to Germany
   30.8 [20.6]
5. Germany to Italy
   29.5 [4.1]
6. Germany to France
   26.7 [20.3]
7. Belgium to France
   24.4 [19.2]
8. Switzerland to Italy
   24.3 [3.8]
9. Austria to Germany
   23.8 [81.8]
10. Germany to Switzerland
   20.6 [30.8]

1928

1. Austria to Germany
   50.2 [31.7]
2. Switzerland to Germany
   46.9 [28.8]
3. Austria to CSR
   32.6 [8.0]
4. Germany to Austria
   31.7 [50.2]
5. Netherlands to Germany
   30.4 [18.7]
6. Germany to Switzerland
   28.8 [46.9]
7. Irish Free State to Great Britain
   27.8 [18.9]
8. Germany to CSR
   24.1 [8.8]
9. Dantzig to Germany
   21.8 [11.1]
10. Great Britain to Irish Free State
   18.9 [27.8]

Previous literature on money orders

- much discussed for remittances (Magee/Thompson 2006a, b, 2008; Esteves/Khoudor-Castéras 2009, almost all historical references, which are mainly centered on US)

- But also for other purposes, like small commercial payments, etc. (about 40-50% according to Wilson 1931 and Viner 1924, in case of US)

- For remittances, also other channels were and became available (informal, consular, banks), although money orders were probably a trustworthy and cheap vehicle.

- Degree of correlation with immigration, trade, foreign investment might vary from country to country – not enough data for a comprehensive test with the whole dataset

Research framework

- Inspired by modern literature on financial integration (which is similar to that on trade) [Papaioannou 2009, Buch 2005, Portes/Rey/Oh 2001, etc.]

- Gravity model: Size, distance, border, language, etc. as determinants.

- Joint (prior) membership in Ottoman and Habsburg empire included as "cultural/colonial proxies"

- Exchange rate stability proxied by the Gold standard

Implementation

- Gravity equation,

$$X_{ni} = \frac{G Y_i^a Y_n^b}{D_{ni}^c}$$

- Dependent variable is (log)money order value
- Estimated as "structural gravity", that is, including country-year fixed effects, apart from year fixed effects – GDP and other country-year specific effects disappear from regression
- Estimated in logs, and - to include zeros – as count regression (ppml).
- To control for endogeneity of gold standard (see Ritschl/Wolf 2009 for trade bloc formation, Head/Mayer 2005 on currency unions, etc.) we include also pair fixed effects
  - That is effect is estimated only off those observations entering or leaving the GS between 1901 & 1913 and between 1925 & 1937

Data used

- Europe only (incl. Russia and Turkey)
- Before 1919, Habsburg Empire (Austria, Hungary, Bosnia) added up to 1 country, Algeria added to France.
  - This is because other administrations often sum them up (although there were different 'national' administrations)
- All observations not covered by UPU-Money order agreement and those for which no country reports sending in a given year (agreement probably suspended) were dropped.

Preliminary results 1: Explaining money orders

VARIABLES	OLS pre 1914	OLS post 1922	PPML pre 1914	PPML post 1922
gold	-0.730**	0.308	-0.964*	0.902**
	(0.318)	(0.232)	(0.568)	(0.412)
ln_dist	-2.366***	-1.405***	-0.771***	-0.640**
	(0.255)	(0.248)	(0.232)	(0.294)
language	0.117	1.258***	1.398***	-0.147
	(0.416)	(0.255)	(0.315)	(0.404)
border	0.560*	0.931***	0.678***	1.713***
	(0.327)	(0.255)	(0.223)	(0.194)
OttoEmpire	0.761	0.185	0.690	-0.753
	(0.629)	(0.648)	(0.735)	(0.566)
FrAustriaHungary		1.232***		0.987***
		(0.436)		(0.365)
Constant	34.07***	19.36***	23.73***	10.48***
	(1.690)	(1.848)	(1.785)	(2.433)
Observations	1,002	1,988	1,159	2,696
R-squared	0.867	0.820	0.920	0.822

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Preliminary results 2: Explaining money orders

VARIABLES	OLS pre-1914	OLS post-1922	PPML pre-1914	PPML post-1922
gold	-0.525	0.145	-0.0502	0.325*
	(0.490)	(0.168)	(0.262)	(0.190)
Constant	18.84***	11.18***	19.58***	7.413***
	(0.551)	(0.513)	(0.263)	(0.983)
Observations	1,002	1,988	1,060	2,268
R-squared	0.982	0.955	0.998	0.980

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Preliminary results: summary

- Naïve estimates show negative coefficient for gold standard membership pre-1914, but positive post-1922. The coefficient of 0.902 implies c. 146% more exchange (but -0.96 means -62%).

- average modern common currency coefficient for trade in Head/Mayer 2014 is 0.86; López-Córdova/Meissner 2003 baseline estimate is 0.48.

- None of these effects seems to be causal, however, if we chose the correct identification strategy.

  - Postwar coefficient of 0.325 would indicate 38% more exchange thanks to the gold standard in the much more moved interwar period

  - Coefficient becomes bigger and more clearly positive if 1922 is included into sample

  - The signs remain, however, and beg the question whether before WWI money orders were a rather favourable way to transfer money under a quasi-postal gold standard in non-gold standard countries (which did not apply to other transfer canals)?

- There are clear aftereffects of the Habsburg Empire; for Ottoman Empire this is less clear.

To do

- Check if ppml estimator is correctly specified (tolerance settings, panel structure)

- Extend the analysis to the whole dataset; check if classical remittance patterns (strongly asymmetric flows) follow different patterns than the average European country.

- Learn more about the importance of exchange rate instability and transfer fees in general (in comparison to postal system).

- Disentangle giros from money orders (but small share anyway)

- Try to disentangle the impact of trade finance, remittances or financial flows (probably futile for lack of good bilateral data on migration and investments).

Thanks for your attention!

And your suggestions!

Stable fees (1% or less)

- 1878: no higher than 0.25 Francs per 25 gold francs (or fraction) sent

- 1897: 0.25 per 25 Fr for first 100, then 0.25 per 50 francs for amount exceeding 100 Fr.

- 1920: 1 monetary unit per 100 units, and then ½ monetary unit per each additional 100 units. For Giros, not more than 1/1000 of amount sent.

- 1924: Fixed component of no more than 0.30 Fr, plus 0.5% of amount sent. / For postal giros still 1/1000 (with possible minimum fee of 0.2 Fr).

- 1934: Fixed component 0.25 Fr., plus 0.5% of amount / Giros: unchanged / traveller checks: fixed amount of 100 Fr (and max. 10 per check-book), max. 0.5% of amount.

Bilateral clearing – pre-1914

- Accounts were to be done regularly and exchanged each month.
- 1878, Art. IV, 1/2: "and the accounts, after having been debated and agreed upon, unless arranged otherwise, will be settled in specie money (1885: gold) of the creditor country, by the Administration which is recognized indebted to the other, within the time set for this in the Réglement. To this end, if the orders have been paid in different currencies, the larger debt will be paid, taking as the basis for conversion the average exchange rate in the capital of the debtor country in the period to which the accounts correspond."
- 1897, Art. XII: "To this end, unless arranged otherwise, if the orders have been paid in different currencies, the lower credit is to be converted into the same currency as the larger credit, on the basis of the gold parity of the gold coins of both countries."

Bilateral clearing – post-1918

- 1920: Article 6 (2): To this end, unless arranged otherwise, if the orders have been paid in different currencies, the smaller credit is converted into the same currency as the larger credit, taking as basis for conversion the average of the official exchange rate in the debtor country during the period to which the account correspond.

and for Giros:

- To this end, unless arranged otherwise, the lower credit shall be converted into the currency of the larger credit calculated from the arithmetic mean of the exchange officially listed on stock exchanges or banks specifically designated by each country in question. The settlement is carried out daily."

- The same arrangements are found in 1924, 1934.

Origins and destinations

	to Europe	to Africa	to America	to Asia	to Oceania
prewar mean	0.87	0.02	0.08	0.02	0.02
postwar mean	0.70	0.03	0.07	0.19	0.01
grand mean	0.80	0.02	0.08	0.09	0.01

Year	From Europe	From Africa	From America	From Asia	From Oceania
prewar mean	0.73	0.03	0.21	0.02	0.02
postwar mean	0.31	0.32	0.18	0.19	0.01
grand mean	0.56	0.14	0.20	0.09	0.01

Top receivers in 1910 and 1928

Country 1910	Amount (Mio Fr)	Main origin	Second origin	Country 1928	Amount (Mio Fr)	Main origin	Second origin
Austria	432.1	Hungary (52.6%)	Germany (19.2%)	France	790.9	Morocco (88.3%)	Tunisia (2.7%)
Germany	273.5	Austria (29.2%)	Luxembourg (13.8%)	Italy	244.7	Tripolitania (82.4%)	France (5.9%)
Hungary	254.3	Austria (62.2%)	USA (20.7%)	Germany	159.3	US (30.6%)	Switzerland (12.0%)
Italy	248.7	US (48.0%)	France (12.5%)	UK	134.7	US (36.2%)	Irland (20.6%)
UK	181.9	US (37.6%)	Canada (23.0%)	Japan	128.7	Korea (63.0%)	Other Jap. Dep. (30.5%)
France	155.7	Germany (17.2%)	Belgium (15.7%)	Canada	77.5	US (88.9%)	UK (8.1%)
Commonwealth of Australia	104.7	NS Wales (89.2%)	N. Zealand (4.5%)	Ireland	60.1	US (66.4%)	UK (31.4%)
US	91.4	Canada (47.9%)	Germany (10.8%)	Korea	56.5	Japan (90.1%)	Other Jap. Dep. (9.9%)
Russia	73.5	US (62.7%)	Germany (22.9%)	Austria	50.9	Germany (50.3%)	Czechoslov. (15.7%)
Switzerland	54.0	Germany (28.2%)	France (18.0%)	Algeria	49.7	Morocco (97.3%)	Cote d'Ivoire (1.0%)

More 1910

11. France-Germany 20.6
12. France-Belgium 19.3
13. Germany-Russia 16.8
14. Switzerland-France 14.9
15. Germany-Netherlands 13.5
16. Belgium-Germany 10.4
17. Germany-Belgium 10.3
18. Italy-France 10.2
19. France-Switzerland 10.1
20. France-Great Britain 9.9

21. Germany-Luxembourg 9.7
22. Netherlands-Germany 9.4
23. Germany-Great Britain 8.4
24. Great Britain – France 6.8
25. Belgium-Netherlands 6.7
26. Denmark-Germany 6.6
27. Great Britain-Germany 5.8
28. Germany-Denmark 5.8
29. France-Austria 5.7
30. Great Britain-Russia 5.6
31. Italy-Bulgaria 5.5

More 1928

11. Germany-Netherlands 18.7
12. Luxembourg-Belgium 18.5
13. France-Italy 14.4
14. France-Poland 14.1
15. Sarre-Germany 13.1
16. Austria-Hungary 12.6
17. Belgium-Luxemburg 11.7
18. Germany-Dantzig 11.1
19. Belgium-France 10.6
20. Germany-France 9.6

21. CSR-Germany 8.8
22. CSR-Austria 8.0
23. Hungary-Austria 7.7
24. Switzerland-France 7.6
25. Sarre-France 7.6
26. France-Belgium 6.6
27. Denmark-Germany 6.5
28. Switzerland-Italy 6.0
29. Belgium-Germany 5.8
30. Hungary-Germany 5.5
31. France-Sarre 5.4