Central Banks as Architects: The Federal Reserve, the Bank of England, and the Rise of the Dollar as an International Currency, 1914-1939

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- In this paper we consider central banks as architects: their role in shaping financial structures and building financial markets, and how their actions can have implications for the place of those markets in the world.
- The case on which we focus is the making of a market dollar-denominated trade credits (a market in "bankers' acceptances") in the early 20th century.

- One such issue is the role of central banks in the development of local-currency financial markets.
- This is something many emerging markets are trying to do, for good reasons (and with encouragement from the BIS).
- But markets don’t string up spontaneously.
- They need , among other things,liquidity
- Developing market liquidity requires solving a coordination problem.
- And this may mean a role for the central bank as liquidity provider, not only in times of crisis (as emphasized by Charles Goodhart yesterday) but also in more normal times.

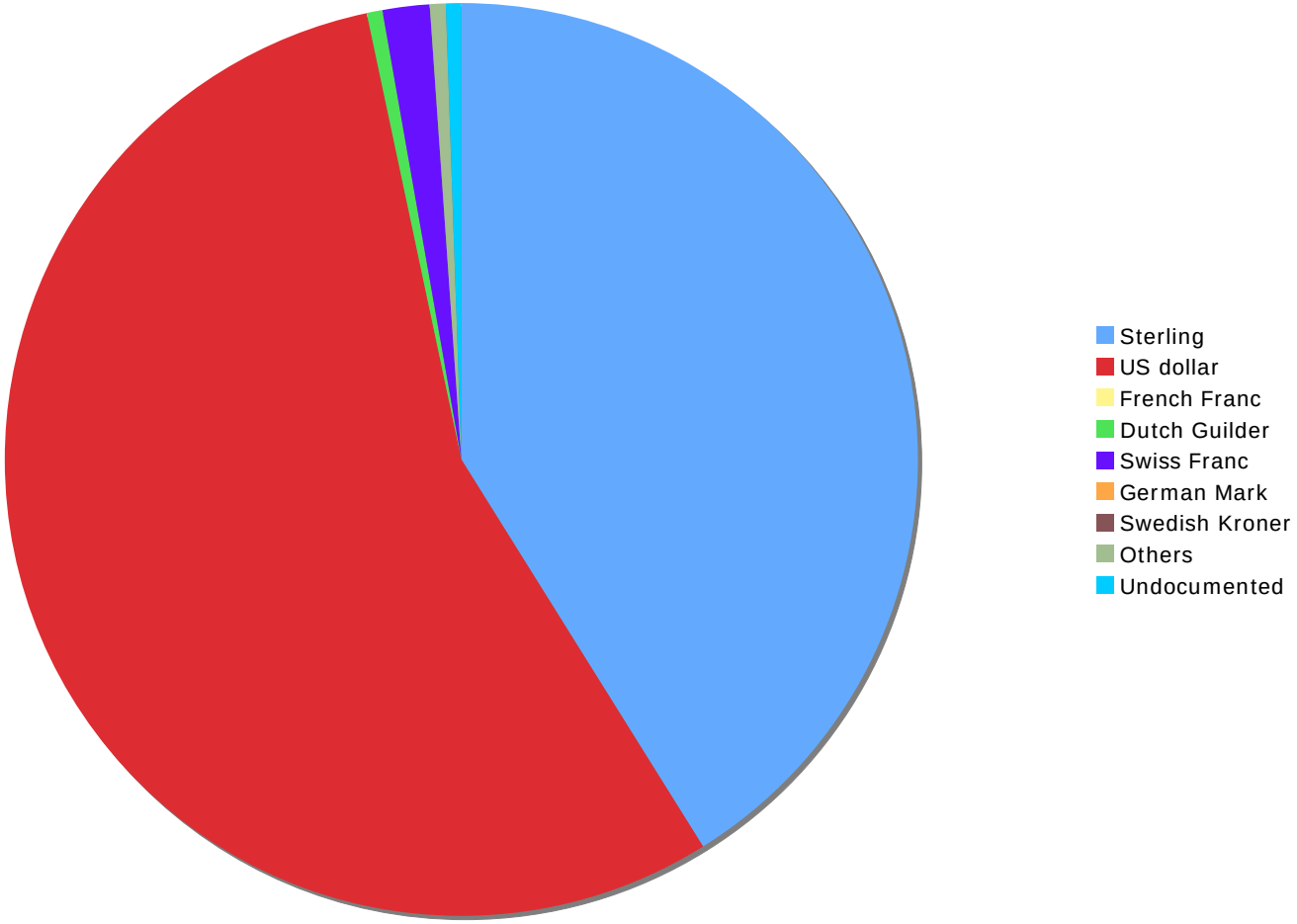
This case speaks to several issues of current concern

- Another issue to which the paper speaks is international currency competition.
  - It is widely argued that there is only room for one international currency in the global system.
    - The theoretical assertion is that increasing returns to using a national currency in international transactions are strong; network externalities are pronounced.
    - The empirical assertion is that the pound sterling dominated international transactions in the first half of the 20th century, the dollar in its second half.

- In recent work we have shown that this characterization is not entirely accurate.
- In the case of foreign reserves, the dollar and pound shared this role equally in the 1920s and 1930s.
  - You can see this in the next slide:

Aggregate Foreign currency holdings in 1929 (16 countries, 75% of global exchange reserves)

(Note that this is more complete coverage than the IMF's COFER data today)



- It can be objected that network effects are weaker for international reserves than other international currency functions.
  - Some would say that there are intuitive reasons to think this.
- But in this paper we show that what was true of international reserves (official use) was also true trade credit (private use).
- For the bankers' acceptances used for trade credit, just as for the bonds and deposits used as international reserves, sterling and the dollar shared the market.
- For those who wish to draw an implication for the 21st century, it is that network effects giving rise to increasing returns have limits.
- There is no reason, therefore, why the dollar and the euro (notwithstanding their respective recent difficulties) cannot both be consequential international currencies.
  - And there is no reason why other currencies (the Chinese renminbi, the Indian rupee, the Brazilian real) couldn't join them.

Another question is how quickly China's currency could gain an international role

- As we show in our paper, the United States went from a position where the dollar had essentially no place as an international currency and New York was a negligible source of finance for international trade to one where the dollar was at least sterling's coequal and New York rivaled London as a source of trade credit in only ten years.
- This is not to predict that the renminbi will necessarily rival the dollar in 2020.
- But it does suggest that, if network effects are less powerful than widely asserted, the renminbi's emergence may be quicker than commonly assumed.

A little historical background

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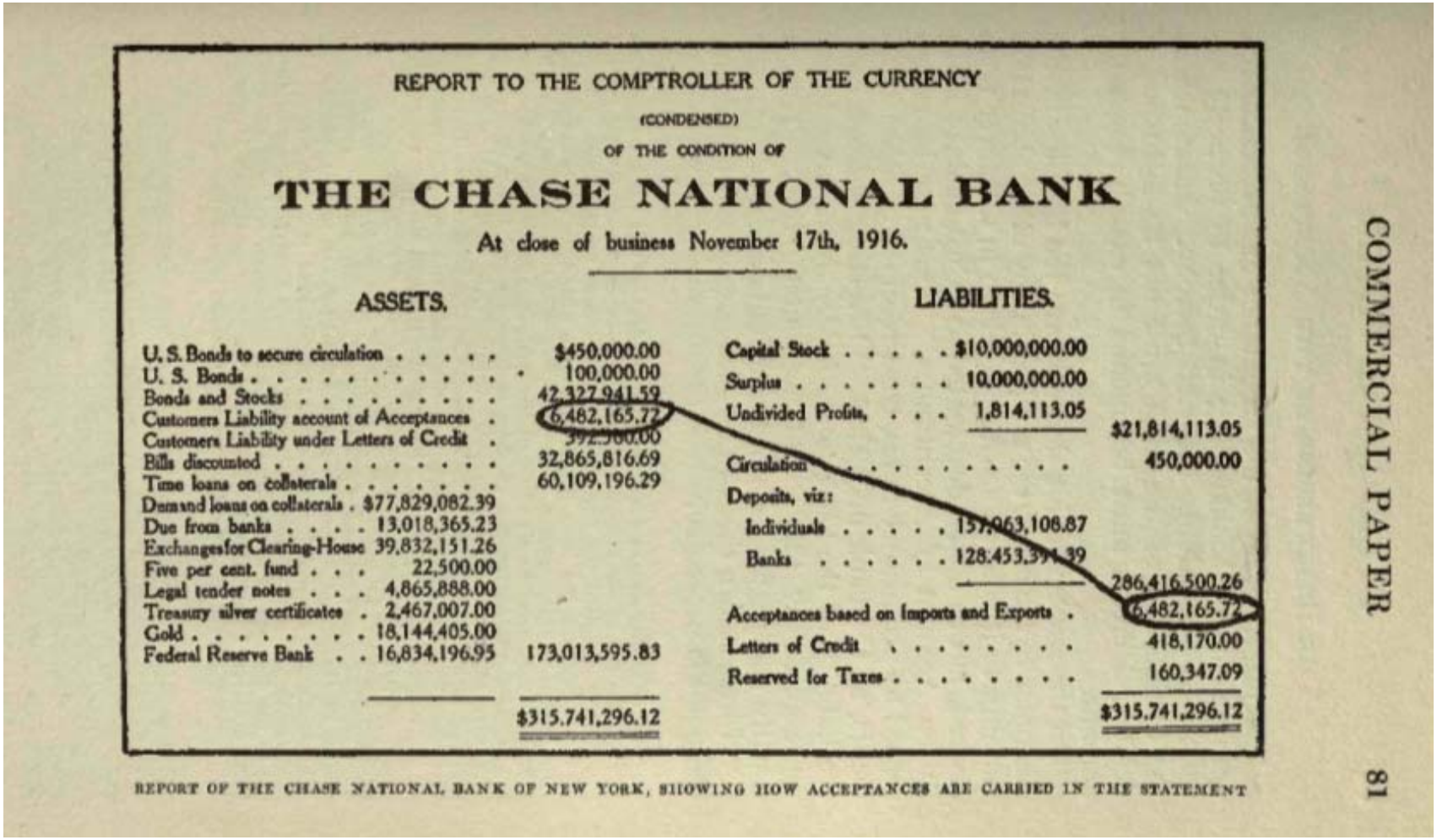
- How trade finance worked before 1914:
  - An American exporter would go to his bank with documents indicating that he had shipped the goods and what he would be paid in the future.
  - His bank would finance the operation by drawing a bill on a correspondent (or “acceptor”) with which it had made prior arrangement.
  - Upon receipt of the bill, which specified the commodities shipped and the name of the drawer (the U.S. bank), the correspondent whose name was mentioned in the document “accepted” the security. The resulting instruments were thus known as “acceptances.”
  - Having been triply guaranteed (by the goods, by the drawer, and by the acceptor), the acceptance credit could be sold on to other investors.
  - A simple bank-to-customer credit was thereby transformed into a liquid, tradable instrument.

You can see here how acceptances were recorded



REPORT TO THE COMPTROLLER OF THE CURRENCY

(CONDENSED)

OF THE CONDITION OF

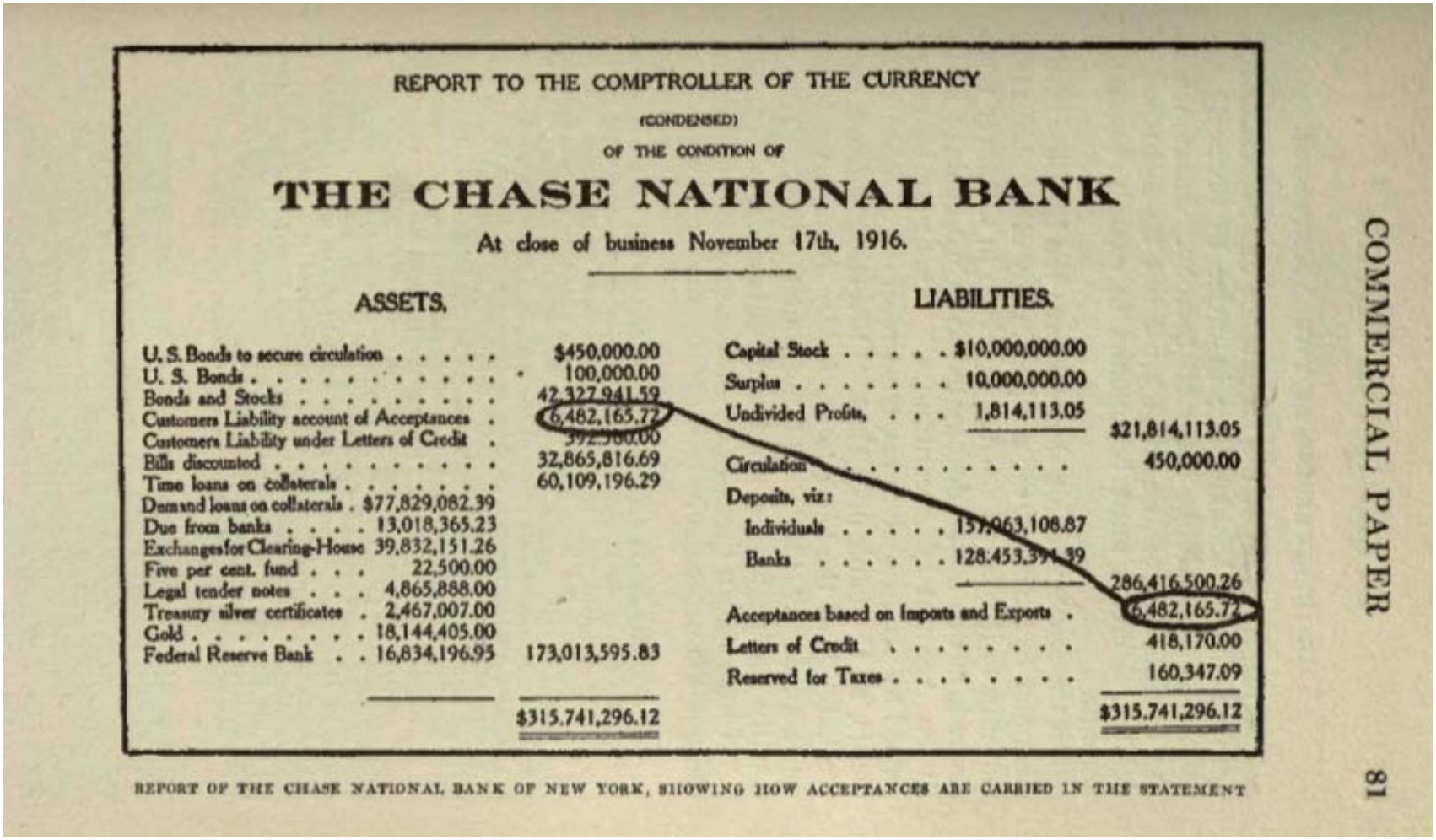
THE CHASE NATIONAL BANK

At close of business November 17th, 1916.

ASSETS.			LIABILITIES.		
U. S. Bonds to secure circulation		$450,000.00	Capital Stock	$10,000,000.00	
U. S. Bonds		100,000.00	Surplus	10,000,000.00	
Bonds and Stocks		42,327,941.59	Undivided Profits	1,814,113.05	
Customers Liability account of Acceptances		6,482,165.72			$21,814,113.05
Customers Liability under Letters of Credit		392,500.00			
Bills discounted		32,865,816.69	Circulation		450,000.00
Time loans on collaterals		60,109,196.29			
Demand loans on collaterals	$77,829,082.39		Deposits, viz:		
Due from banks	13,018,365.23		Individuals	157,963,108.87	
Exchanges for Clearing-House	39,832,151.26		Banks	128,453,391.39	
Five per cent. fund	22,500.00				286,416,500.26
Legal tender notes	4,865,888.00		Acceptances based on Imports and Exports		6,482,165.72
Treasury silver certificates	2,467,007.00		Letters of Credit		418,170.00
Gold	18,144,405.00		Reserved for Taxes		160,347.09
Federal Reserve Bank	16,834,196.95	173,013,595.83			
		$315,741,296.12			$315,741,296.12

REPORT OF THE CHASE NATIONAL BANK OF NEW YORK, SHOWING HOW ACCEPTANCES ARE CARRIED IN THE STATEMENT

Note however this is a balance sheet for 1916. Things were different earlier.



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Circa 1913, essentially no acceptance credit was provided by US banks or denominated in dollars

- This despite the fact that the U.S. was the leading trading nation.
- Instead, American banks seeking to provide these services to their customers did so through correspondent banks in London.
- These acceptances were denominated in sterling, since that was the currency with which the London banks, secondary-market investors, and the Bank of England were all accustomed.

Why is clear: London banks had a first-mover advantage

- London had had the great investment banks, known as merchant banks for their origins in helping merchants with the finance of trade. These had overseas branch networks able to originate a large volume of acceptances.
- They had a large secondary market of individual and institutional investors to which these acceptances could be resold.
- And in the unusual event that there was no ready purchaser, they could offload them to the Bank of England.

First in, Never Out

- This trio of factors – Britain's early start as a trading nation, resulting in the merchant banks' first-mover advantage; a large and active secondary market; and a market-maker of last resort – made for low costs and strongly increasing returns.
- They explain why London monopolized the provision of trade credit and why sterling was the dominant international currency.
- They were why New York and the dollar played no international role.
- There was room for only one international currency. And sterling, with its first-mover advantage, was it.

But there is an alternative interpretation

- It was not London's first mover advantage but the regulatory restrictions under which New York labored that prevented the latter from entering.
  - U.S. banks were prohibited from dealing in acceptances and branching abroad until the Federal Reserve Act was implemented in 1914.
  - And until that point the U.S. lacked a central bank to backstop the market.
    - No wonder, then, that prior to 1913 NY and the $ played no international role.

The immediately succeeding period provides a cleaner test

- The Federal Reserve Act of 1913 created a U.S. central bank authorized to discount and purchase trade acceptances as a mechanism for smoothing interest rates and managing credit conditions.
- It removed the prohibition on foreign branching and authorized banks to deal in trade acceptances.
- World War I then disrupted the provision of trade credit by London and the other European financial centers, giving the New York market an opportunity to get up and running.

Leading to three hypotheses

- Network effects and increasing returns are sufficiently strong that London retained its first mover advantage.
- While network effects and increasing returns are strong, central banks as architects can shift the system from one equilibrium to another. Although New York lacked a secondary market of individual and institutional investors for much of the period, reflecting London's first-mover advantage and the unfamiliarity of U.S. investors with the new instrument, the Fed acted as market maker of last resort, allowing the dollar to supplant sterling as the currency used for trade finance already in the 1920s.
- Increasing returns are not strong enough to give one currency a natural monopoly, and network effects are not sufficiently pervasive for strong lock-in. As a result of both market forces and policy intervention, monopoly gave way to duopoly. Sterling and the dollar could and did share the international currency role in the 1920s.

- Marc will now present the evidence we use to evaluate these three hypotheses:

Hypothesis 1: Pure Lock-In?

- On the other hand, New York prevented from rising (legal limits on production of acceptances, no central bank, no branches)
- Proper question; Once these are removed (creation of the Fed), did London's lead prevent rise in New York acceptances?

Exhibit 1: Interest Rates, London vs. New York

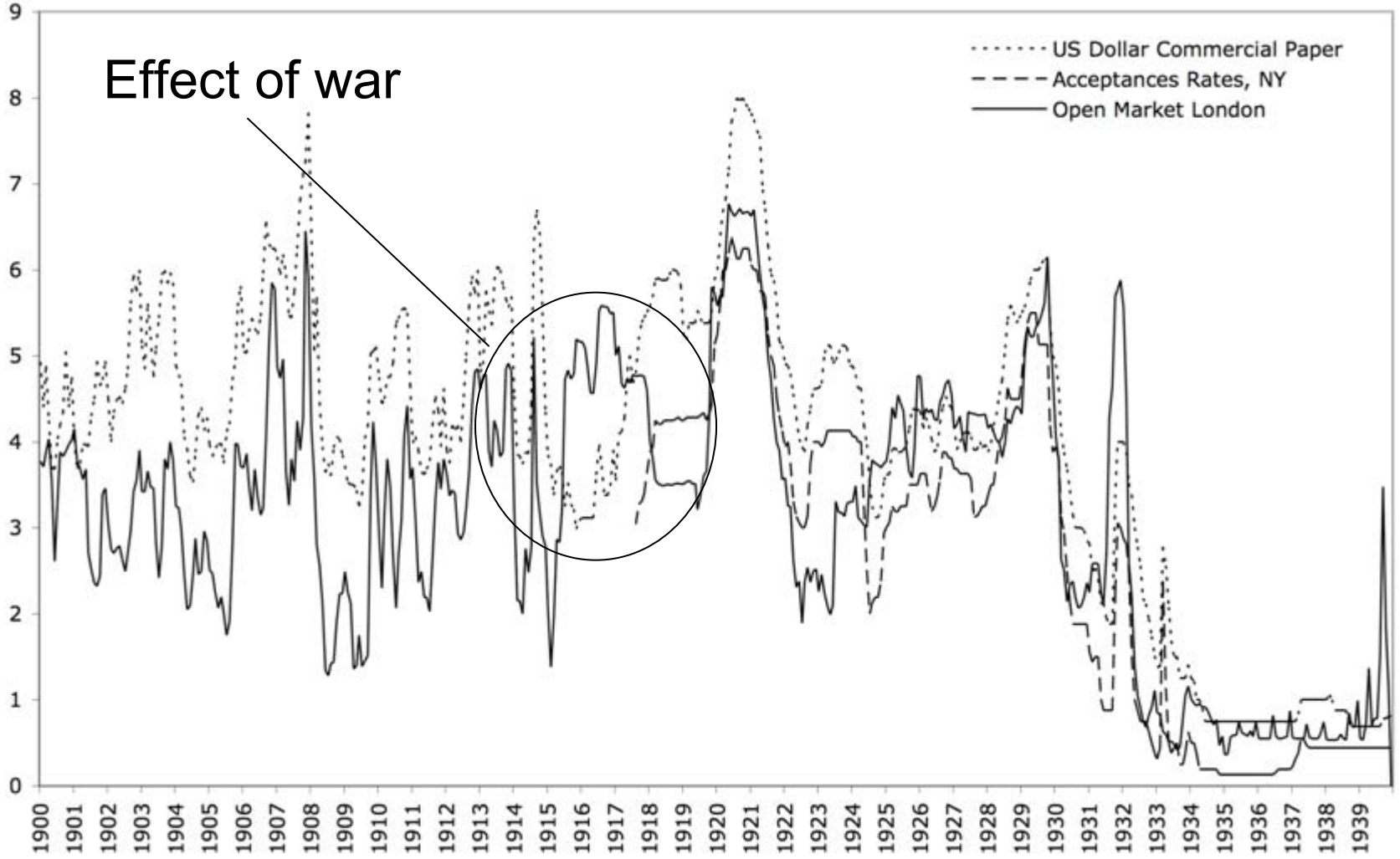
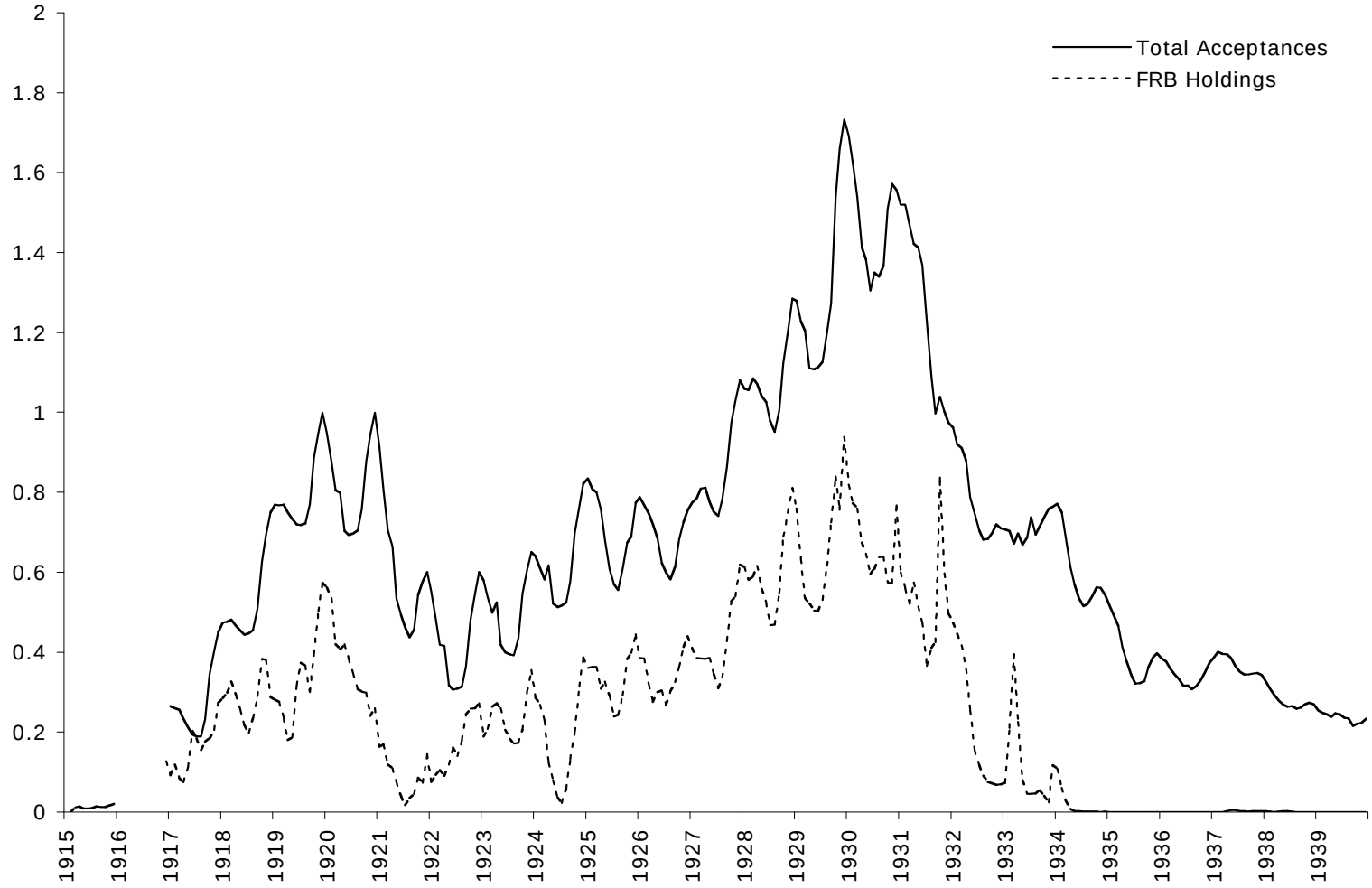


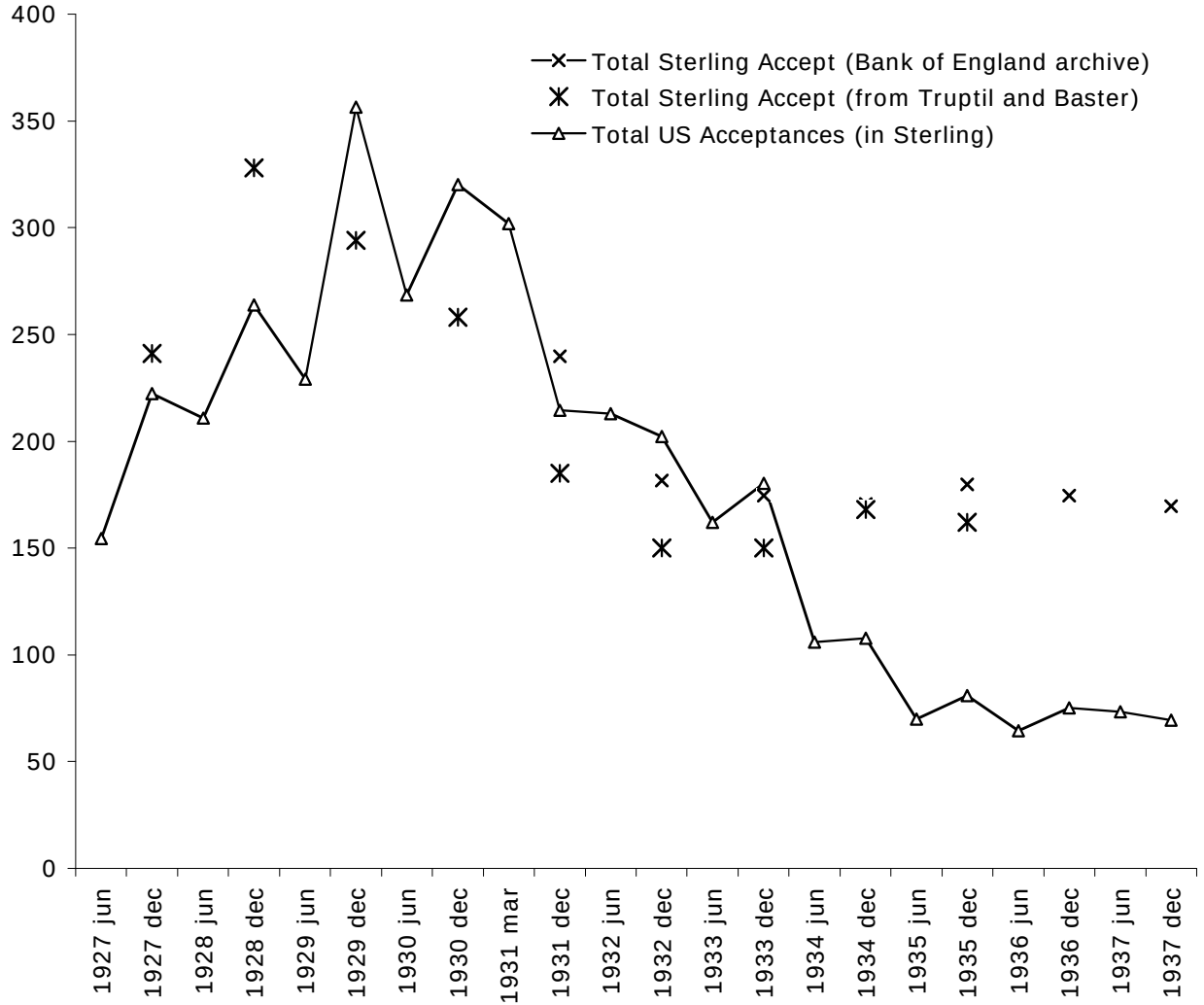
Exhibit 2: Total Outstanding Acceptances and Amounts Held by the FRB in $ b



In case you believe that war was bad for London: Look at the Effect of the War on London's Reach (million of 1913 £)

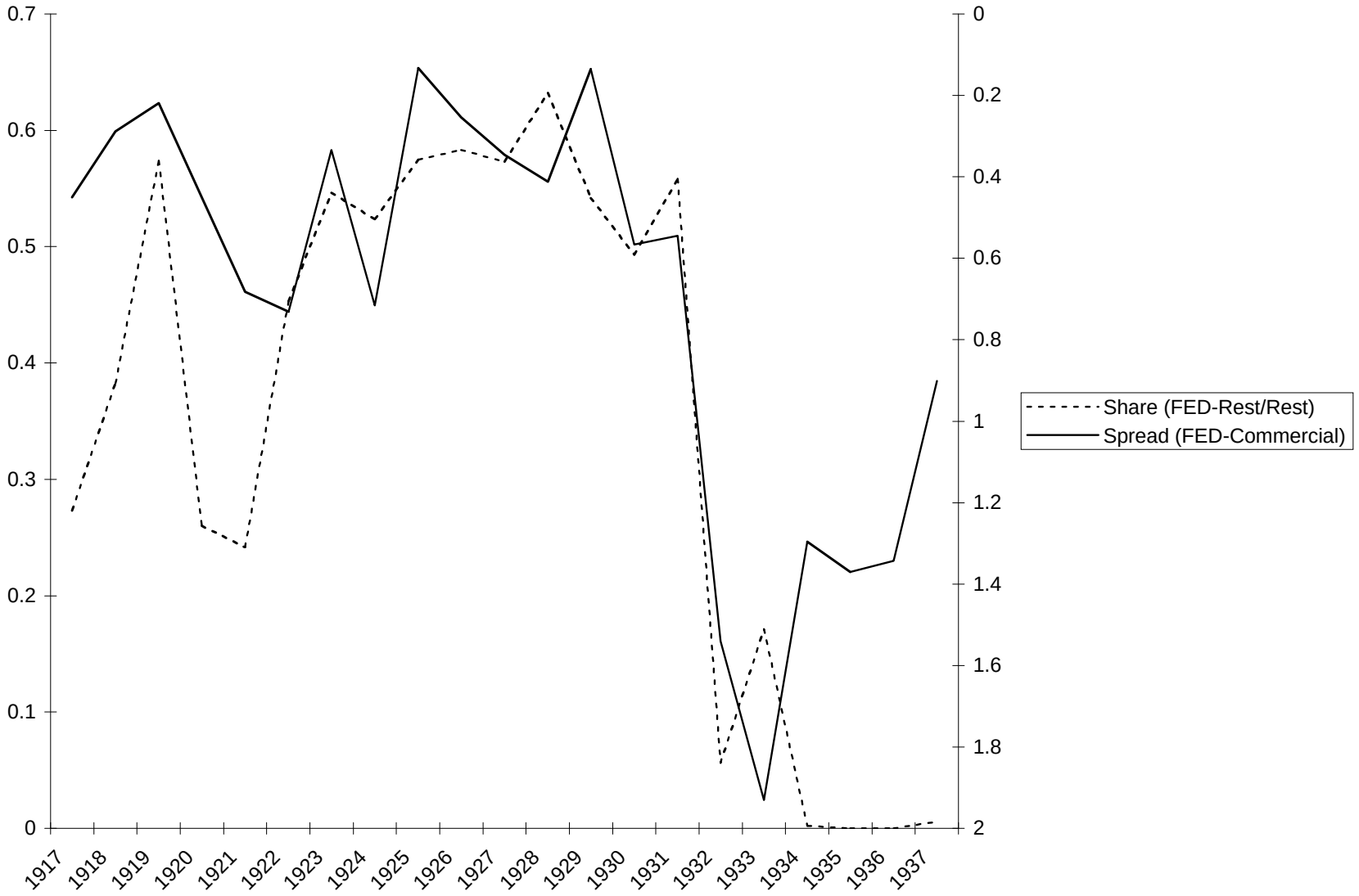
	Main London Agent		Total Assets		Capital	
	1913	1921	1913	1921	1913	1921
German Foreign Banks in Latin America						
Banco Aleman Transat.	Deutsche Bk	Kleinwort	14.0	7.0	2.0	0.1
Deutsch-Sudam. Bk.	Dresdner Bk	Kleinw, Shr d, Japhet	7.0	1.9	1.0	0.1
Bk. f r Chile und Deutsch.	Disconto (a)	None (b)	3.0	0.2	0.2	0.0
Brazilian. Bk f rDeutsch.	Disconto (a)	None (b)	7.0	0.8	0.5	0.1
TOTAL			30.9	10	3.5	0.4
Main British Overseas Banks in Latin America						
Anglo-South American	own	own	14.0	57.6	1.3	3.5
London and River Plate	own	own	35.0	41.7	1.2	1.4
London and Brazilian Bank	own	own	20.0	25.7	1.0	1.0
TOTAL			69.0	125.0	3.5	5.9

Total Acceptances (millions £) in New York and London

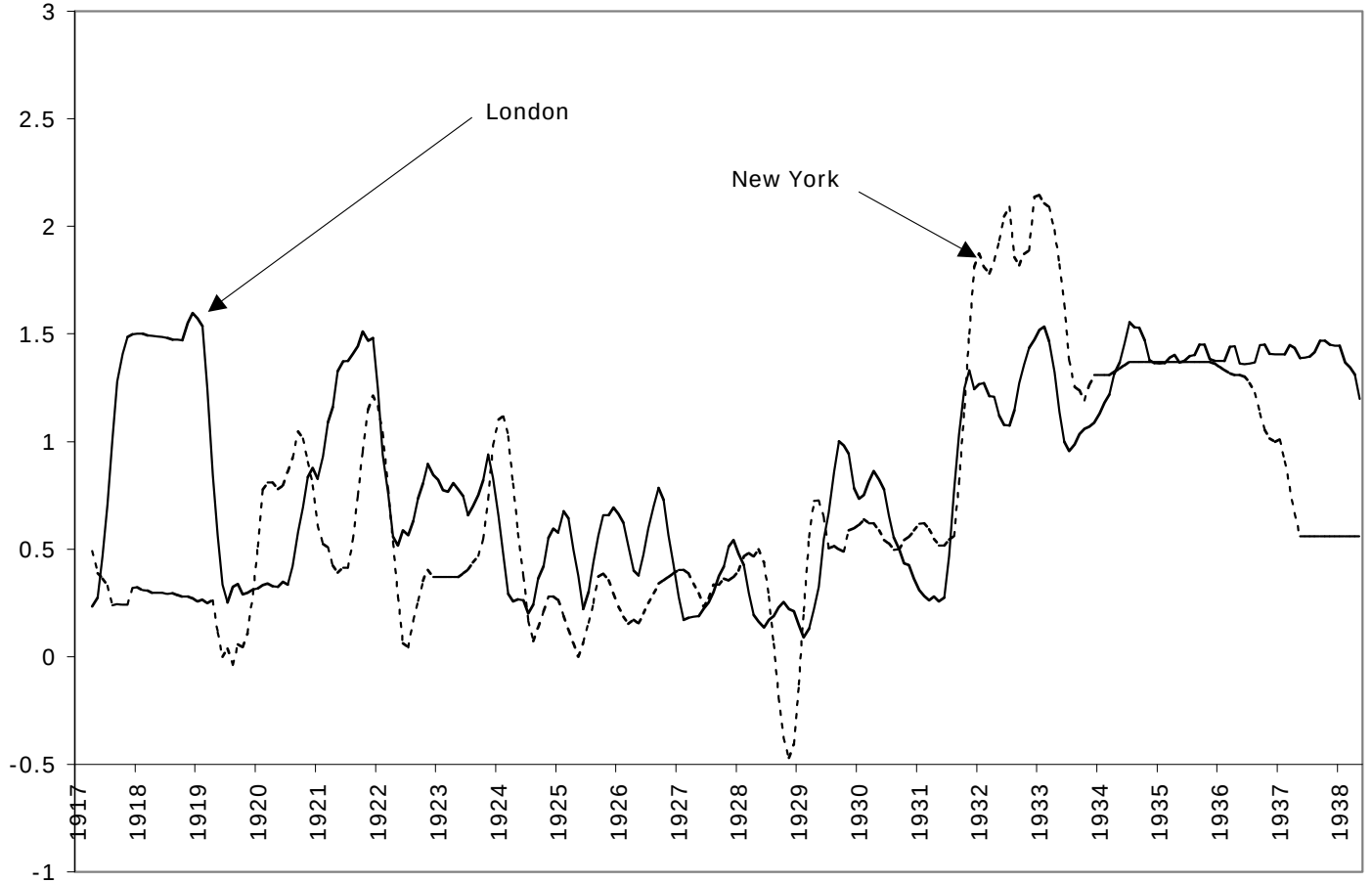


Hypothesis 2 vs. 3: Central Banks and Big Push

Federal Reserve Holdings and Fed-Market Interest Spread



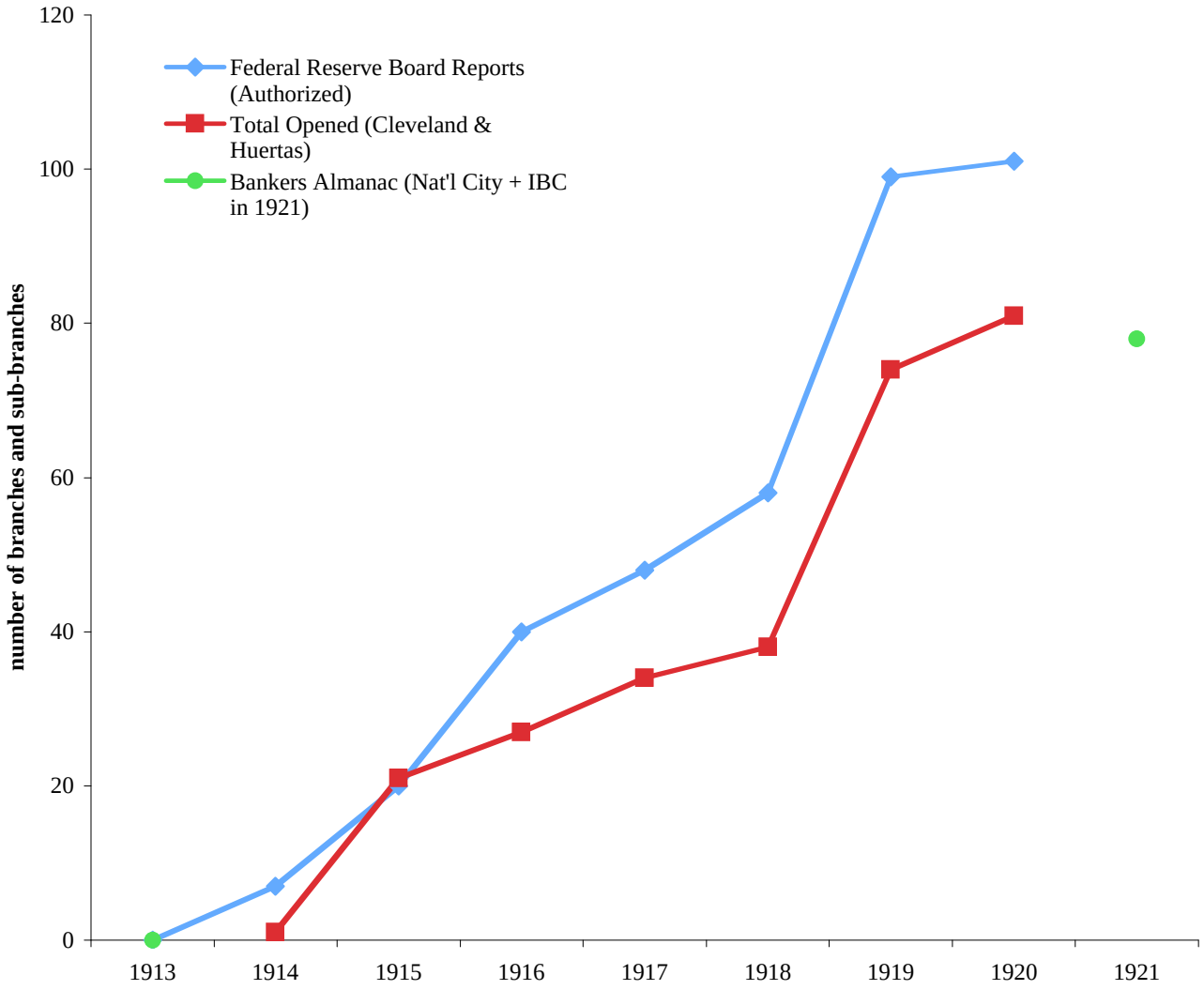
Bank-Market Spreads in London and New York



More Evidence: A Model for the Supply of Acceptances

- Natural forces (acceptances as a function of bank's size, total trade, branching, market size)
  - Capital, total assets, total trade, total acceptances, branching dummy
- Visible hand of the central bank (holdings of acceptances by central bank)
  - Acceptances in own account and acceptances for other customers (foreign central banks -- mainly Bank of France)

Branches: The Case of National City Bank



Determinants of Banks' Acceptances : Including Federal Reserve's Own Market Making Activities

	I	II	III	IV	V	VI	VII
- Total Assets/Liabilities	0.99 (9.84)	0.93 (8.85)	0.93 (8.88)	–	–	–	0.74 (2.85)
- Capital, Surplus and Undivided Profits	–	–	–	0.96 (14.78)	0.91 (11.16)	0.92 (11.46)	0.21 (0.97)
- US total trade (Exports+ Imports)	-0.08 (-0.62)	–	-0.08 (-0.59)	0.10 (0.69)	–	0.09 (0.57)	-0.03 (-0.23)
- Total US acceptances outstanding	–	0.41 (2.61)	0.41 (2.60)	–	0.22 (1.30)	0.22 (1.25)	0.35 (2.30)
- Fed Acceptances/"own account"	0.28 (3.17)	0.17 (1.83)	0.20 (2.17)	0.29 (3.07)	0.28 (2.92)	0.25 (2.70)	0.21 (2.20)
- Branching	0.21 (1.36)	0.29 (1.89)	0.30 (2.00)	0.32 (2.02)	0.39 (2.35)	0.37 (2.23)	0.29 (1.97)
- Intercept	-3.87 (-3.36)	-6.49 (-8.60)	-5.89 (-5.60)	-3.35 (-2.81)	-3.70 (-3.75)	-4.31 (-3.64)	-5.66 (-5.49)
N	197	197	197	198	198	198	197
R_	0.69	0.71	0.71	0.68	0.68	0.68	0.71

Determinants of Banks' Acceptances : Including Federal Reserve's Own Market Making Activities and Holdings on Foreign Account

	I	II	III	IV	V	VI	VII
- Total Assets/Liabilities	0.95 (10.54)	0.90 (9.12)	0.90 (9.29)	–	–	–	0.79 (3.38)
- Capital, Surplus and Undivided Profits	–	–	–	0.92 (13.57)	0.83 (10.74)	0.88 (11.43)	0.12 (0.60)
- US total trade (Exports+ Imports)	0.05 (0.31)	–	0.03 (0.17)	0.30 (1.85)	–	0.27 (1.60)	0.07 (0.38)
- Total US acceptances outstanding	–	0.36 (2.13)	0.36 (2.07)	–	0.27 (1.55)	0.23 (1.23)	0.32 (1.97)
- Fed Acceptances/Total	0.18 (8.64)	0.14 (4.47)	0.13 (5.15)	0.14 (5.50)	0.14 (3.91)	0.11 (3.95)	0.13 (5.04)
- Branching	0.27 (1.77)	0.35 (2.28)	0.34 (2.21)	0.35 (2.14)	0.47 (2.85)	0.41 (2.30)	0.33 (2.17)
- Intercept	-4.35 (-3.22)	-5.81 (-6.81)	-6.04 (-4.63)	-4.16 (-2.86)	-3.00 (-2.89)	-5.16 (-3.36)	-5.99 (-4.62)
N	215	215	215	216	216	216	215
R_	0.71	0.72	0.72	0.69	0.68	0.69	0.72

Conclusions

- Evidence against pure lock-in
- Evidence in favor of role of central banks
- Evidence against central banks creating irreversibility