

Lecture 1: Banking and the Hierarchy of Money

Jay Pocklington

Marc Adam

IMK Workshop, Berlin, 11-13 August 2016

I. What is money and credit?

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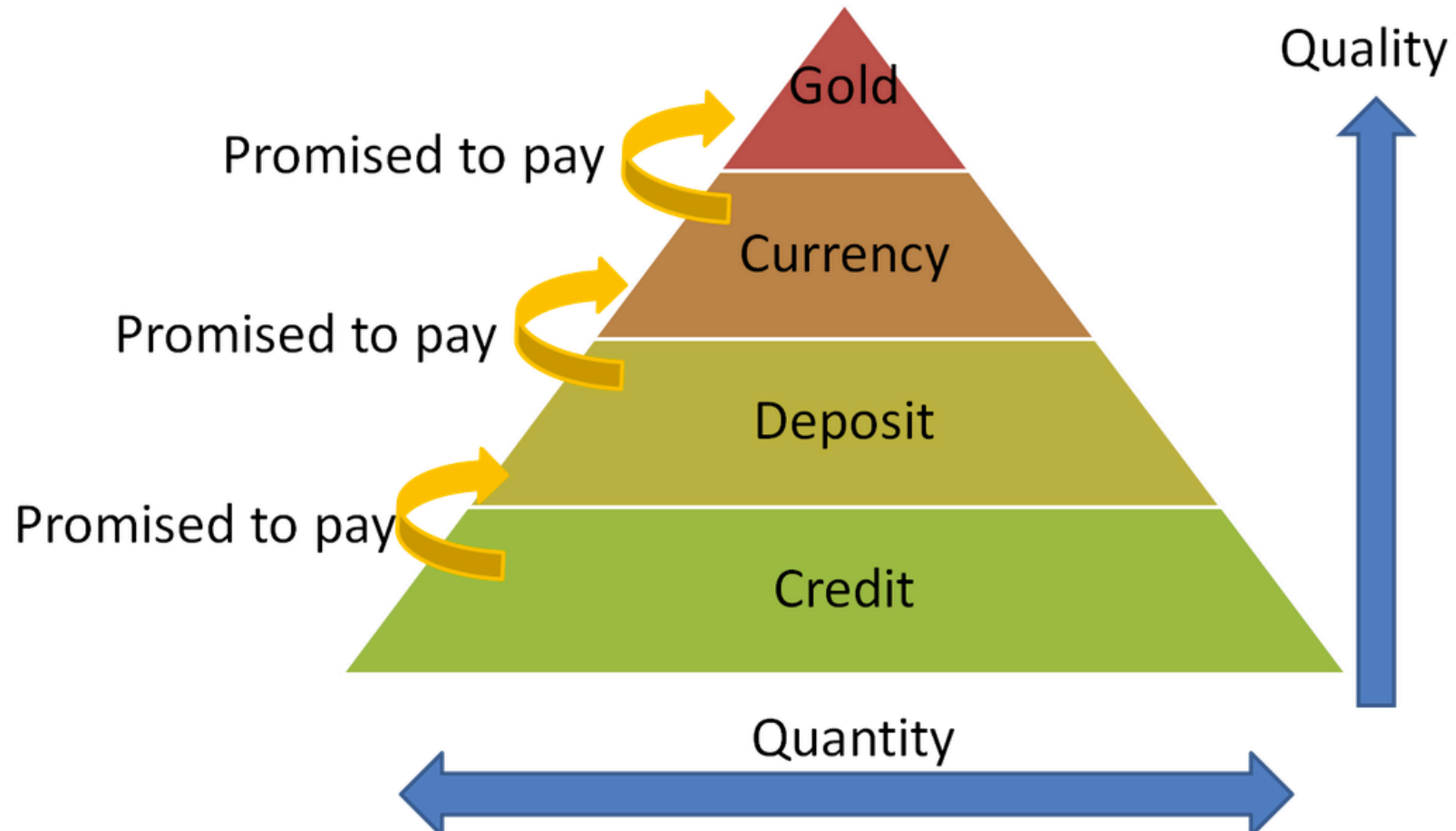
- Currency vs banking principle
- Settlement vs promise to pay (defer final settlement)

What is Banking?

What is Banking?

- Funding Liquidity vs Market Liquidity
- Payments

Hierarchy of Money and Credit



Hierarchy of Money and Credit

Asset

Gold

Currency

Deposits

Securities

Hierarchy of Money and Credit

<u>Asset</u>	<u>Market Maker</u>
Gold	Central Bank
Currency	Banking System
Deposits	Security Dealers
Securities	

Hierarchy of Money and Credit

<u>Asset</u>	<u>Market Maker</u>	<u>Price</u>
Gold	Central Bank	Exchange Rate
Currency	Banking System	Par
Deposits	Security Dealers	Interest Rate
Securities		

Hierarchy of Money and Credit

The Hierarchy in Balance Sheets

Central Bank

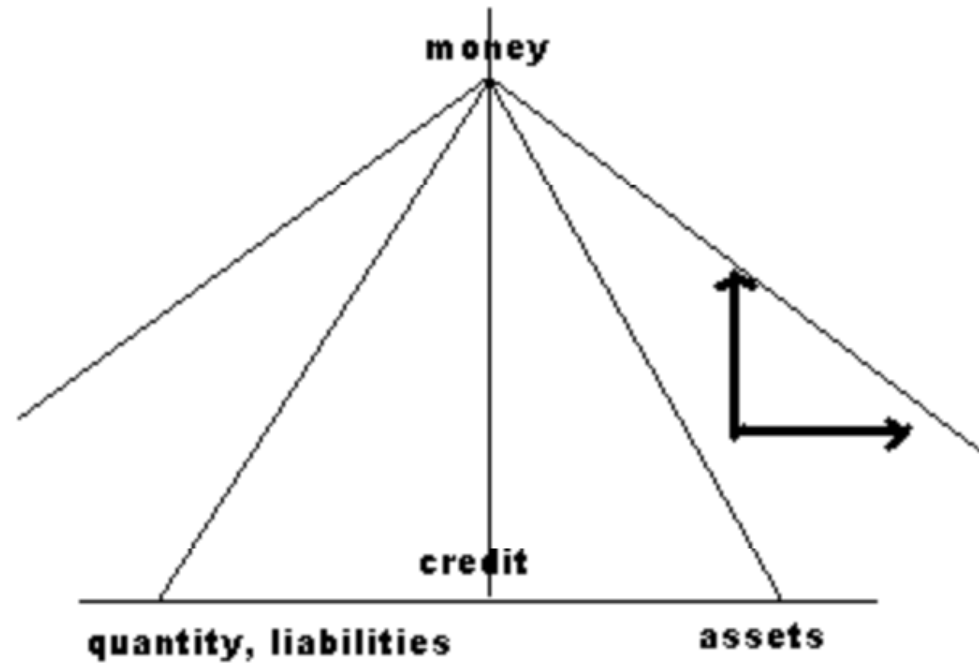
Banking System

Private Sector

Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Gold	Currency	Currency	Deposits	Deposits	Securities

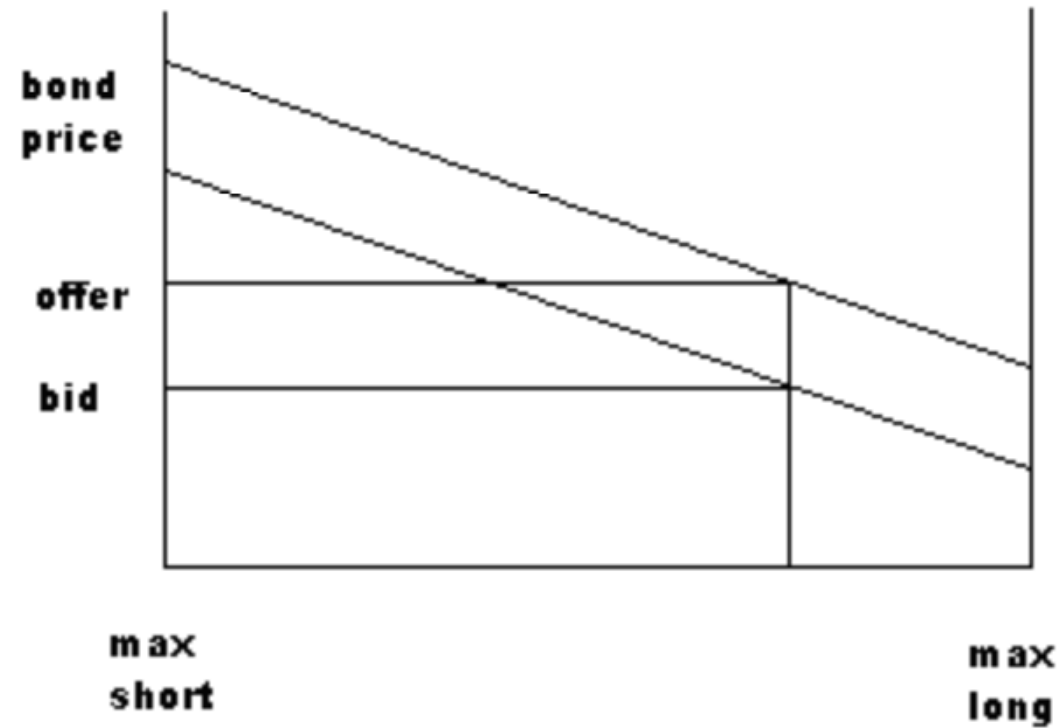
- For present purposes, the important point to appreciate is that all of the instruments except gold appear as both assets and liabilities. They are thus clearly all forms of credit.

Hierarchy of Money and Credit



- Market making
- Elasticity vs discipline principle

The Dealer Function



Globalization

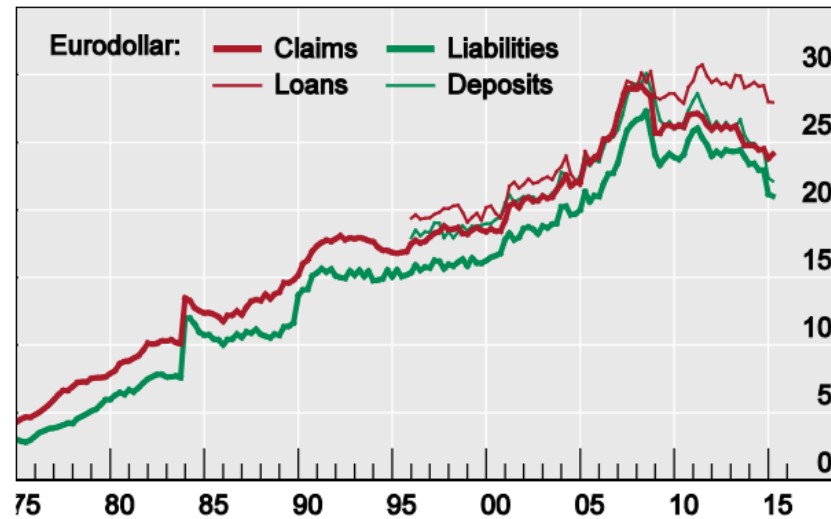
Globalization

Eurodollar banking: relative size and importance of US residents

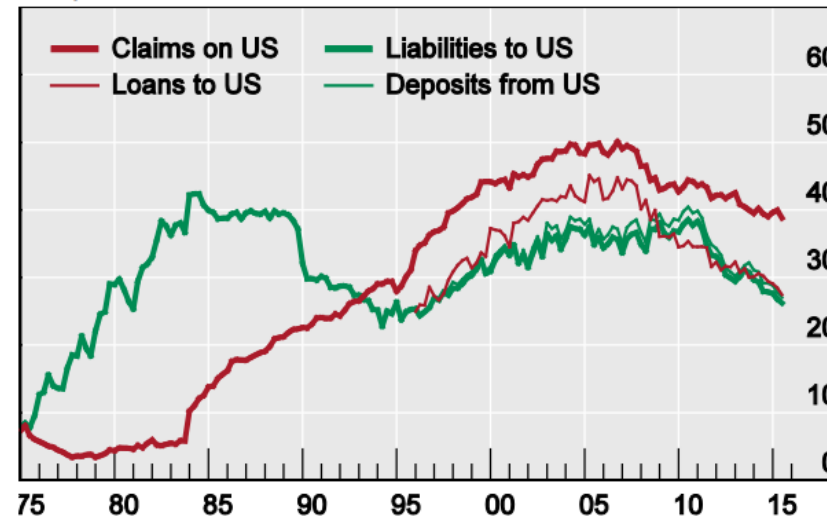
In per cent

Graph 2

Eurodollar share of global dollar banking¹



Dollar claims on (loans to) and liabilities to (deposits from) US residents



¹ Break in series in Q4 1983, when Caribbean centres joined the reporting area.

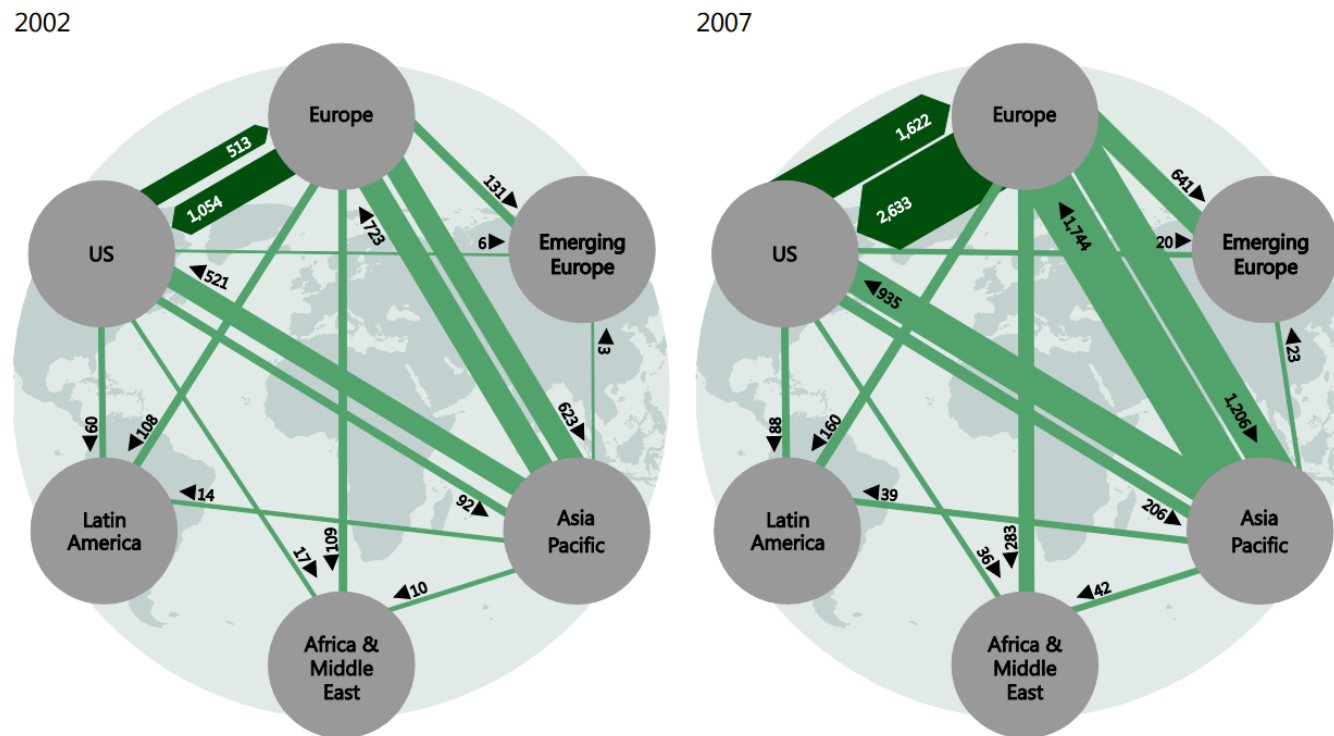
Sources: Federal Reserve Statistical Release Z.1 (flow of funds); BIS.

Globalization

Cross-border bank claims (denominated in all currencies)¹

In billions of USD

Graph 6



¹ The thickness of the arrows indicates the size of the outstanding stock of claims. The direction of the arrows indicates the direction of the claims: arrows directed from region A to region B indicate lending from banks located in region A to borrowers located in region B.

Source: BIS locational banking statistics.

Triple Coincidence of Money and Finance

- Bank for International Settlements (Shin 2015)
- Net flows vs gross flows
- Currency area not necessarily economic area
- Aggregation of national accounts misleading

Lecture 2: Understanding Global Money

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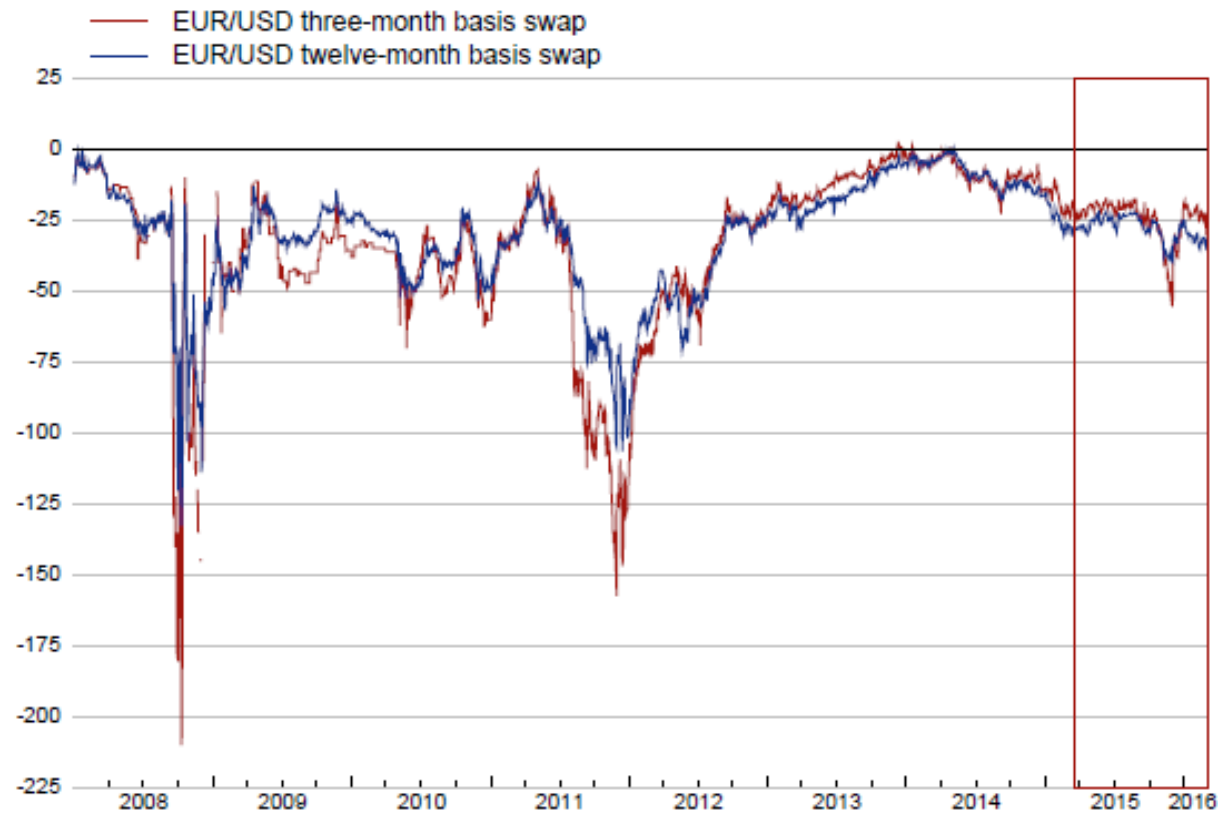
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Dollar shortage

4.3 EUR/USD cross-currency basis swap spreads

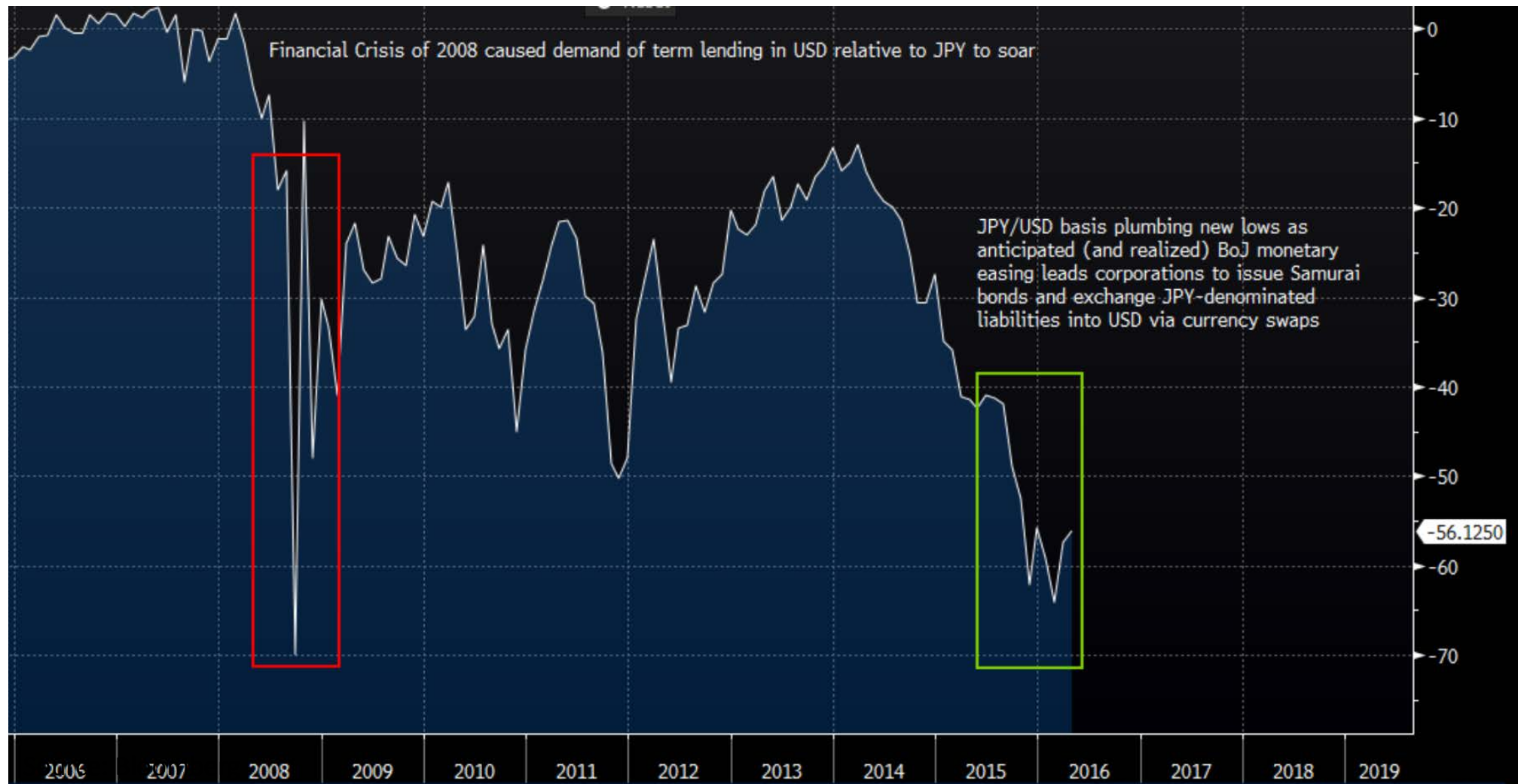
(basis points; last observation: 3 Mar. 2016)



Source: Bloomberg.

Note: Data available since January 2008.

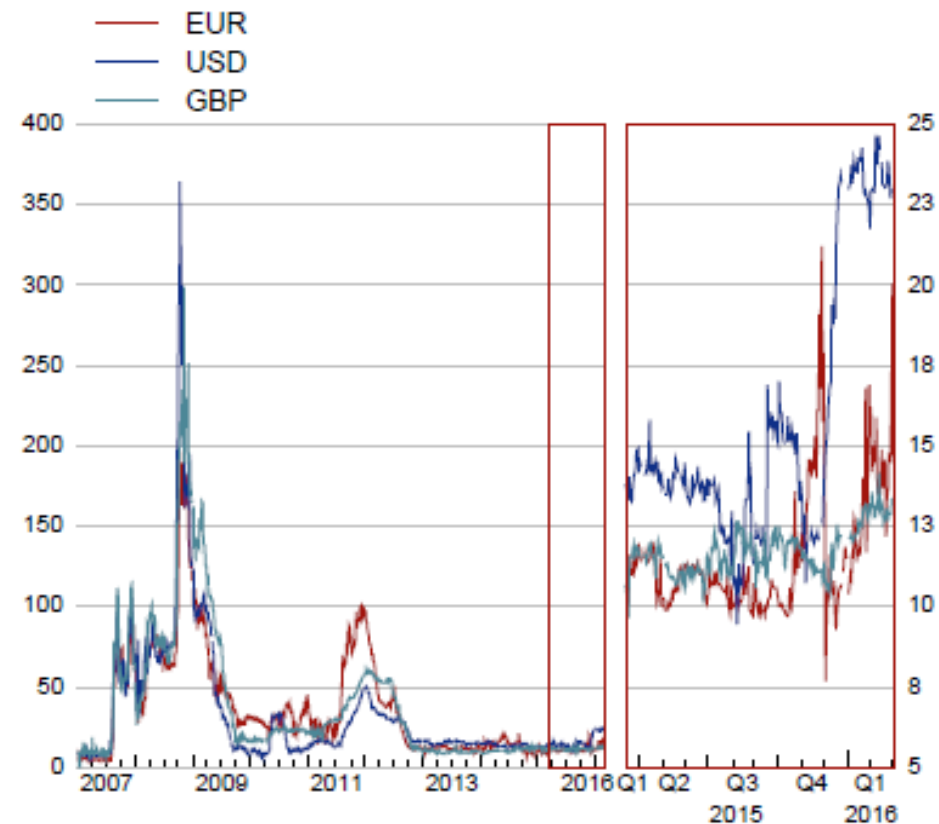
Dollar shortage



Dollar shortage

4.1 Interbank interest rate spreads

(basis points; three-month maturities; last observation: 2 Mar. 2016)



Sources: Thomson Reuters, Bloomberg and ECB calculations.

Note: Difference between interbank interest rates and overnight indexed swap.

Global Money is ... the Eurodollar

- Private money: issued by banks not sovereign
- Credit money: promise to pay not final settlement
- Dollar money: promise to pay dollars not euros, yen, RMB

Price of global money is ... a liquidity spread

- Private money implies **inherent hybridity**
 - Management of **par**: TED spread, LIBOR-OIS
- Credit money implies **inherent instability**
 - Management of **interest rate**: term spread
- Dollar money implies **inherent hierarchy**
 - Management of **exchange rate**: basis swap

Price of global money is ... a liquidity spread

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Is private management enough? Who is last resort for global money?

Global banking is ... “shadow banking”

“Money market **funding**
of
Capital market **lending**”

- **Global** (dollar) funding of **local** lending
- **Market pricing**, both money and capital
- Key role of **market-making** institutions
- Key role of **central bank as backstop**

Global Banking is ... “shadow banking”

“Shadow Bank”

Global Money Dealer

Asset Manager

Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
RMBS CDS IRS FXS	MM funding	MM funding	“deposits”	“deposits”	Capital CDS IRS FXS

Derivative Dealer

Assets	Liabilities
Credit Default Swaps Interest Rate Swaps Foreign Exchange Swaps	Credit Default Swaps Interest Rate Swaps Foreign Exchange Swaps

Global Banking is ... “shadow banking”

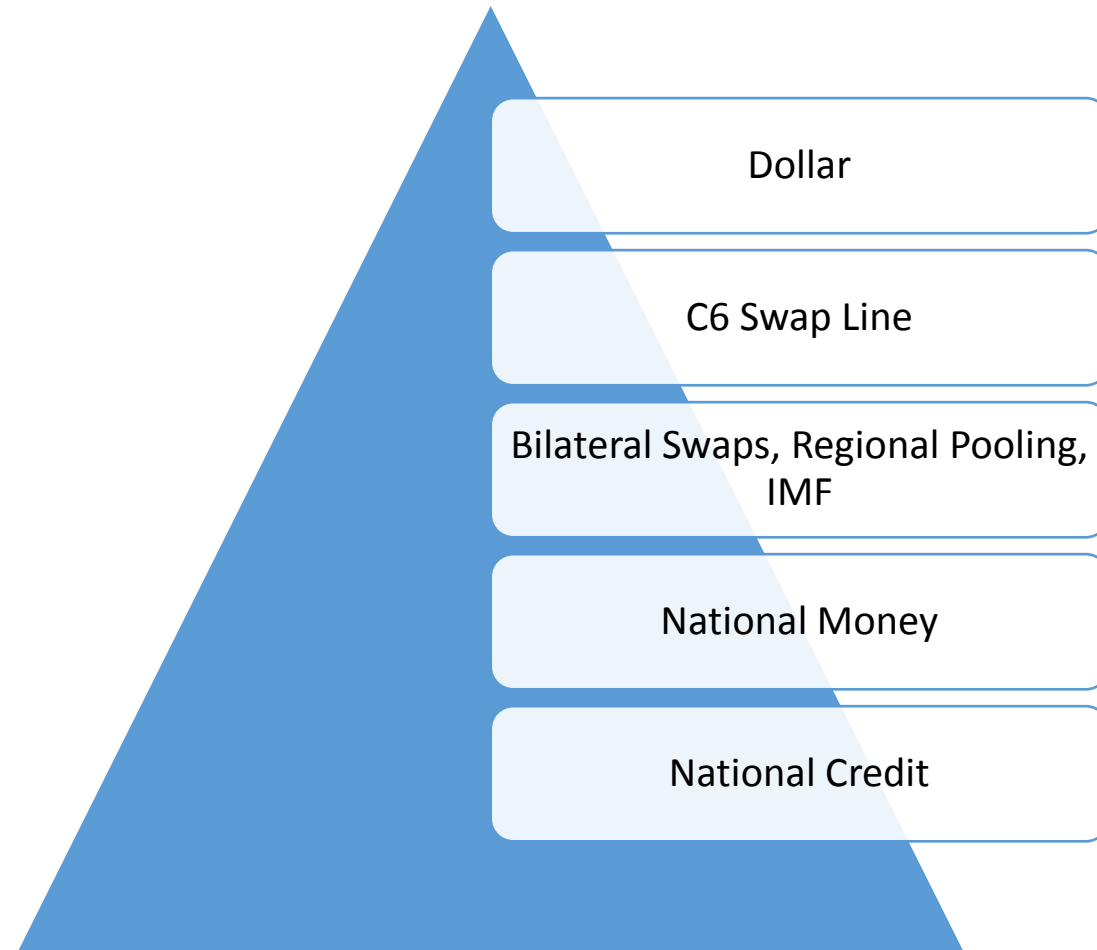
“Shadow Bank”		Global Money Dealer		Asset Manager	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
RMBS CDS IRS FXS	MM funding	MM funding Liquidity put	“deposits”	“deposits”	Capital CDS IRS FXS

Derivative Dealer

Assets	Liabilities
Credit Default Swaps Interest Rate Swaps Foreign Exchange Swaps Liquidity put	Credit Default Swaps Interest Rate Swaps Foreign Exchange Swaps

Is private management enough? Who is last resort for global banking?

Global Central Banking is ... swap line network



A Bretton Woods moment

October 31, 2013 9:34 am

Central banks agree to retain swap lines

By Claire Jones

[Author alerts](#) ▾

The world's major [central banks](#) have agreed to keep one of their main crisis-fighting tools in place until further notice.

Temporary swap lines, introduced by the Federal Reserve in 2007 to combat a global shortage of dollars, allow monetary authorities to pump foreign currency into their home markets. On Thursday, six central banks said that they would turn their temporary lines into standing ones.



More

ON THIS STORY

[FCB faces pressure to cut interest](#)

The move is designed to reduce uncertainty about whether or not the swap lines will be renewed and lower the risk that any renewal is misinterpreted as a signal that banks are in trouble. The lines, last renewed in December 2012, were due to expire next February.

A Bagehot moment

June 13, 2014 9:07 am

BoE widens lending access to shadow banking sector

By Sam Fleming



The [Bank of England](#) has decided upon a significant extension of the range of institutions it is willing to lend to as it responds to the rise of [shadow banking](#) and the rapid evolution of the financial system.

On Thursday night [Mark Carney](#), the BoE governor, said he was ready to extend the scope of the BoE's liquidity facilities to the UK's biggest broker dealers and to central counterparties, taking its "sterling market framework" beyond its traditional ambit of commercial banks.



"The City's markets are not those of a textbook. We all know that real markets can seize up in crises of

Global Money is ... essential infrastructure

- Globalization of Finance
 - Post WWII, rise of private capital markets (New York)
 - Post Bretton Woods, rise of private money markets (London)
- Shadow Banking as Integration of Global Finance and Global Money
 - From bank loan-based credit to capital market-based credit
 - Quintessential institutional form for modern day
- Money and Finance is ... essential infrastructure
 - Banking as payments system (settlement discipline)
 - Banking as market-making system (money and risk)

Standard Abstractions ... hold back analysis

- No “Banking as a Payment System”
 - No Money Flow, NIPA
 - No Survival Constraint, Budget Constraint
- No “Banking as a Market-Making System”
 - No Hierarchy, Money as $n+1$ th market
 - No Dealers, Price equilibrates supply and demand
 - No Dealer of Last Resort, Central Bank operates on inflation expectations

The Alchemy of (Credit) Money

Bank

Assets	Liabilities	Assets	Liabilities
+loan	+deposit	+deposit	+loan

Other

Central Bank

Assets	Liabilities	Assets	Liabilities
+securities	+money (reserves)	+money (reserves)	+securities

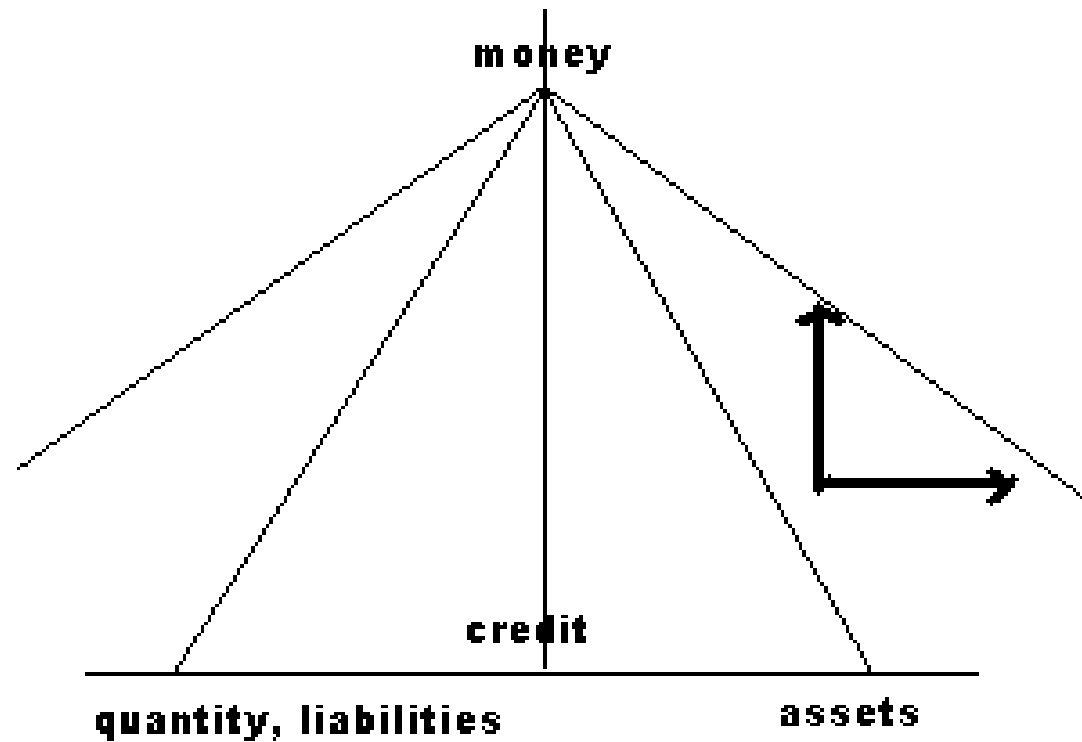
Bank

Fed

Assets	Liabilities	Assets	Liabilities
+Euros	+Dollars	+Dollars	+Euros

ECB

Inherent Instability of Credit



Global Governance is ... a work in progress

- Liquidity is private and global, but backstops are public and local
 - Adequacy of liquidity swap network
 - Political economy of the Fed
- Relocating and reorienting the backstop function
 - Money: markets not banks, global not local, liquidity not solvency
 - Risk: DOLR not LOLR, outside spread not inside, liquidity not solvency
- Micro and macro prudential regulation?
- Monetary and financial stabilization policy?

Needed ... a robust dealer of first resort

- Retreat from cross-border banking (home bias)
 - Private decisions, regulatory pressure, or both?
 - Headwinds to short-term capital flows, survival constraint discipline
- Retreat from market-making (market liquidity)
 - Money market dealing
 - Derivative dealing (IRS, CDS, FXS)
- Relocating and reorienting the dealer function
 - Money: cash pools and wholesale money market
 - Risk: separation of prop trading and matched book CCP