Banking Reforms, Taxpayer Bailout, and FinTech

Oz Shy
Applied Economics Group
MIT Sloan School of Management
www.ozshy.com

Prepared for the
MIT FinTech Conference
Cambridge, MA
April 16, 2016

The views expressed in this presentation are those of the presenter and do not necessarily represent the views of the affiliated institutions.

Goal of this talk

1) To stimulate discussions on how to relieve taxpayers from the repeated burden of having to bail out failing banks.

2) Discuss alternative structures of the banking industry that may:
   a) reduce taxpayer burden to bail out banks, and

   b) introduce new technologies (a.k.a. FinTech) that would
      i) facilitate banking services (mainly payments)
      ii) reduce end-user cost.

<u>Disclosure</u>: Economists tend to *strongly disagree* about solutions and even whether the banking system needs any fixing to begin with. Our goal today is just to have a discussion.

Facts that motivated this talk

Fact 1: The fractional-reserve banking system collapses and gets bailed out every 10 to 30 years (700 years history).

Fact 2: Governments and central banks continue supporting and subsidizing the traditional fractional-reserve banking system.

IMF estimation: Even w/o bailout, Implicit subsidy of US banks in 2012 was $70b (US) and $300b in Euro zone.

Fact 3: Money creation (inside money) by fractional-reserve banks amplifies the business cycle.
(During crises banks contract the money supply very fast!)

Fact 4: Information technology and the Internet have led to the emergence of low-cost alternatives to banks providing low-cost 'bank-like' services.

Facts that motivated this talk (con'd)

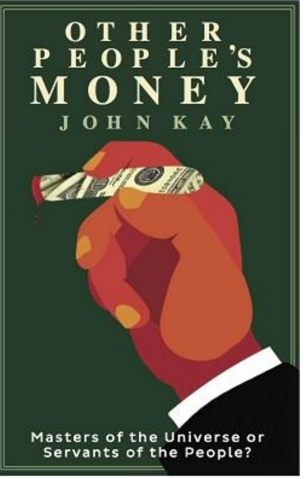
Fact 5: Large fractional-reserve banks have a competitive advantage over non-banks and small banks because of the "too-big-to-fail" government and central bank guarantees.

Fact 6: Banks spend around $1.2m per week on lobbying.

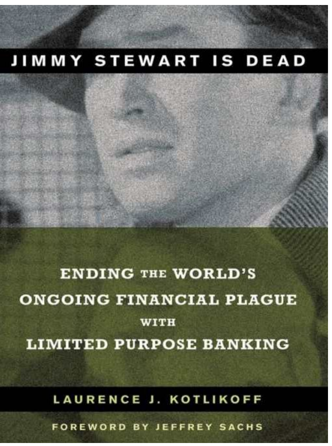
Fact 7: The size of the banking industry: Assets / GDP (annual):

	U.S.	U.K.
Last 100 year change:	20% ⇒ 100%	50% ⇒ 500%
Top 10 banks today:	60%	450%

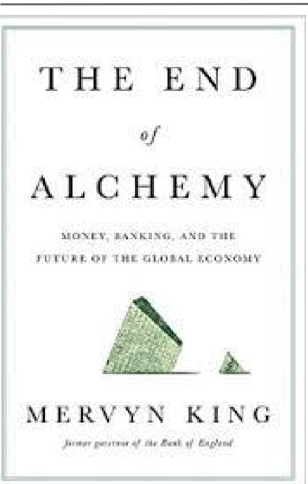
Books on banking reform



Narrow banking: Separation of bank deposit-taking and payments from loans. Banks should keep 100% reserves.

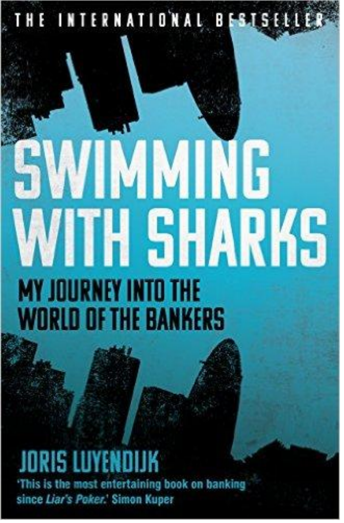


Limited purpose banking: Generalization of narrow banking to a no-debt economy. All lending and insurance will be conducted via mutual funds.



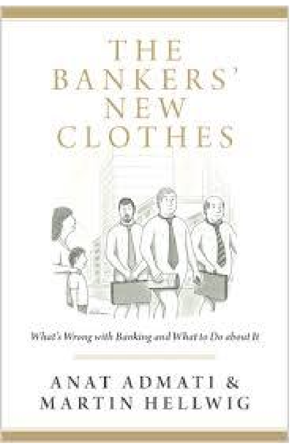
Pawn shop solution: Banks will post collateral (with haircuts) before the next crisis if they wish to receive loans. Two problems: (1) How do we know what the collateral value would be during the next crisis? (2) Haircuts would increase cost of loans (just like narrow banking that the author criticizes).

Books on banking reform (con'd)

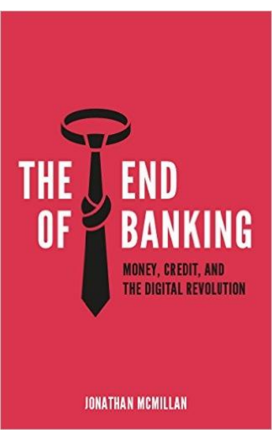


<u>Organizational structure</u>: "Vertical management chain," and

<u>Conformity</u>: "If you disagree, then go find another job!" (...and, forget about your bonus this year!)

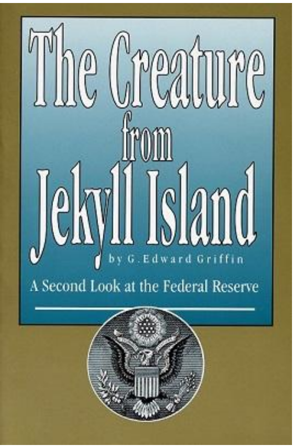


<u>High equity solution</u>: Describes the danger of high leveraging and advocates >30% equity financing and less debt.

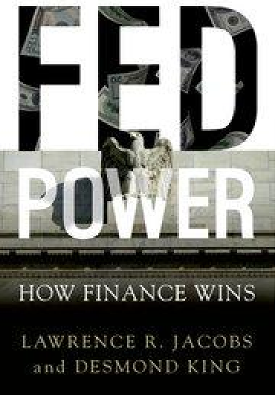


Detailed derivations of shadow banking with series of balance sheets.

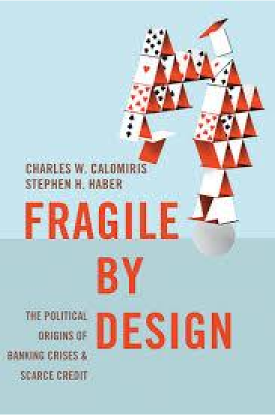
Books on the Federal Reserve and bank politics



<u>Conspiracy argument</u>: The 1913 Fed Act was designed to enhance the power of commercial banks by getting discounted credit when they need it.
Long book (with chapter summaries)! First 4 chapters will get you the idea.

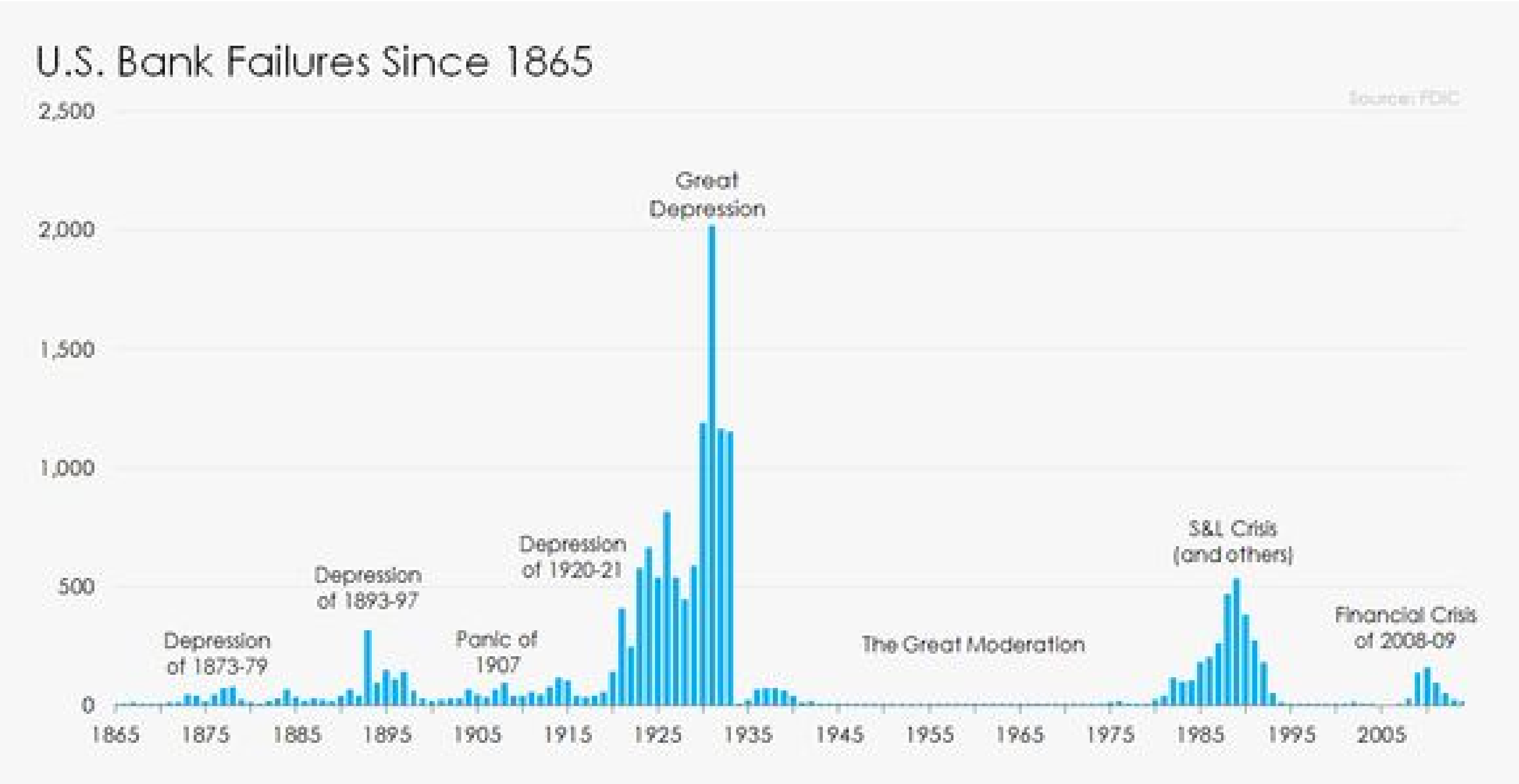


The 1913 Fed Act succeeded in making the Fed independent of Congress & the President. But, it became 100% dependent on the financial sector.
(Not subjected to "checks-and-balances")
(Somewhat repetitive book)



Banking systems are implicit partnerships between governments and private actors.

Major waves of U.S. bank failures



In 1792, failure of the Bank of the U.S. (and others) and first bailout by the U.S. Gov't (Alexander Hamilton, Treasury Secretary).

Brief history of large bank failures

- In 1345 world’s biggest banks went under, “led” by the Bardi and Peruzzi companies of Florence.
- Preceded by 30 years fictitious financial practices.
- Resulted in total financial disintegration in Europe, most trade was stopped.
- In 1361 Venice's Senate prohibits lending out depositors' money (repealed later on).

In 1584, Venice's largest bank *House of Pisano & Tiepolo* closed because of inability to refund depositors. State gov't turned it into a state bank that also failed 1619.

In 1790 the Bank of Amsterdam was taken over by the City after depositors discovered that it broke its promise to maintain reserves.

Brief history of large bank failures

In 1813 Napoleon takes possession of the Bank of Hamburg, and counts the money.

Finds a surplus of 7,506,956 solver Marks excess over deposits. After the war, the French government returns securities (instead of silver) and the bank collapses.

London bank failures and bailouts: 1825, 1836, 1847, 1914

1986--1995: Collapse of 1,043 savings and loan (S&L) associations in U.S..

In 1992, the Swedish gov't guaranteed all bank deposits of the nation's 114 banks and assumed some of bad debts.

2008: Total collapse of financial systems in the U.S. and Europe.

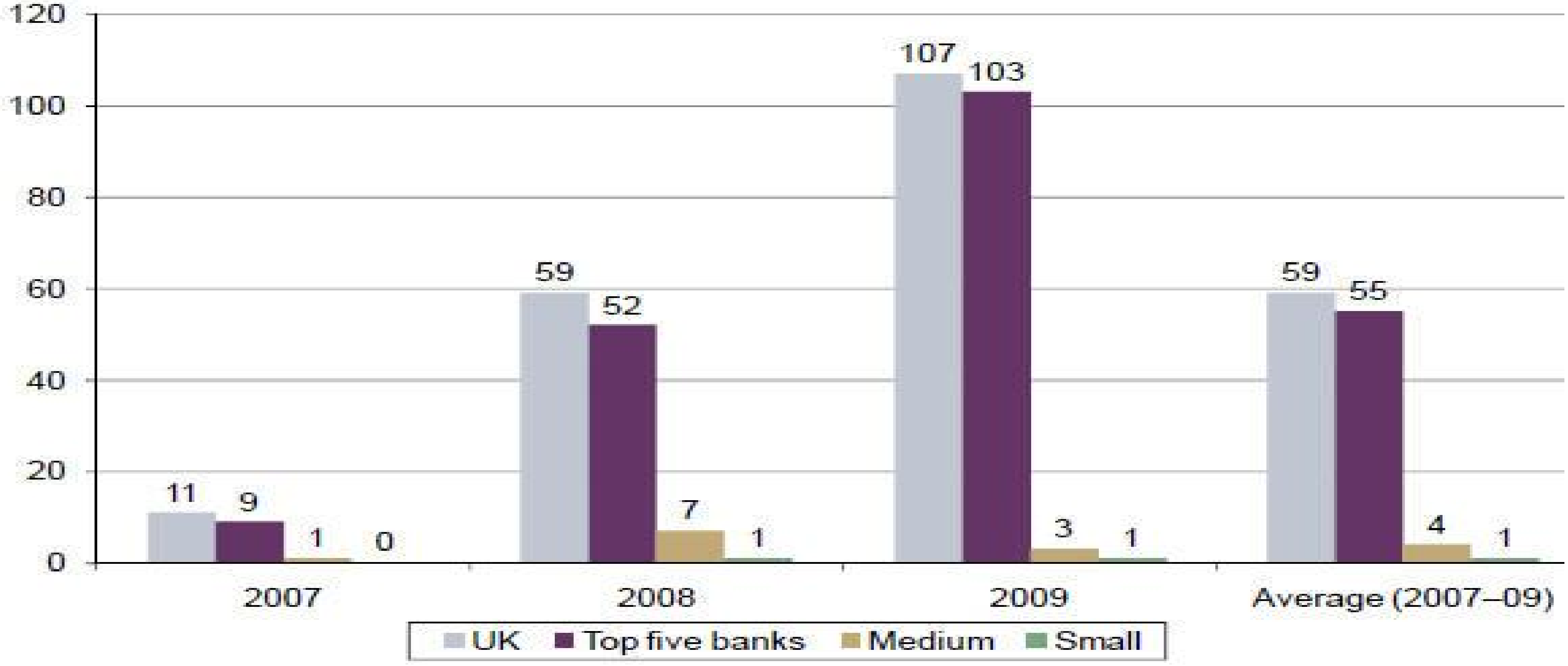
2012--2013 Cyprus' banks collapse.

Taxpayer subsidies during banking crises (U.S.)

- Following the Savings and Loan (S&L) crisis, 296 financial institutions were either closed or rescued from 1986 to 1989.
- In 1989, 747 additional thrifts with $394 billion in assets were resolved.
- The S&L crisis had cost taxpayers $124 billion.
- The S&L crisis had cost the the thrift industry $29 billion.
- The most recent 2008 crisis cost the taxpayer $750b (TARP).
- The cumulative bailout commitment (asset purchases plus below-market lending) by Federal Reserve during 2007-2009 was $7.77 trillion to 407 banks (Bloomberg) and over $29 trillion (Felkerson, Levi Inst. WP No. 698).
- TBTF sends the wrong message to banks: TBTF tells banks that the taxpayer is ready to bail them out.

Taxpayer subsidies during banking crisis (Europe)

The average state support in 2009 for the top 5 U.K. banks exceeded £100 billion, with the average per bank being around £26 billion.



- In 1992 the Swedish gov't guaranteed all bank deposits of the nation's 114 banks and assumed some of bad debts.
- In March 2013, a €10 billion international bailout of Cyprus' banks.

Taxpayer subsidies provided to banks
Three types of economic distortion:

1. Banks that most benefit from subsidies (large banks) enjoy a competitive advantage over other FI.

   This is because creditors of these banks settle for lower interest they charge banks for bearing their risk (banks benefit from lower cost of funding).

2. Taxpayer guarantees increase banks' incentives to take risks (losses will eventually be borne by taxpayers).

   The resulting social loss due to financial crises far exceeds the cost of the subsidy.

3. Taxpayer guarantees of banks result in an artificial unproductive increase in the size of the financial sector.

But, why should I care?
My bank is FDIC insured

Not so fast! Your 'insurance' company does not have a lot of money. See next slide for actual figures.

FDIC insurance creates an illusion among depositors (voters) that banks cannot fail.

The FDIC Fund

- Has $67.8 billion, yielding a
- 1.06% reserve ratio (out of total U.S. deposits). Hence,
- The FDIC fund is insufficient to recover 99% of total deposits during a banking crisis.
- Total deposits: JPMorgan Chase has $1.33 trillion (=$1,330b), Bank of America $1.24 trillion, Wells Fargo $1.22 trillion, Citibank $0.94 trillion.
- Summary: The FDIC fund is smaller than the amount of deposits held by <u>each</u> of the 24-largest U.S. banks.

Solutions: Common views

1. Do nothing! Add more regulations,
   (This is the most common view
   among bankers, politicians, central banks, and academia).

2. Require banks to hold more equity and less debt.
   [Two assumptions: Shareholders can monitor risk-taking, and advocate low risk]

3. Structural change: 'narrow banking'
   Total separation of banks' deposit-taking and payment activities from lending activities.
   (Proposed to President Roosevelt and later supported two Nobel prize laureates: Milton Friedman and James Tobin).

4. Use FinTech (financial technology) to gradually reduce dependence on traditional banking to achieve goal #3.

Do we need more regulations?

No, we need less! Bank regulations consistently fail to protect taxpayers from having to bail out banks for the following three reasons:

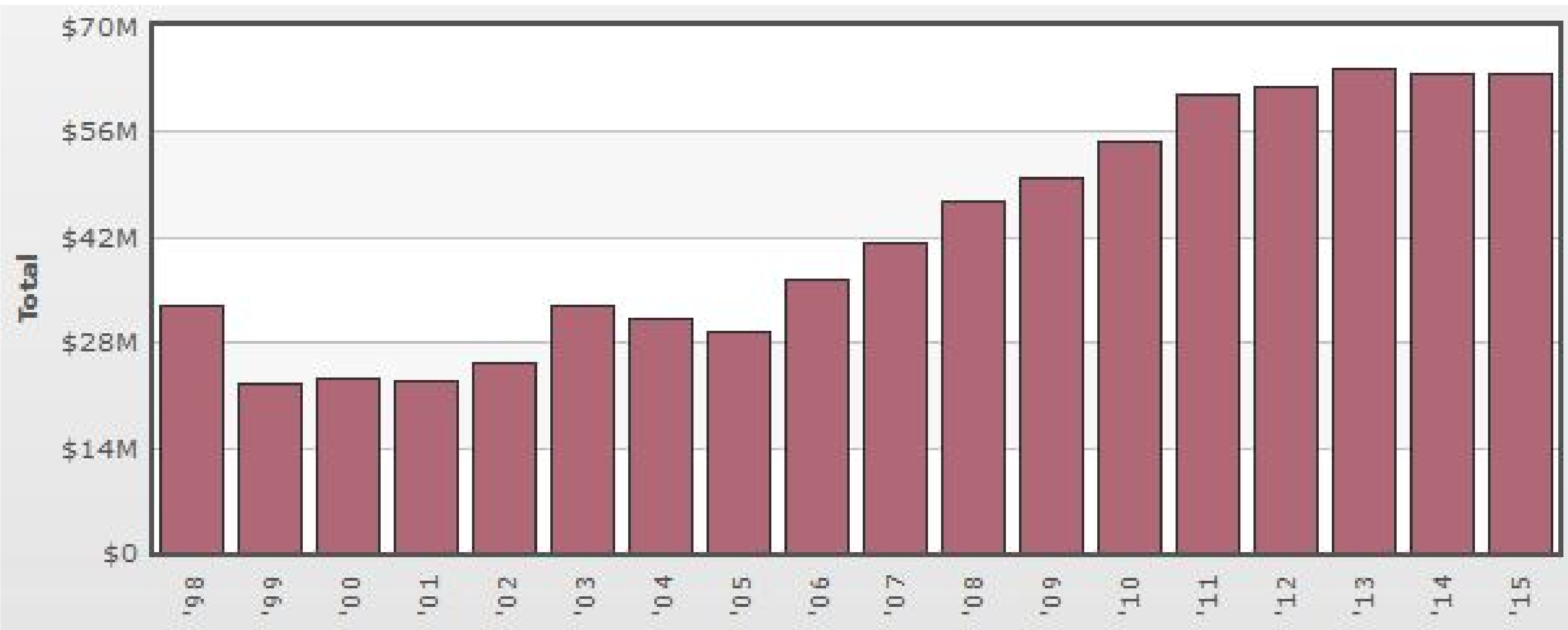
1. Lobbying: U.S. banks spend over $1.2 million/wk on lobbying congress (see chart next frame).

2. Regulatory capture: Regulatory agencies (such as central banks and SEC) have no incentives to enforce the regulations.

3. Regulatory cost: The average employee compensation at federal bank regulatory agencies is more than 2.7 times that of private-sector bank employees. There are 8 Federal regulatory agencies to 'support' (+ state regulators).

Annual lobbying spending by U.S banks

Even if Congress passed laws that restrict banks' risk-taking, laws are then repealed with some lobbying.



Why more regulation never works?

- The Glass-Steagall Act of 1932-35 lost its effectiveness over the years. In 1999, the Gramm-Leach-Biley Act allowed bank subsidiaries and holding companies to deal with securities

- Basel I, II, III,...: Can 8% capital ratio prevent bank failures?

- On November 9, 2015 the Financial Stability Board (FSB) issued guidelines on bank balance-sheets to increase capital ratios to 16% by 2019 and to 18% by 2022
(Question: Who will pay for the remaining 80%?)

- In 2015, Congress continues making concessions to the financial industry including delaying a Dodd-Frank mandate that financial firms sell off bundled debt (collateralized loan obligations).

Can the Fed regulate banks? (1 of 3)

Timothy Geithner
(President of the NY Fed 2003-2009) wrote:
I was then the head of the Federal Reserve Bank of New York, which serves as the fire department for the financial system (*WSJ* March 1, 2012 article)

John Kay: "*The fires in question are not natural phenomena, like hurricanes and earthquakes*"
"*...the stuff used to douse the fires is not cold water but a stream of liberal credit – precisely what set the blaze alight in the first place*"

James Dimon (CEO, JPMorgan Chase) was a class-A director (exp. 2009) at the NY Fed during the 2008 financial crisis.

Can the Fed regulate banks? (2 of 3)

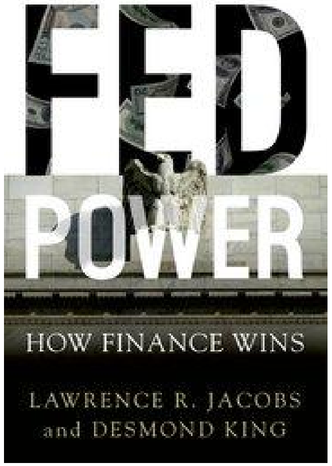
In 2008-2009 JPMorgan Chase benefitted from half-trillion in low-cost federal loans and $25b in TARP funds.

Fed refused to disclose discount-window information to the public. In 2011, Bloomberg filed a lawsuit and the Fed released the data.

2016: A former NY Fed president secured a credit line with JPMorgan...to invest in a $12 billion private equity fund(Bloomberg 2/8/2016)

2016: NY Fed wants more power to be able to lend to non-depository FI during financial crises:(FT 5/2/2016)

Can the Fed regulate banks? (3 of 3)



The book argues that:
the 1913 Fed Act succeeded in making the Fed independent of Congress and the President.
But it made it 100% dependent on the financial sector.

The Fed operates above the checks-and-balances system (derives its income from the financial sector, not the government).

The initial idea behind the Dodd-Frank Act (DFA) was to scale back the Fed's lending power (use of section 13(3)). It now requires more transparency (GAO), but the outcome is unclear.

Distrusting the Fed, DFA delegated "taming" authority to multi-agency bodies, creating severe coordination problems.

The Consumer Financial Protection Bureau task was given to a newly-created agency (as the Fed failed to protect consumers).

But, what about academia?

After the Great Depression, some well-known academics proposed to restructure the banking industry.

Amazingly, most models of the banking industry totally ignore taxpayer bailout and subsidy of banks.

Models that ignore taxpayer bailout of banks are as useful as weather prediction models that ignore the existence of the sun.

A typical academic "model" of banks

- A three-period model: t = 1, 2, 3.
- t=1: Two savers deposit $1 each.
- t=1: The bank keeps $1 (reserves) and invests $1 in a long-term project (maturing only in period t = 3).
- t=2: Each saver has an urgent need to withdraw $1 with probability ½ .
- t=2: Expected total withdrawals = ½ $1 + ½ $1 = $1 (which equals bank reserves).
- t=3: Bank's long-term project matures (get $1 + return).

Discussion

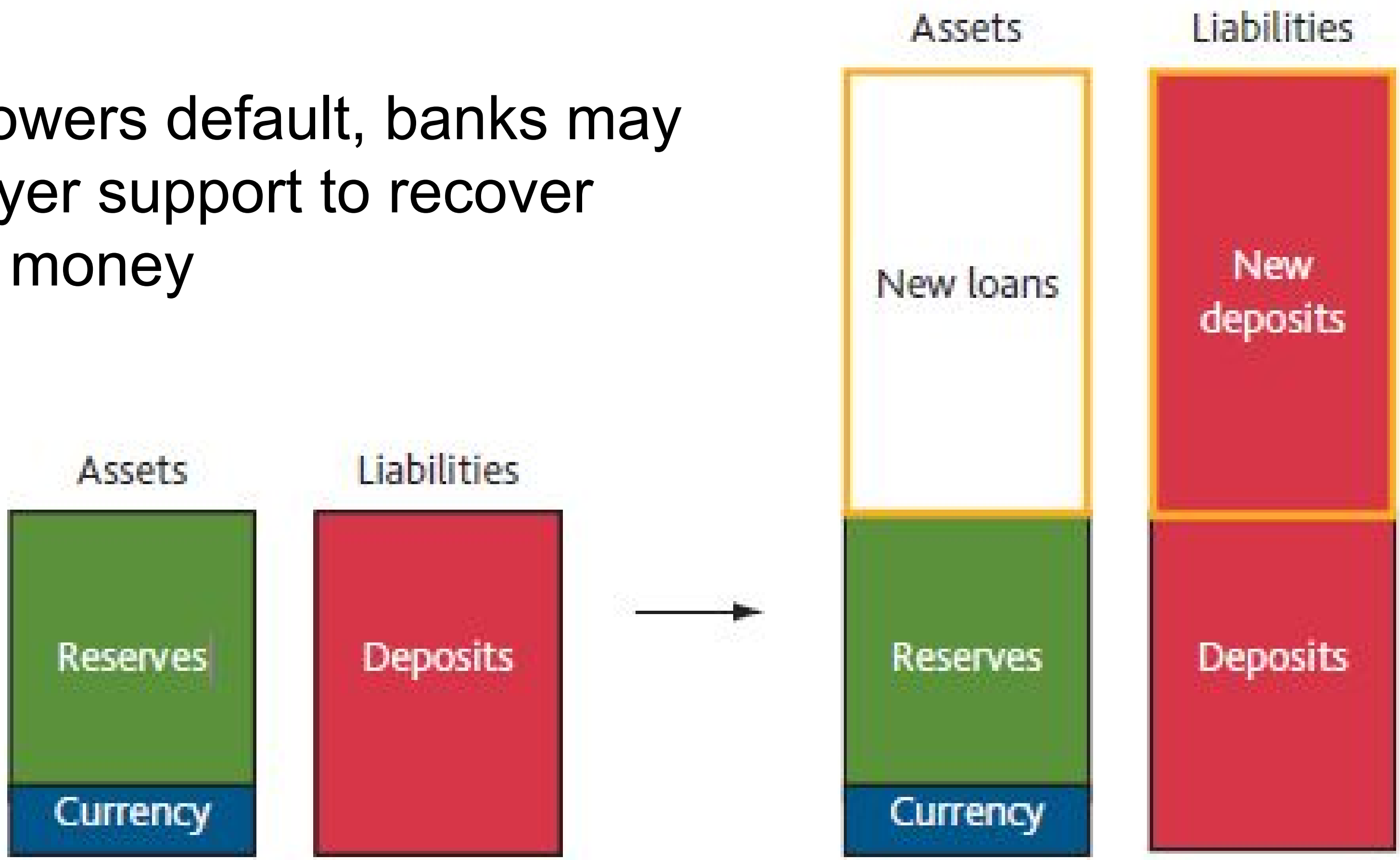
1. Academia "likes" fractional reserve banking because banks perform "maturity transformation" (key concept).
   ⇒ Banks "borrow short" and "lend long." However,

2. Literature focuses on bank runs (t=2) but not on failure of the bank's long-term investment project that requires a bailout!

How do fractional-reserve banks create money?

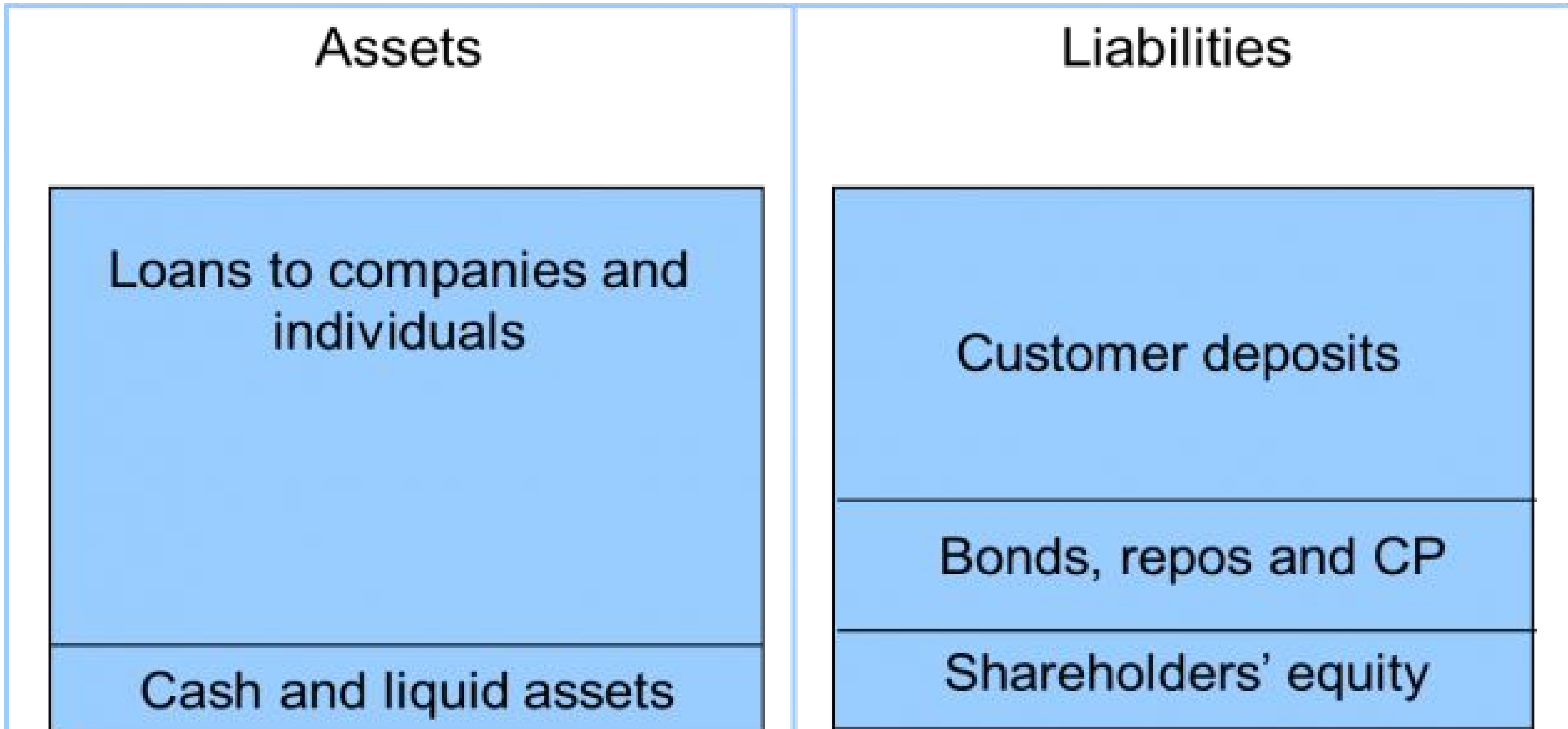
New deposits are created at the stroke of a banker's pen when a loan is approved ("fountain pen money").

When borrowers default, banks may seek taxpayer support to recover depositors' money



Why do fractional-reserve banks fail?

1. Loan defaults ⇒ liquidity shortage ⇒ depositors run on banks.
2. Or, sudden redemption of bonds and comm paper
3. High leverage = Assets / Equity.
4. Off balance sheet trade: Collateral debt obligations (CDO) and derivatives.



What is 'narrow' banking?

- Banks maintain 100% reserve ratio.
- Two versions (proposals) for where to store excess reserves: (a) Deposit with central banks, (b) buy gov't (treas.) bonds
- Charge competitive fees for: maintaining accounts, ATM, and payment services (payment cards, online banking).

- Question (critique): But what about borrowing?
- Answer: Each bank would be split into two 'floors'
  The lower level will handle deposits and payment services (100% reserves, no risk).
  The upper level will handle mutual funds specializing in lending (depositors will be responsible for risk-taking).
- Each depositor will choose where to deposit her paycheck (lower or upper floor) after weighing the risks.

History of the "narrow banking" proposal (1 of 3)

In 1933, in response to the Great Depression, a group of University of Chicago economists wrote a memo to Henry Wallace (Secretary of Agriculture) who then forwarded it to President Roosevelt.

THE UNIVERSITY OF CHICAGO

Department of Economics

Sincerely yours,

March 16, 1933.

G. V. Cox
Aaron Director
Paul Douglas
A. G. Hart

F. H. Knight
L. W. Mints
Henry Schultz
H. C. Simons

We hope you are <u>one</u> of the forty odd who get this who will not think we are quite looney, I think Viner really agrees but doesn't believe it good politics. F.H.K.

By Frank H. Knight (Sgd.)

History of the "narrow banking" proposal (2 of 3)

incorporation of a new kind of institution.

(a) which alone shall be entitled to accept funds subject to check or to payment on demand;

(b) which shall be required to maintain reserves of 100 % in lawful money and/or deposits with the Reserve Banks;

(c) which shall serve exclusively as institutions for deposits and transfer of funds;

- In 1939, a group of academic economists circulated "A Program for Monetary Reform" that also emphasized the need for 100% reserves.

Early attempts to implement narrow banking

- In June 1934, bills were introduced in both houses of Congress requiring the "maintenance of 100% reserve against chequing deposits" (see next slide).
- For several years, Irving Fisher continued to try to convince the Roosevelt administration to pass such a bill.

PROFESSOR IRVING FISHER
460 PROSPECT STREET
NEW HAVEN, CONNECTICUT

June 11, 1934.

President Franklin Delano Roosevelt,
The White House,
Washington, D.C.

My dear President Roosevelt:

Early attempts: Bills introduced in 1934

73D CONGRESS
2D SESSION

H. R. 9855

IN THE HOUSE OF REPRESENTATIVES

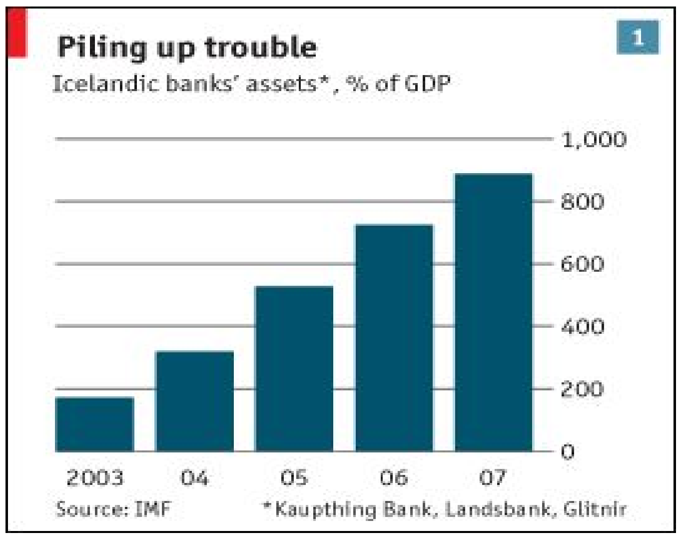
JUNE 4 (calendar day, JUNE 6), 1934

Mr. PATMAN introduced the following bill; which was referred to the Committee on Banking and Currency and ordered to be printed

(c) All demand deposits shall be held in trust for the benefit of the depositor and shall not be merged with or become a part of the assets of the bank, nor shall they be liable for its obligations.

New attempts to implement narrow banking

- In 2014, Iceland's entire economy collapsed with the failure of its largest 3 banks.
- in 2008, bank "assets" grew to 8-times Iceland's GDP.
- Iceland's prime minister found the political strength to commission a report on the possibility of moving Iceland to a narrow banking system, Sigurjónsson (2015).

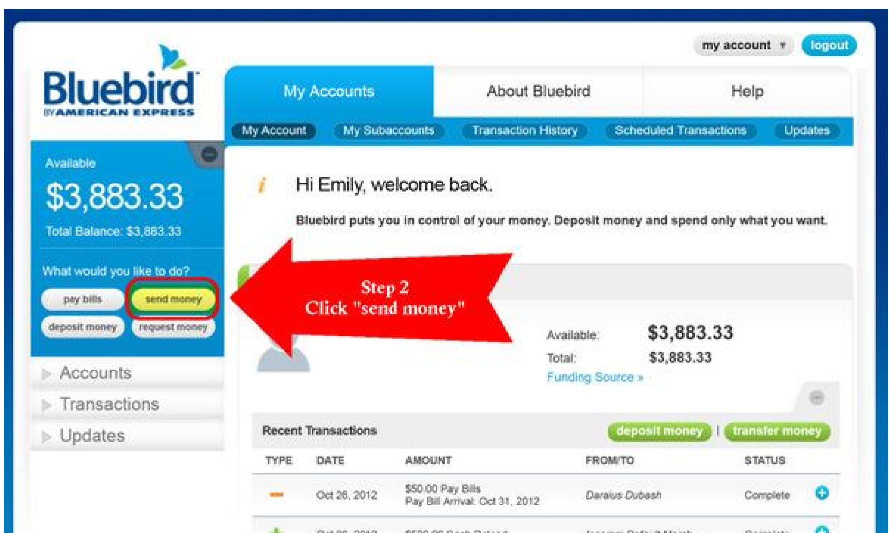


- 2016: Switzerland will hold a referendum to decide whether to ban commercial banks from creating money (The Vollgeld Initiative).

Policy: Money transmitters and prepaid cards are potentially "narrow" banks

They need access to Fed services to be able to compete with banks (bypass the banks). Fed could pay interest on reserves.

In 2012, owners of GRP cards who did not have checking accounts comprised 4.8% of U.S. adults.



Square Cash

Policy: Converting money transmitters and prepaid card providers into "narrow" banks

Advantages:

1. Risk free: All payments are prefunded and stored by central banks.
2. Newer technologies (real-time payments) at a fraction of the cost.

Currently, 'bank-like' service providers are at a competitive disadvantage. Why? Because they:

A. Must obtain separate licenses and adhere to different regulations in each of the 50 states in the U.S.
B. Must deposit unused balances with banks (pay fees).
C. No access to low-cost Fed services (storage, interest ACH, FedWire) and must settle transactions via banks.

Policy conclusion: Let non-banks (FinTech) with the same Fed services as provided to banks.

Possible Advantages of supporting "narrow" banks and non-banks

1. Governments may be able to acquire the necessary political strength to refuse to bail out failing fractional-reserve banks (b/c depositors backed by 100% reserves won't need a bail-out),

2. thereby freeing taxpayers from having to subsidize and bail out failing banks.

3. Create competition with large banks by the emerging bank-like service providers (FinTech) with more efficient technologies while maintaining 100% (risk-free) reserves.

4. Reduction (or elimination) of banks' inside-money creation thereby mitigating business cycle fluctuations.

The (poor) state of the U.S. payment system

- UK's Faster Payments: Account to account (A2A) money transfers from any bank to any bank (takes 2 seconds).
- Funds received can be withdrawn immediately.
- http://www.fasterpayments.org.uk   https://www.vocalink.com
- The FPS was initiated by the OFT; constructed: 2005-2008.
- Immediate A2A also via mobile: http://www.paym.co.uk

- Singapore adopted an improved version of the UK system within 1 year (called FAST).
- Australia contracted with SWIFT to develop immediate payment system (open to all banks)
- Kenya: M-pesa serves non-banked via phones: Safaricom

Note: Account-to-account (A2A) in Europe goes back to the 1950s via the post office Giro system. Paper checks were not used.

The (poor) state of the U.S. payment system (con'd)

1. Most U.S. banks either don't provide A2A, or overcharge (although they can provide it with the slow ACH).

2. U.S. banks charge $20-$35 to send and receive money via FedWire (but the NY Fed charges banks only 7¢ to 30¢).

3. 2012: The Fed recognizes the poor state of the U.S. payment system: https://fedpaymentsimprovement.org (no actions!).

4. TCH tells the Fed that banks' debit card business is important.

5. 2016 The Clearing House tries to buy VocaLink. Why?

6. CLEARXCHANGE™ and fiserv. are very costly for banks.

Three main FinTech "disruptions"

1. Traditional banks vs. money transmitters: FinTech money transmitters already offer bank-like services at lower fees.

2. Traditional Lenders vs. Peer-to-Peer Marketplaces: P2P lending marketplaces are growing much faster than traditional lending.

3. Traditional Asset Managers vs. Robo-Advisors: Robo-advisors offer lower fees, lower minimums and solid returns to investors.

Large banks have already started lobbying against FinTech: New York Times (May 6, 2016): Jamie Dimon Wants to Protect You From Innovative Start-Ups (argues FinTech lacks security).

FinTech: The lending and borrowing side

LendingClub

CommonBond
You're Not A Loan With Us™

PROSPER®
THE LOANS MARKETPLACE

LEND ACADEMY

- Operate like "matchmakers" between lenders and borrowers.
- Lenders can also "invest" in diversified loan portfolios.
- Money is not created! Only "transferred."
  ⇒ Taxpayer bailout not needed
  ⇒ Lending rates reflect true market rates (not subsidized).
- Some, target particular borrowers (college students).

Crowdfunding: 1. Reward-based (pre-selling a product), and
2. Equity-based (lender receives a share of the company).

artistShare®

KICKSTARTER

FUNDED WITH INDIEGOGO

MicroVentures

Summary and conclusions

The emergence of "FinTech" in general, digital money transmitters, and even Bitcoin present a unique opportunity to shift public support from fractional-reserve banks to more-efficient and safer non-banks that provide bank-like services

Instead of focusing on attempting to "regulate" banks, these new alternatives can be entered via the "back door" and let the competition win!

Taxpayer support should eventually diminish.

Thanks for listening!

For bibliography and references see: www.BankingReform.org