

# Where to draw lines: monetary and fiscal uncertainties

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# Drawing lines

- Between money and credit markets.
- Between monetary and fiscal policies.

# U.S. Historical Examples, I

- Constitutionally tying Congress' hands to prevent it from issuing a paper money.
- Legal tender?
- Federal bailouts of state governments?
- Should there be a central bank?
- What should a central bank do?

## U.S. Historical Examples, II

- Close calls, changing majorities, changed minds.
- Legal tender? Chase - no, yes, no.
- Federal bailouts of state governments? Yes (1791), no (1840).

## U.S. Historical Examples, III

- Should there be a central bank? Yes (1791), no (1811), yes (1816), no (1832), yes (1913), (but what do you mean by 'a'? In honor of Andrew Jackson's memory, we'll have 12). James Madison (no in 1791, yes in 1811, *please* yes in 1814, yes in 1832), Henry Clay (no in 1811, yes in 1832).
- What should a central bank do? Purchase real bills (1913), don't touch the stuff (1935), real bills again? (2008)

# Theme

Maybe what underlies these historical instabilities are uncertainties and close calls coming from theories informing monetary and fiscal policies.

- Quantity theory of money versus real bills doctrine, *or* . . . .
- Regulation versus 'free banking', *or* . . .
- Price level stability versus efficiency; *and* . . .
- Lender of last resort and deposit insurance – good or bad?

# Theme

What kinds of assets should financial intermediaries be permitted to hold and what kinds of liabilities should they issue?

or

Where should the line be drawn between 'money' and 'credit' markets.

# Theme

The **names of the liabilities**

- bank notes and bills of exchange in the 18th century
- bank notes and deposits in the 19th and 20th centuries
- claims on money market mutual funds and maybe even credit default derivatives in the 21st century

and **the names of the assets**

- self-liquidating commercial loans in the 18th and 19th centuries
- sovereign debt in the 20th
- mortgage backed securities in the 21st century

**might have changed, but the underlying theoretical issues endure.**



# Theme

*The appropriateness of governmental responsibility for the monetary system has of course been long and widely recognized. . . . This habitual and by now almost unthinking acceptance of governmental responsibility makes thorough understanding of the grounds for such responsibility all the more necessary, since it enhances the danger that the scope of government intervention will spread from activities that are to those that are not appropriate in a free society, from providing a monetary framework to determining the allocation of resources among individuals.*

*Milton Friedman, A Program for Monetary Stability, 1960, p. 8.*

# Efficiency versus Stability

- Adam Smith and 'real bills' doctrine, a.k.a. 'free banking', versus
- Narrow banking – 100% reserves.

## Adam Smith and the real bills doctrine

- Smith characterized and criticized mercantilism as fostering precautionary savings to protect domestic monetary arrangements.
- Inefficiency: over saving.
- Cure: allow intermediated *safe* evidences of private indebtedness to circulate as bank notes.
- Because their 'backing' are *safe* self-liquidating private loans, the notes are as good as gold.
- Smith's prediction – no more inflation than with gold coins, rate of return wedges reduced, allocation improved.

# What is a real bill?

Adam Smith, 1776:

*... a bank discounts to a merchant a **real** bill of exchange drawn by a **real** creditor upon a **real** debtor and which as soon as it becomes due is **really** paid by that debtor."*

## Real bills doctrine – two ways to implement

- Free banking.
- Central bank open market operations: freely discount banks' holdings of safe private securities at an interest rate set “with a view of accommodating commerce and business” .

## Real bills doctrine

- Came to be regarded as promising that the money supply would regulate itself if the central bank were freely to discount banks' holdings of safe private securities at an interest rate set "with a view of accommodating commerce and business".
- That prescription came in for widespread criticism especially after the gold standard price level anchor that Smith had assumed had disappeared when fiat money replaced gold.

## The real bills 'fallacy'

- With promises to convert bank notes into gold no longer anchoring the price level, monetary economists asserted that a limit on the *quantity* of fiat currency had to be imposed, and this, or so it was claimed, the real bills rule could not do.
- Critics asserted that discounting short term private evidences of indebtedness at a fixed interest rate would unhinge both the quantity of fiat money and the price level.
- E.g., Liaquat Ahamed *Lords of Finance* mentions the real bills doctrine often, but only to insult it.

## Real bills versus narrow banking: analysis

- OLG model with within generation heterogeneity (Sargent and Wallace (1981)).
- Borrowers and lenders.
- Samuelson 'inefficient' case makes room for valued outside money.
- Safe private IOUs can potentially be used as 'real bills' to back bank notes.
- Pulsating endowments of creditors give rise to pulsating interest rates on real bills.



# Narrow banking

- Legal restrictions that outlaw banks from issuing notes not backed 100% by outside money.
- Stable base money implies a stable price level.
- Restrictions separate markets for credit and money.
- Disarming the legal restrictions integrates the markets for credit and money and leads to pulsating price levels as well as pulsating (real) interest rates on private loans.

# Winners and losers

- Real bills regime is Pareto optimal, while narrow banking is *not*.
- Real bills not Pareto superior to narrow-banking regime.
- Complicated pattern of winners and losers through wealth effects associated with the real interest rate differences across the regimes.

# Sunspots and stability

- Bruce Smith (1988).
- Sunspot equilibria under free banking.
- Sunspot equilibria prevented by narrow banking at cost of rate of return wedges.
- Winners and losers again.

## Efficiency versus stability

- Narrow banking stabilizes monetary aggregates and price level, **but** it
- Opens up rate-of-return wedges that indicate inefficiency and ignite 'incentives for avoidance and difficulties of enforcement'.

## Friedman's repair

- Friedman (1960) set out to repair the original Chicago narrow banking plan by paying interest on reserves at market rate of interest.
- Economically equivalent to his 'optimum quantity of money' recommendation of 1969.

## Friedman's hesitation

- Friedman was almost persuaded by Gary Becker's (1956) recommendation for a move 'in the opposite direction'.
- Becker recommended free banking – real bills!

# Financing interest on reserves

- Use earnings from central bank's portfolio.
- Levy taxes.

## Using earnings on central bank portfolio

- In overlapping generations model, using earnings on the central bank portfolio to finance paying interest on reserves renders the allocation and interest rates identical to those that prevail under free banking (in the 'Samuelson' inefficient case).
- In that case, Friedman's interest on reserves proposal is *identical* in its economic effects with Becker's free banking recommendation.
- (Same outcome in cash-in-advance models.)



## Using earnings on portfolio

- In overlapping generations model, using earnings on the central bank portfolio to finance paying interest on reserves renders the price level infinite (in the 'classical case').

## Using taxes

- In overlapping generations model, using taxes to finance paying interest on reserves can render interest rate, tax rates and collections, the price level, the money supply, and allocation indeterminate.
- In cash-in-advance model, using taxes to finance paying interest on reserves can render tax rates and total collections, the price level, and the money supply indeterminate.

# Central bank independence

- Paying interest on reserves financed by tax payments is fiscal policy.
- Just one more illustration of how the sequence of government budget constraints make the 'independence of the Fed' a fiction.
- That it is perhaps a useful fiction comes from comparing what seem to be diametrically opposed proposals for coordinating monetary and fiscal policy made by Milton Friedman.

# Friedman's proposals for coordinating monetary and fiscal policy

- Friedman (1949) proposed a debt management policy in which the Fed purchases 100% of all debt issued by the Treasury and thus automatically finances 100% of all government deficits.
- Friedman (1960) proposed that the Fed increase the monetary base at  $k$  percent per year, thereby telling the Treasury that it will finance at most a very small percentage of any deficit.
- In vacillating between such apparently opposite proposals, Friedman struggled to find a way for a responsible monetary authority to get the upper hand over the fiscal authorities in what can become a game of chicken presented by the unpleasant arithmetic of the government budget constraint.

## More Friedman proposals

- Balanced budget amendment – late 1980s.
- U.S. political ‘conservatives’ abandoned that proposal sometime during the Reagan administration.

## What is a real bill?

Should banks and other intermediaries be allowed to improve efficiency by offering products that rely on statistical averaging and censoring to transform bundles of risky assets of various durations into much less risky assets that can be back short-term risk-free deposits?

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## Maturity and risk transformation?

Whether financial institutions should be allowed to create or purchase such wedge reducing, efficiency improving assets and use them to back putatively risk-free liabilities raises questions about proper policies toward public lenders of last resort and suppliers of deposit insurance.



## Other lines – Federal bailouts and deposit insurance

- Stability versus efficiency.
- Fiscal and risk-sharing consequences.
- Incentives of fiscal and monetary authorities to protect bank creditors.

# Panics and deposit insurance

- Two modern models of panic insurance.
- Diamond and Dybvig (1983) – deposit insurance is good.
- Kareken and Wallace (1978) – deposit insurance is bad.
- Tensions highlighted by these models.

## Panics and role for lender of last resort

*A panic, in a word, is a species of neuralgia, and according to the rules of science you must not starve it. The holders of the cash reserve must be ready not only to keep it for their own liabilities, but to advance it most freely for the liabilities of others. They must lend to merchants to minor bankers, to “this man and that man” whenever the security is good. In wild periods of alarm, one failure makes many, and the best way to prevent the derivative failures is to arrest the primary failure which causes them. Walter Bagehot, Lombard Street, 1873.*

## A downside

*If the banks are bad, they will certainly continue bad and will probably become worse if the Government sustains and encourages them. The cardinal maxim is that any aid to a present bad bank is the surest mode of preventing the establishment of a future good bank. Walter Bagehot, Lombard Street, 1873.*

## Deposit insurance is good (Diamond-Dybvig)

- An environment with a role for maturity transforming, insurance supplying institutions.
- Multiple, Pareto ranked equilibria.
- Deposit insurance eliminates bad (runs) equilibria.
- At good equilibrium, deposit insurance is costless.
- Caveat – no moral hazard.

## Deposit insurance is bad (Kareken and Wallace)

- Complete markets.
- No deposit insurance – banks have incentive to hold safe portfolios.
- This is Bagehot's "*preservative apprehension* which is the best security of all banks."
- *With* deposit insurance, banks' shareholders have incentive to become as large as possible, as risky as possible.
- *With* deposit insurance, banks will fail sooner or later with probability one and this will cost tax payers.

## Deposit insurance is bad (Kareken and Wallace)

- Note that the moral hazard problem is not solved by having the *share holders* take losses when adverse events occur.
- The Kareken-Wallace model assumes that share holders *do* take losses when a bank fails, a risk that they accept.
- The problem occurs when the bank's *creditors* expect not to take losses, enabling the bank's shareholders to gamble at the government's expense.

## Tensions and more incentive problems

- Keister (2010).
- Stern and Feldman (2004) *Too Big to Fail*.
- Paul Volcker's preface.
- Key problem: the *ex post* incentive of public officials to bail banks out.
- Solutions: strategic delegation, . . . .



## Paul Volcker

*... some central structural issues have not yet been satisfactorily addressed.*

*A large concern is the residue of moral hazard from the extensive and successful efforts of central banks and governments to rescue large failing and potentially failing financial institutions. The long-established safety net undergirding the stability of commercial banks deposit insurance and lender of last resort facilities has been both reinforced and extended in a series of ad hoc decisions to support investment banks, mortgage providers and the worlds largest insurance company. In the process, managements, creditors and to some extent stockholders of these non-banks have been protected.*

## Paul Volcker

*The phrase too big to fail has entered into our everyday vocabulary. It carries the implication that really large, complex and highly interconnected financial institutions can count on public support at critical times. . . . Beyond the emotion, the result is to provide those institutions with a competitive advantage in their financing, in their size and in their ability to take and absorb risks.*

# Paul Volcker

*As things stand, the consequence will be to enhance incentives to risk-taking and leverage, with the implication of an even more fragile financial system. We need to find more effective fail-safe arrangements.*