

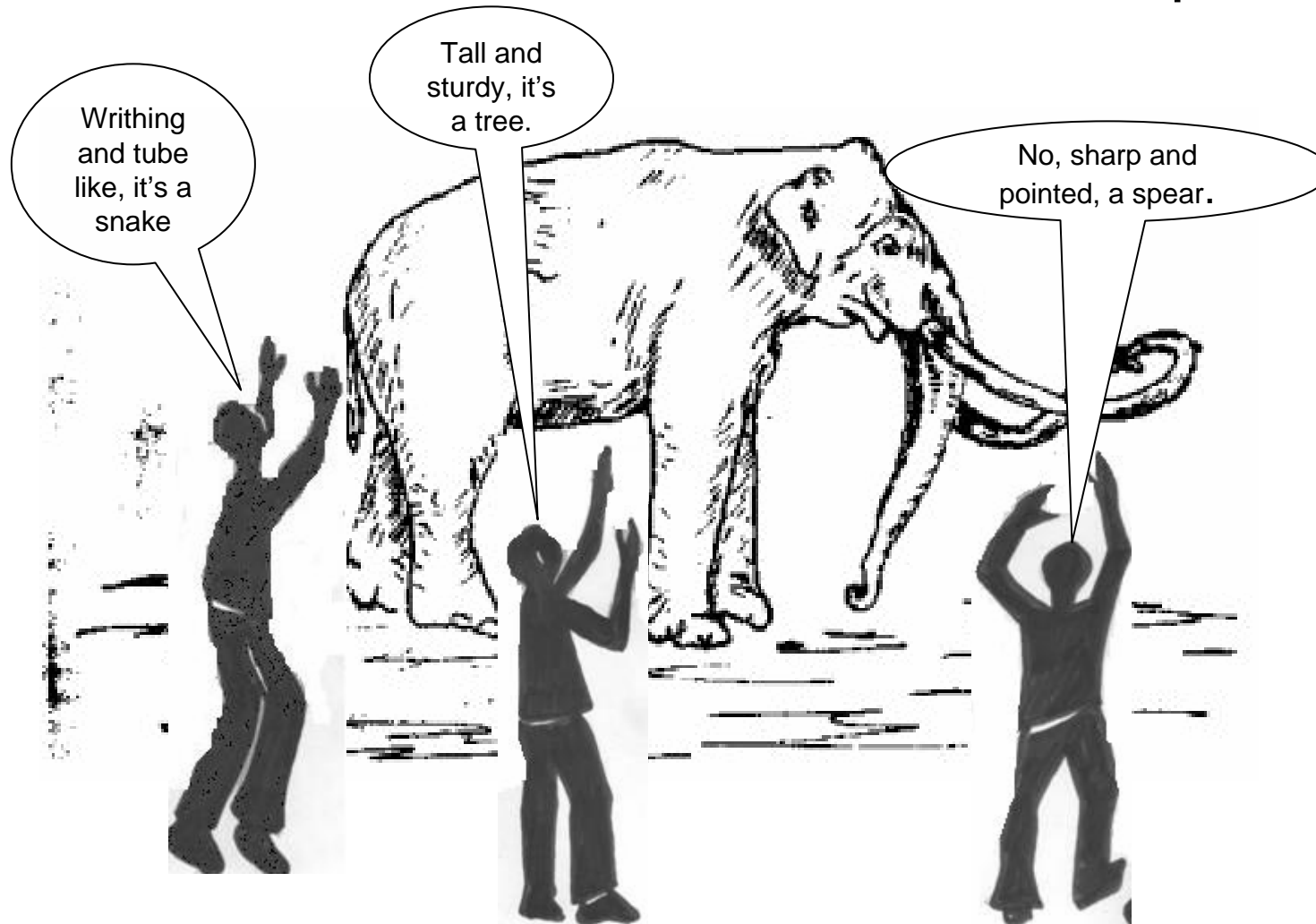
The Loss of Confidence on Bank Money in the Great Depression

discussion by
James T. Moser
Commodity Futures Trading Commission

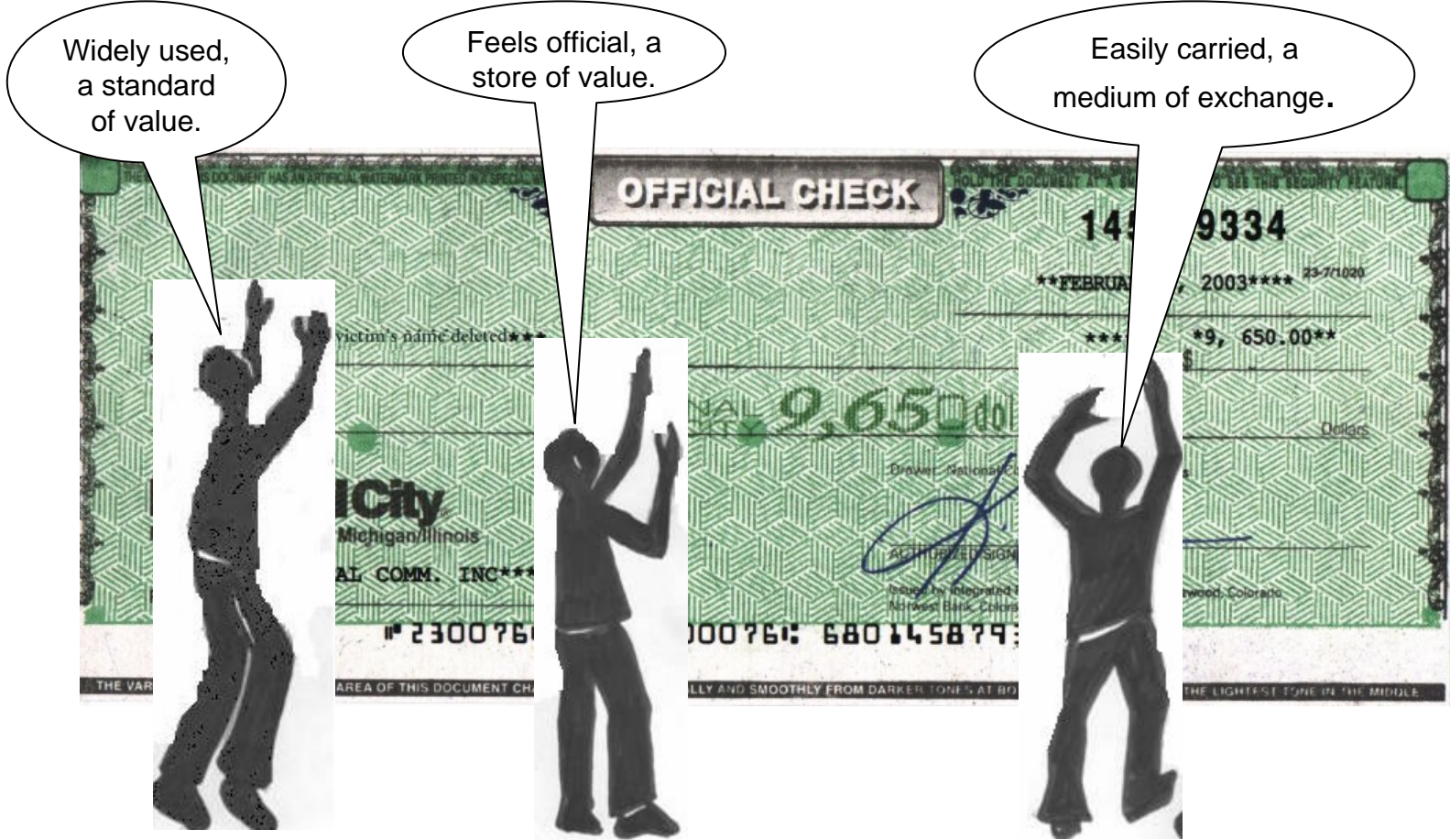
at

Joint Bank of England/European Central Bank Conference on
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Indian Parable: Three Blind Men & Elephant



Indian Parable: Three Blind Men & Bank Money



Parable Check

- There is a difference between these two parable versions.
 - Each person touching the elephant is wrong.
 - All of those touching the bank money are correct.
- Bank money is:
 - A medium of exchange
 - A store of value
 - And a standard of value
- Among the comments I want to make is that a full description of the effects from a supply shock to bank money must entail all three of money's dimensions.

Risks Inherent in Transactions

- Each of the following risks diminishes value of bank money as medium of exchange:
 - “Debtor” (or credit) risk – insolvency of accounts being drawn against
 - Settlement risk – failure of bank handling the accounts
 - Systemic risk – failure of system through which transfers made
- As value of bank money in completing transactions declines, alternatives sought.
- Alternatives to bank money may be inferior substitutes within one or more of the three dimensions.

Sketch of Authors' Reasoning

- Friedman-Schwartz
 - Wealth effect from capital losses on bank holdings.
 - Decline in aggregate demand due to money supply shock.
- Authors focus on aggregate demand, pointing to following “paradoxical view” of F-S.
 - Money stock decline reduced aggregate demand.
 - However, bank failures offset portion of demand shock via reduction in demand for money.
- Authors argue for an alternate view
 - Value of money as medium of exchange had already declined.
 - Ergo, a positive supply shock at this point would not have helped.

Discussant Response

- First, the authors depend on a specific reading of events.
 - Decline of bank money as medium of exchange had to precede or occur simultaneously with banking collapse.
 - Had decline followed bank collapse, then the author's argument implies shock would have been less severe.
- Second, their conclusion rests on viewing money either:
 - Entirely as medium of exchange
 - Or at least holding constant the value added by money's other two dimensions
 - Positive shock increasing value of money in its other dimensions may have increased usefulness of money as medium of exchange.
 - E.g., Because a positive money shock provides liquidity services, its value increases improving its value as an exchange medium.

Other Influences on Authors' Reasoning

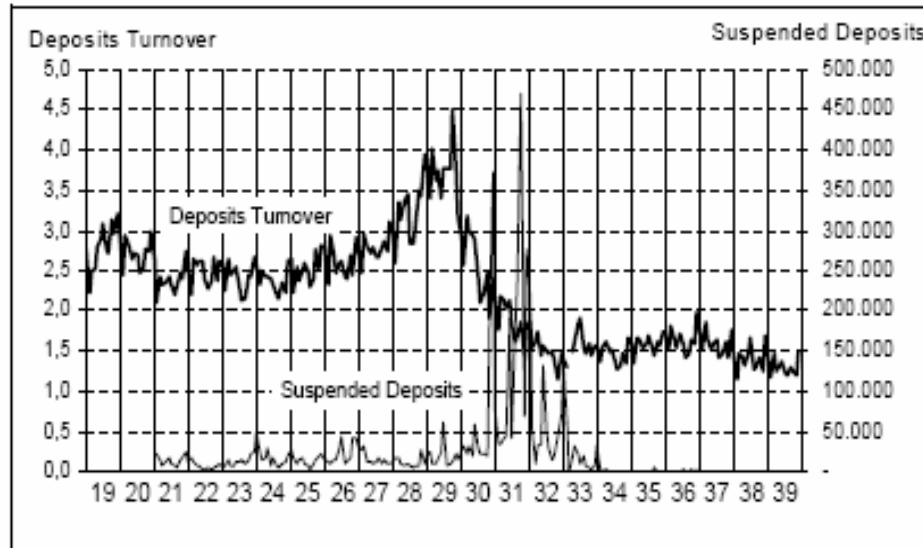
- Rockoff (1993)
 - “Quality of money stock” defined in terms of use as medium of exchange.
 - Insight used to motivate accumulation of liquidity balances (*money as a store of value*) rather than addressing the effect on transactions.
- Bernanke (1983)
 - Drawdown of deposit balances led to deterioration of banking's intermediary role.
 - I.e. bank *money as a store of value* became less useful than currency used for that purpose.
- Klein (1974) & Giannini (2004)
 - Posit a role for confidence in the future value of money (*money as a store of value*).
- Christiano, Motto and Rostagno (2004)
 - Liquidity preference shock (*money as a store of value*).

Empirical Evidence Developed

- Empirical evidence comes in four flavors:
 - Graph of deposit turnover measure and suspended deposits shows a decided negative linkage between turnover and deposits in suspended banks.
 - Regression evidence introduces controls for other influences on deposit turnover and still finds negative relation between turnover and deposits in suspended banks.
 - Granger causality finds one-way causation from suspended deposits to deposit turnover.
 - Anecdotal evidence.

Graph Evidence

Figure 2: Deposits turnover and Deposits of suspended banks



Plotted series at monthly intervals.

Deposit turnover (left axis)
Defined as bank debits divided by total deposits.

Level of deposits held in suspended banks (right axis).

Authors interpret the coincident rise in suspended deposits and deposit turnover as evidence that the value of services from bank money as a medium of exchange had declined.

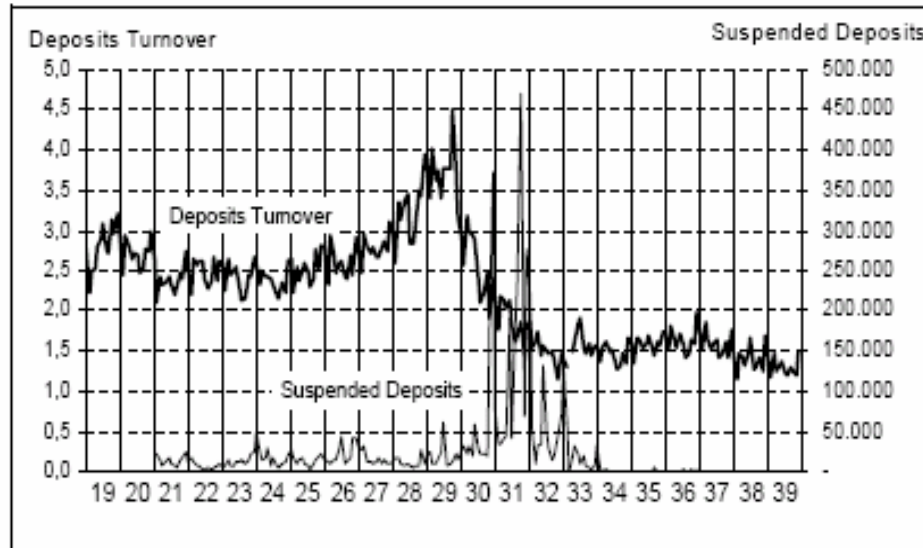
Comment: Data descriptions vague.

Does denominator of turnover include suspended deposits?

Is suspended-deposits measure a flow or stock? If stocks, where are they going to in subsequent periods?

Graph Evidence

Figure 2: Deposits turnover and Deposits of suspended banks



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Comment: Note the persistence of the shock.

From 1934 on suspended deposits is constant at zero yet the effect on turnover persists, even declining somewhat in the last three years of the sample period.

Regression Evidence

- **DT** deposit turnover (bank debits to bank deposits)
- **SVOL** volume of NYSE stock trading
- **CYCLE** index of real activity
- **PCPR** short-term nominal interest rate
- **M2** Money supply
- **BSDEP** deposits in suspended banks
- Right-hand side variables instrumented by using their lags.

Table 1: Regressions on Log of Deposits Turnover (lnDT)

Equation no.	(1)	(2)	(3)	(4)	(5)
lnDT(-1)					0.1810
lnSVOL	0.0064	0.2085 (*)	0.1834 (*)	0.1422 (*)	0.2611 (*)
lnCYCLE	0.6751	0.6998		0.3300	0.2898 (*)
lnPCPR	0.2943 (*)	0.4341 (*)	0.4207 (*)	0.4121 (*)	-3.8807 (*)
lnM2	0.8411 (*)		0.3216	0.3985	0.3622 (*)
lnBSDEP(-1)		-0.0183	-0.0212 (*)	-0.0188 (*)	-0.0226 (*)
lnBSDEP(-2)		-0.0328 (*)	-0.0331 (*)	-0.0308 (*)	-0.0157
lnBSDEP(-3)		-0.0175	-0.0160	-0.0146	-0.0036
lnBSDEP(-4)		-0.0063	-0.0033	-0.0017	-0.0058
AR(1) error coeff.	0.5715 (*)	0.4882 (*)	0.4052 (*)	0.3877 (*)	-
Std. error	0.1010	0.1025	0.0938	0.0933	0.0843
Adj. R ²	0.55	0.63	0.75	0.77	0.92
D.W.	2.24	2.25	2.24	2.23	2.17
Impact from a 100% increase in BSDEP	-	-7.49%	-7.37%	-6.59%	-4.78%

Notes: Bold numbers indicate a coefficient significant at the 95% confidence level. An asterisk indicates significance above the 99% threshold. In all the equations, we instrument lnSVOL, lnCYCLE, lnPCPR and lnM2 using their lagged values.

Regression Evidence continued

Regression 4

Deposits in suspended
banks

$$\mathbf{-0.0188^*} \text{ Ln(BSDEP}_{t-1})$$

$$\mathbf{-0.0308^*} \text{ Ln(BSDEP}_{t-2})$$

$$-0.0146 \text{ Ln(BSDEP}_{t-3})$$

$$-0.0017 \text{ Ln(BSDEP}_{t-4})$$

Significance levels:

BOLD at 95%

* at 99%

Ln(DT_t)

Coefficient interpretation

After controlling for other influences on deposit turnover, what is the impact of suspended bank deposits.

Statistically significant decrease for two successive months.

Economic significance?

A 1% rise in suspended bank deposits gives nearly a .05% impact on deposit turnover during the following two months.

Regression Evidence continued

Ln(DT_t)

Deposits in suspended
banks

-0.0188* Ln(BSDEP_{t-1})

-0.0308* Ln(BSDEP_{t-2})

-0.0146 Ln(BSDEP_{t-3})

-0.0017 Ln(BSDEP_{t-4})

Significance levels:

BOLD at 95%

* at 99%

Does the denominator do more than just “normalize” the debits flow-variable?

Breaking down the left-hand side variable obtains:

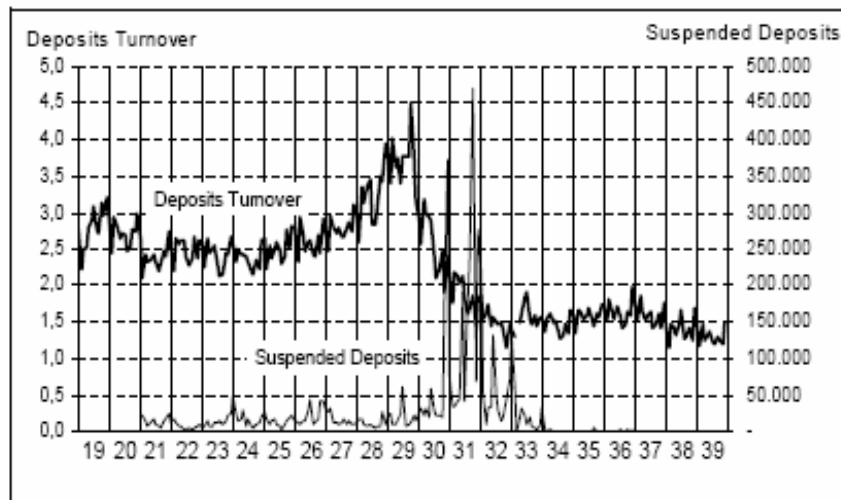
$$\text{Ln}(\text{DT}_t) = \text{Ln}(\text{Debits}_t) - \text{Ln}(\text{Deposits}_t)$$

If portion of suspended deposits are transferred to surviving banks during subsequent period then deposits in following period(s) declines.

If this amount is not included in debit figure then following period DT will be down.

Regression Evidence continued

Figure 2: Deposits turnover and Deposits of suspended banks



Three separate patterns exhibited.

1. Pre-1930 – an unclear correlation of the two series
2. 1930-1933 – A rise in the level of suspended bank deposits and simultaneous decline in the deposit turnover ratio
3. Post 1933 – No correlation of the two series.

So the negative association between the two series is coming mostly from the 1930-1933 period. The test could be strengthened by examining for confirming evidence in the pre-1930 subperiod preferably using an indicator variable to retain degrees of freedom. Alternatively a switching regression approach might be used as it appears the deposit turnover measure is not homoskedastic.

Alternatively add an indicator variable (=1) for the period 1930-1933 (=0) otherwise. If the negative association holds that should be statistically conclusive though I suspect the economic significance will decrease.

Granger Causality

Table 2: Granger Causality Tests

Hypothesis	F-value	Probability
BSDEP does not Granger-cause DT	19.2003	0.00000
DT does not Granger-cause BSDEP	3.0909	0.01738

- Evidence establishes that:
 - suspended deposits “lead” changes in deposit turnover. But the regression coefficients indicated that.
 - deposit turnover does not lead suspension of deposits.
- Incremental evidence is that lagged suspended deposits are exogenous.

Anecdotal Evidence

- I prefer this evidence to be developed alongside statistical evidence rather than as a separate category.

Final Suggestions

- Expand the discussions. The paper is much too terse leaving the reader to imagine what is going on. Given the unruliness of readers in our discipline this cannot favor the conclusions you want us to make.
- Comparison of the experience of other countries to that in the US may be useful. Example, Canada also suffered a Great Depression but none of its banks failed.
- The evidence focuses on money quantity changes and seems to be assuming that the value of money services remains constant at every period. I'd like to see the relevance of the value of these services discussed more fully in the model development and consideration of the impact of value changes on the evidence.
- An autoregressive distributed lag (ADL) approach should be considered—an error correction model might be a useful approach.
- Differences between clearings and debits struck me as easily controlled for. A similar result using clearings data would add to your evidence.
- It is very American to presume the reader knows you are talking about US banking in the 1930s, but this should be featured in the paper's title, abstract and introduction.