



An SEC-registered Investment Advisor

Eurodollar University

How Dollar becomes 'Dollar'



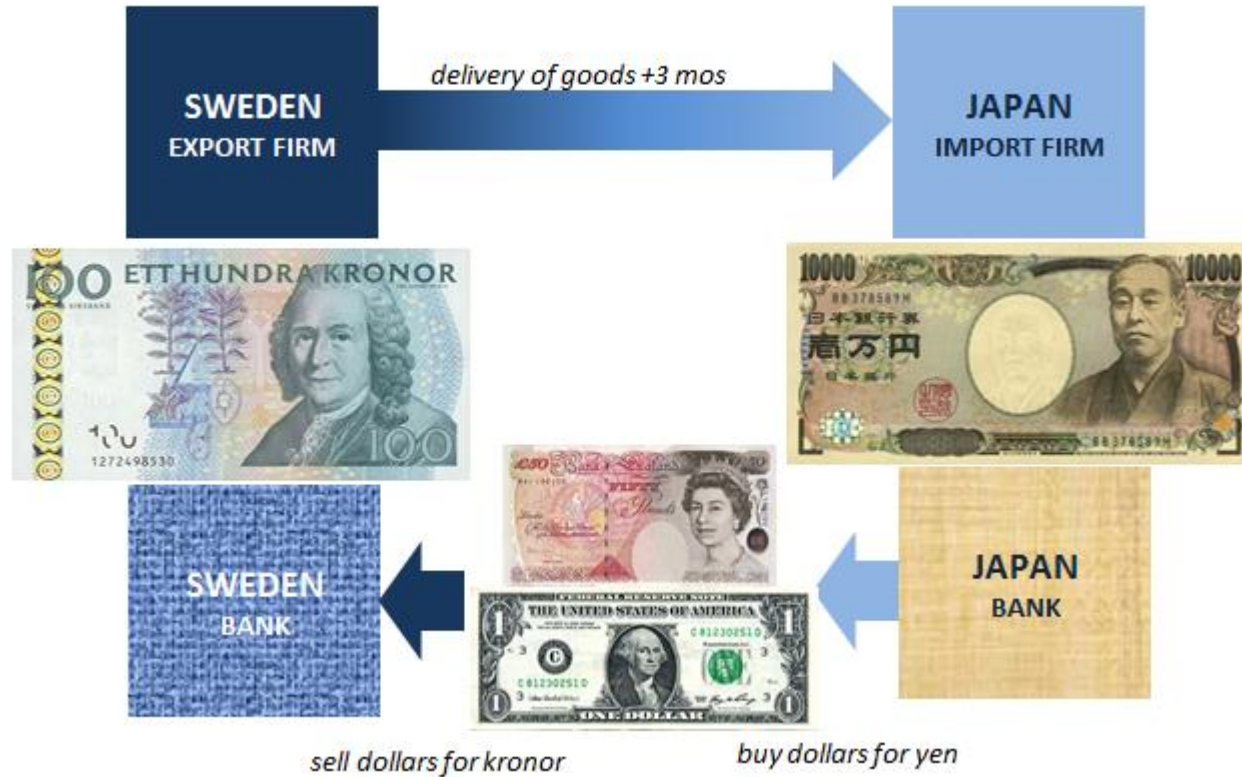
“The downside of a “dollar” as a opposed to a dollar is that so much is now unobservable in the form of bank activities that never see the light of day (again, the bank at the center). Since we cannot even define a wholesale “dollar” we cannot think to even attempt its measure as it amounts to **chasing a phantom.**

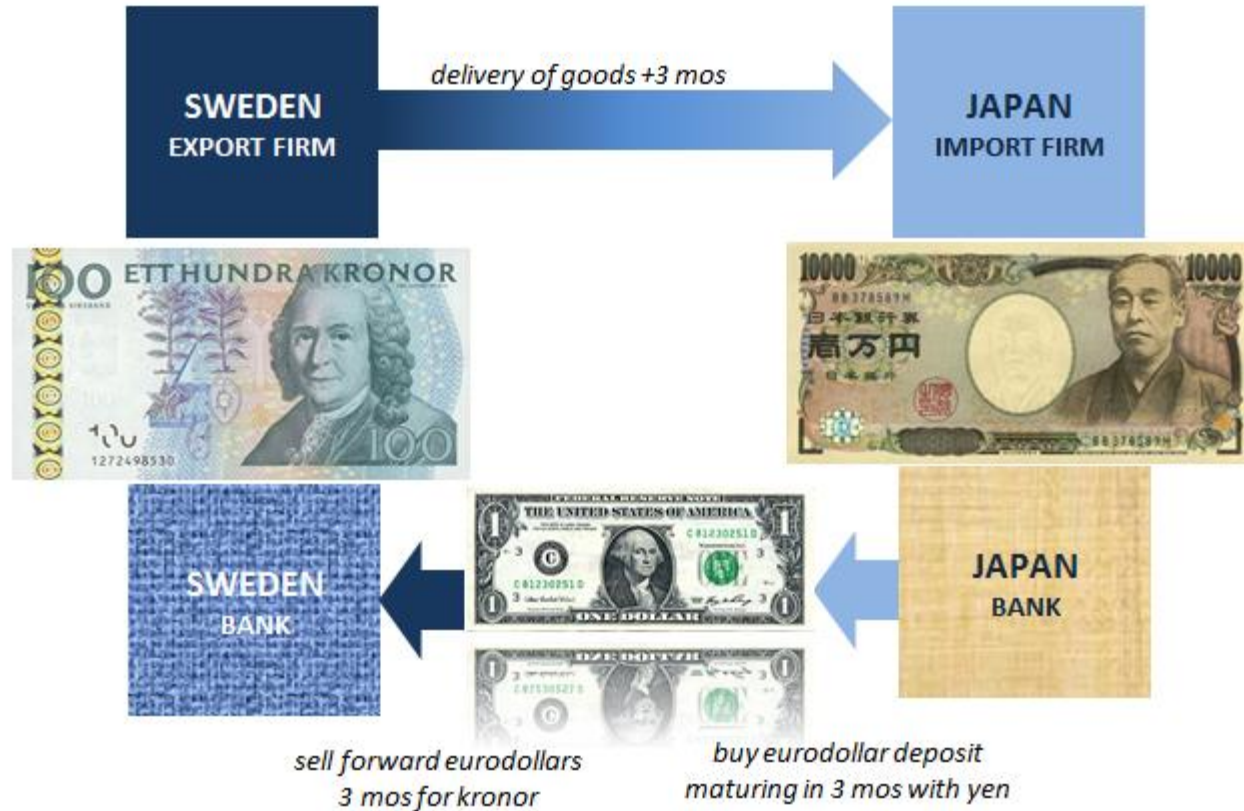
AIP Research
January 21, 2015
What Is A Dollar?

“The market for bankers’ acceptances was one of the first tasks of the Federal Reserve. There was a flourishing financial trade in acceptances in sterling which was purely a matter of the British pound being something like the global reserve currency, at least for a vast portion of global geography. With the United States becoming an industrial and trading power, American interests in financing trade from the point of view of the dollar were relatively uncontroversial. The Fed’s role in acceptances was to provide liquidity as “needed”, as the Fed was authorized to buy them with some discretion.

AIP Research
January 5, 2016
Forward China







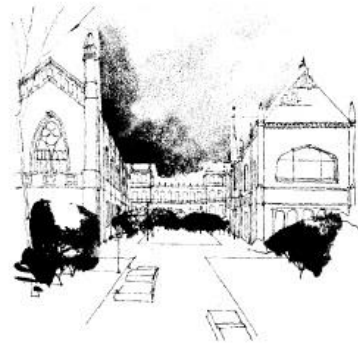
Where Do Eurodollars Come From?



“Recently, I heard a high official of an international financial organization discuss the Euro-dollar market before a collection of high-powered international bankers. He estimated that Euro-dollar deposits totaled some \$30 billion. He was then asked: “What is the source of these deposits?” **His answer was: partly, U.S. balance-of-payments deficits; partly, dollar reserves of non-U.S. central banks; partly, the proceeds from the sale of Euro-dollar bonds.**

The
Euro-Dollar
Market:
Some First
Principles

By MILTON FRIEDMAN



GRADUATE SCHOOL OF BUSINESS
UNIVERSITY OF CHICAGO

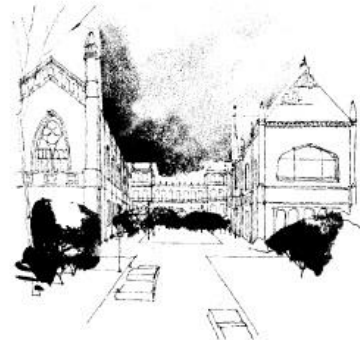
This answer is almost complete nonsense.

**Milton Friedman
Re-Published July 1971**

“ The correct answer for both Euro-dollars and liabilities of U.S. banks is that their major source is a bookkeeper's pen.

The
Euro-Dollar
Market:
Some First
Principles

By MILTON FRIEDMAN



Milton Friedman
Re-Published July 1971

GRADUATE SCHOOL OF BUSINESS
UNIVERSITY OF CHICAGO

EURODOLLAR

Bank H of London

Assets		Liabilities	
Cash	\$ 1,000,000	Deposits	\$ 10,000,000
	+ 100,000		+ 1,000,000
US\$ Loans	7,000,000	Due to other Banks	300,000
	+ 900,000		
US\$ Bonds	2,500,000	Capital Accounts	200,000
Total Assets	\$11,500,000		\$ 11,500,000

Morgan Guaranty NYC

Deposit Balances - Liabilities of Morgan

- 1,000,000	Sheik's Account
+ 100,000	Bank H of London
+ 900,000	UK Ltd. Account

\$0 Total Change for
Morgan Guaranty NYC

Calculated Money Supply of the US

- 1,000,000	Sheik's Account
+ 100,000	Bank H of London
+ 900,000	UK Ltd. Account

NO CHANGE

TOTAL WORLD SUPPLY OF US\$

+ 1,000,000	Sheik's Deposit at Bank H London
- 100,000	Interbank Liabilities Between H & Morgan NYC

Change in Total Supply Available to World \$ 900,000

NOTE: \$100,000 is transferred from NYC to London, Interbank double counted

EURODOLLAR

Bank H of London + Bank R, Cumulative

Assets		Liabilities	
Cash	\$ 1,000,000	Deposits	\$ 10,000,000
	+ 100,000		+ 1,000,000
	+ 90,000		+ 900,000
US\$ Loans	7,000,000	Due to other Banks	300,000
	+ 900,000		
	+ 810,000		
US\$ Bonds	2,500,000	Capital Accounts	200,000
Total Assets	\$12,400,000		\$ 12,400,000

Morgan Guaranty NYC

Deposit Balances - Liabilities of Morgan

- 1,000,000	Sheik's Account
+ 100,000	Bank H of London
+ 90,000	UK Ltd. Account to Bank R to Morgan
+ 810,000	Loans from Bank R to Someone back to Morgan

\$0 Total Change for Morgan Guaranty NYC

Calculated Money Supply of the US

- 1,000,000	Sheik's Account
+ 100,000	Bank H of London
+ 90,000	Bank R of London
+ 810,000	Ultimate Disposition of Loans
NO CHANGE	

To **EVERY** banker in the multiplier chain, the additional Eurodollar deposit came in the form of a check from Morgan Guaranty NYC. There are now \$10 of eurodollar claims on each \$1 of Morgan Guaranty 'money.'

FULL MULTIPLIER EFFECT (ASSUMING 10% RESERVES HELD BACK due to BANK CONSIDERATIONS)

TOTAL WORLD SUPPLY OF US\$	+ 1,000,000	Sheik's Deposit at Bank H London
	- 1,000,000	Interbank Liabilities Between
	... total multipliers Eurodollar Banks & NYC	
Change in Total Supply Available to World	\$ 9,000,000	

NEW YORK PARENT OFFICE

Assets		Liabilities	
Deposits at FRBNY	\$ 6,000,000	Time Deposits	\$ 100,000,000
Other Cash Assets	4,000,000	(CD's)	
Loans	76,000,000		
Bonds	<u>14,000,000</u>		<u>-</u>
Total Assets	\$ 100,000,000	Total Liabilities	\$ 100,000,000

Required Reserves (in 1969 before change in Regulation M) \$6mm

SHEIK CD matures of \$10mm, wants higher rates but NYC office unable to pay due to Regulation Q.

To save the relationship, NYC notes that its London sub is not prohibited and can pay competitive rates.

NYC issues a check to London sub for \$10mm

NEW YORK PARENT OFFICE

Assets		Liabilities	
Deposits at FRBNY	\$ 6,000,000	Time Deposits	\$ 100,000,000
Other Cash Assets	4,000,000	(CD's)	- 10,000,000
Loans	76,000,000		
Bonds	<u>14,000,000</u>	Due to London sub +	<u>10,000,000</u>
Total Assets	\$ 100,000,000	Total Liabilities	\$ 100,000,000

Required Reserves (in 1969 before change in Regulation M) \$5.4mm

Not required to reserve against liabilities to foreign branches

London Subsidiary Branch - Eurodollar Operation

Assets		Liabilities	
	\$ -		\$ -

London Subsidiary Branch - Eurodollar Operation

Assets		Liabilities	
Due from NYC parent	\$ 10,000,000	Time Deposits +	\$ 10,000,000
		(CD's)	

On a consolidated basis, NYC bank books are wholly unchanged.

However, NYC Parent was able to pay competitive deposit rate and reduce its reserve requirement at the same time.

**Not a single
Federal Reserve
Note moves
anywhere
everything
remains
interbank
liabilities**



THE WORD
EURODOLLAR
IS NOT
A TECHNICALLY PRECISE
TERM
,

“ In reply, Mr. Coombs said an effort could be made to develop such a measure, but he doubted that it would be successful. The volume of funds which might be shifted back and forth between the of the monetary statistics arose in connection with Euro-dollars; **he suspected that at least some part of the Euro-dollar-based money supply should be included in the U.S. money supply. More generally, he thought M1 was becoming increasingly obsolete as a monetary indicator.** The Committee should be focusing more on M2, and it should be moving toward some new version of M3--especially because of the participation of nonbank thrift institutions in money transfer activities. Some of those institutions were offering 5-1/4 per cent on time accounts from which funds could be transferred into a demand deposit by making a telephone call.

FOMC
September 1974
Memorandum of Discussion 16

“ For example, in the mid-1970s, just when the FOMC began to specify money growth targets, econometric estimates of M1 money demand relationships began to break down, predicting faster money growth than was actually observed. This breakdown--dubbed "the case of the missing money" by Princeton economist Stephen Goldfeld (1976)--significantly complicated the selection of appropriate targets for money growth. Similar problems arose in the early 1980s--the period of the Volcker experiment--when the introduction of new types of bank accounts again made M1 money demand difficult to predict.

Chairman Ben Bernanke

Nov. 10, 2006

Speaking at 4th ECB Conf.

STEPHEN M. GOLDFELD
Princeton University

The Case of the Missing Money

THE RELATION between the demand for money balances and its determinants is a fundamental building block in most theories of macroeconomic behavior. Since it is also a critical component in the formulation of monetary policy, it is not surprising that the money-demand function has been subjected to extensive empirical scrutiny. The evidence that emerged, at least prior to 1974, suggested that only a few factors (essentially income and interest rates, with due allowance for lags) were needed to explain adequately the quarterly movements in money demand. There were episodes that, during their course, gave the impression that the money-demand function was shifting. On the whole, however, in the time allowed for final data revisions by a "wait and see" attitude, the apparent puzzles tended to clear up.¹

As has been widely documented,² the U.S. economy is once again experiencing an apparent shift in the money-demand function. In particular, when money-demand functions that have been successfully fitted to pre-1974 data are extrapolated into the post-sample period, they consistently and significantly overpredict actual money demand. Furthermore, as the economy has moved into the upturn phase of the business cycle, the forecasting errors have mushroomed. While one might hope that subsequent data revisions could "solve" the present puzzle, this sanguine attitude



“ The results of this paper are difficult to characterize. Insofar as the objective was an improved specification of the demand function for M1, capable of explaining the current shortfall in money demand, the paper is rather a failure. Specifications that seem most reasonable on the basis of earlier data are not the ones that make a substantial dent in explaining the recent data.

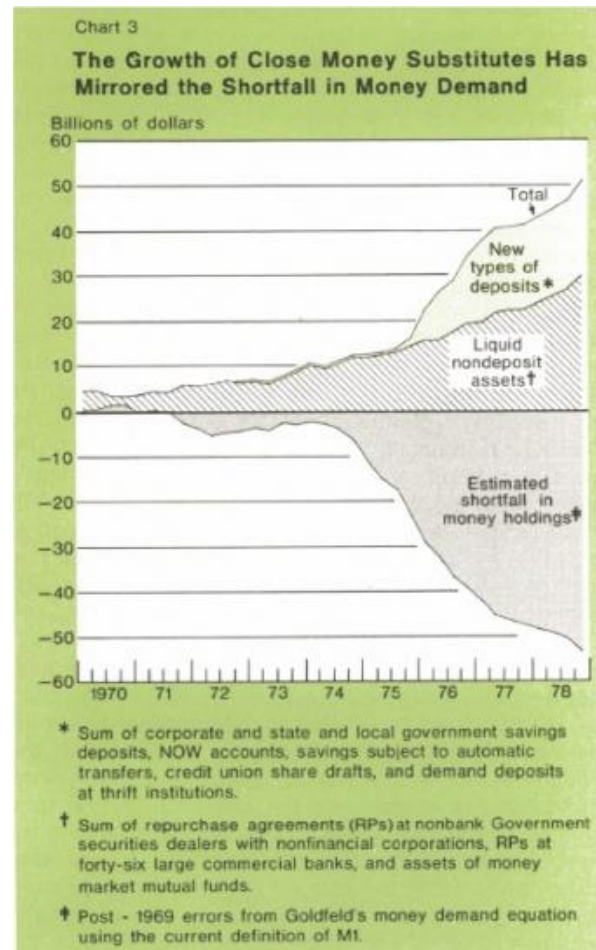
Stephen Goldfeld
The Case of the Missing Money 18



EURODOLLAR IS NOT STRICTLY OFFSHORE DEPOSITS OF OTHERWISE DOLLARS. IT INCLUDES THE TRANSFORMATION OF BANKING INTO A **WHOLESALE** MODEL OFTEN FREE OF DEPOSITS ALTOGETHER.

“ Large corporations are able to minimize their demand deposit balances by placing excess funds each day in the short-term money market. One way to do this is by arranging an RP – a secured placement of immediately available funds in which the borrower sells securities to the lender and agrees to repurchase them at a predetermined price at a future date (often the next day). **Such a transaction between a corporation and a commercial bank would convert a corporation’s demand deposit asset into an interest-bearing asset that would not be counted in any of the current or proposed aggregates.** Yet, since the funds can be committed for periods of time as brief as just overnight, they are still readily available for transaction purposes.

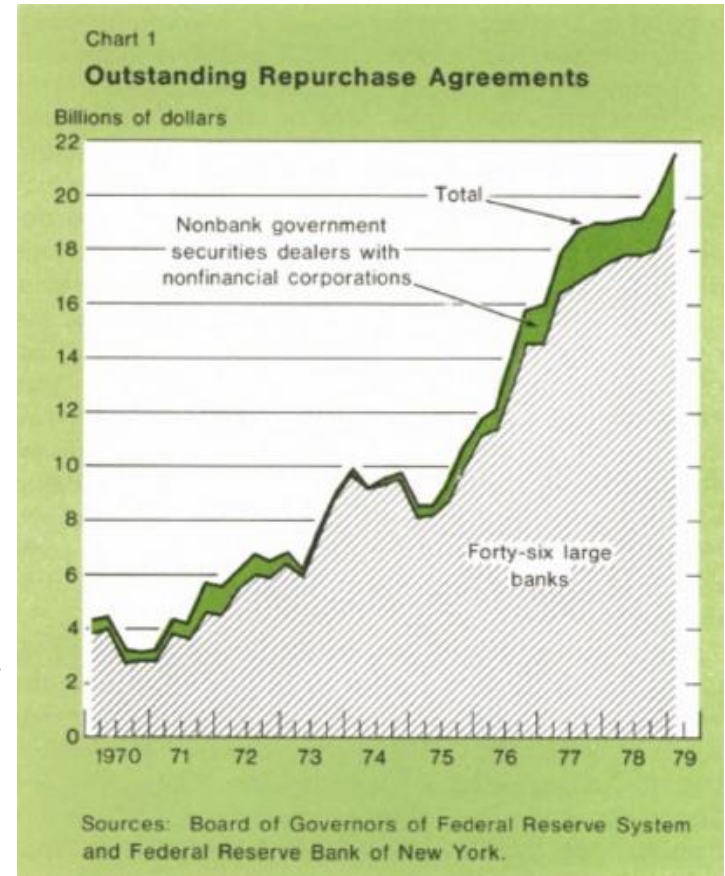
FRBNY
Spring 1979
Quarterly Review



MISSING MONEY = WHOLESALE

ANY NON-TRADITIONAL ACCOUNT
TRANSACTION THAT SATISFIES
MONETARY NEEDS OUTSIDE THE
CLASSIFICATION OF TRADITIONAL
MONEY AND THE FRAMEWORK OF
TRADITIONAL MONEY MECHANICS.

TRADED **BANK LIABILITIES**



EURODOLLAR

IS TWO PARTS: WHOLESALE + OFFSHORE

EURODOLLAR

IF IT'S OFF IN THE SHADOW'S, HOW DO
WE RECOGNIZE SCALE?



WHOLESALE, OFFSHORE WHAT?

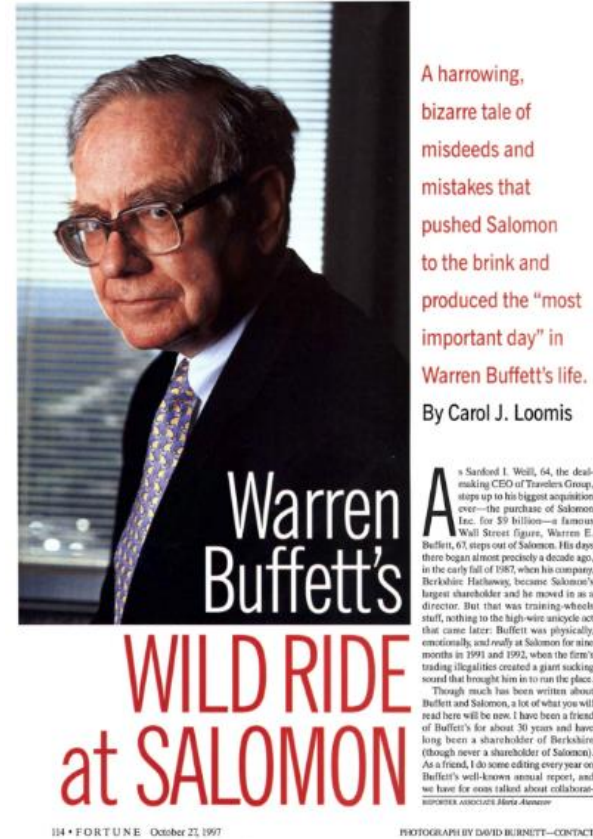
TRADED

BANK LIABILITIES

“ In April 1991, Salomon bid for \$3 billion of a \$9 billion five-year note auction, being awarded that full allotment plus an overbid on a customer account which was not again authorized (Mozer placed \$2.5 billion in bids for a customer that claimed it only approved \$1.5 billion, which placed \$600 million into Salomon's account and thus more than 35%). But it was the May 22, 1991, auction that went not just too far, causing more than a little consternation and attention. All told, Salomon placed bids for its accounts and those of customers, plus an undisclosed existing long position, for more than 100% of available two-year notes. Further, these bids were highly aggressive, priced a full 2 bps through the when-issued price.

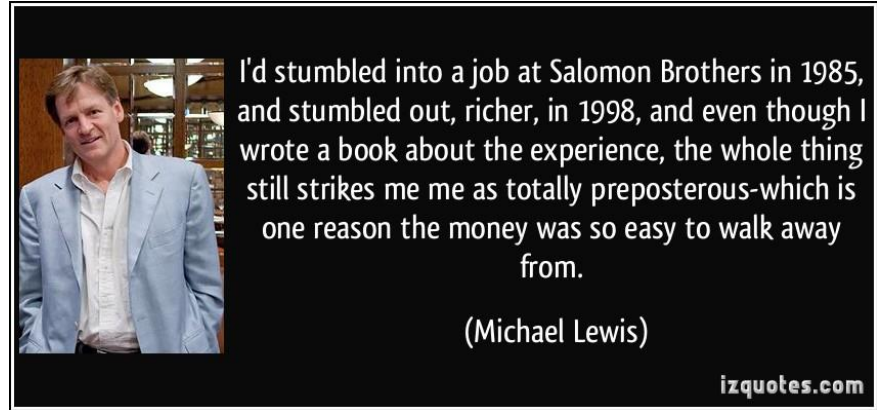
Jeffrey P. Snider
July 10, 2015

The Crony Pretense Behind Warren Buffet's Banking Buys



“ Investigations are continuing, but findings so far indicate that the crisis escalated far out of proportion to the money involved. **Mozer's inept little scam** had netted the firm only a pittance, between \$3.3 million and \$4.6 million, and cost taxpayers nothing in interest. Contrasted with the billion-dollar looting of the stock market by convicted felons Ivan F. Boesky and Michael Milken, Mozer's crime **was small potatoes**--but it was enough to bring his swaggering company to the brink of ruin.

LA Times
February 16, 1992
Taming The Bond Buccaneers
at Salomon Brothers



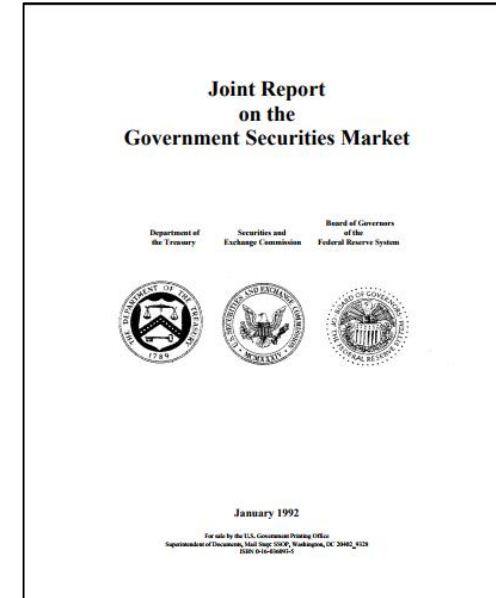
Paul Mozer
(born 1955)



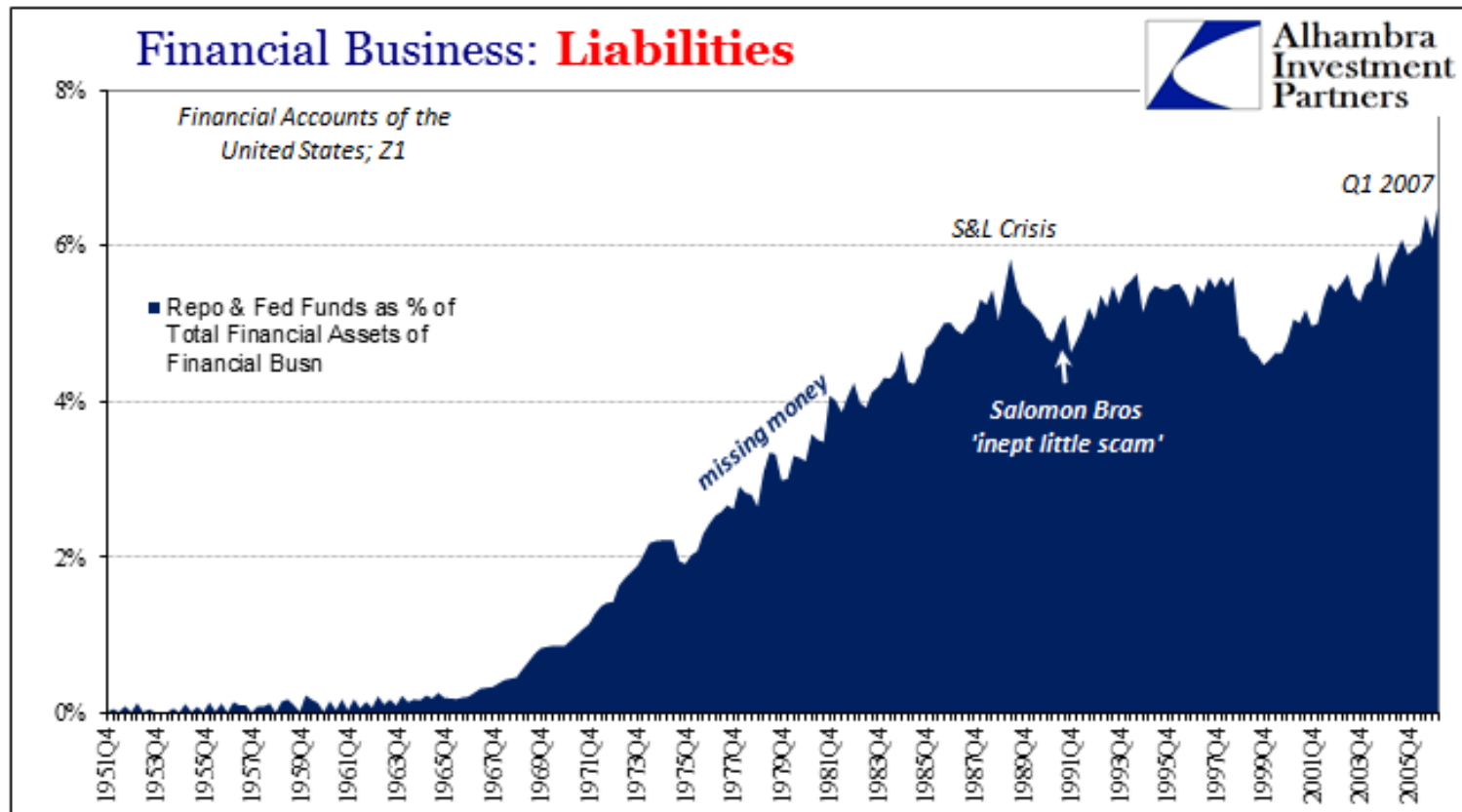
John William Meriwether
(born August 10, 1947)

“ In providing such inaccurate information, selling group members prepared and maintained books and records reflecting the inaccurate information...

Some traders added random amounts to their actual customer orders. Others increased the number and amount of customer orders reported to the GSEs to include "anticipated" or "historic" sales, i.e., an amount that the trader believed, based on past experience, the selling group member would be able to sell after the GSE announced the price. Even in those instances where a selling group member had identifiable customers for the number and amount of the customer orders reported to the GSEs, the trader would not indicate to the GSEs that many of the orders were subject to significant conditions.



US Government January 1992 Joint Report on the Government Securities Market



“ The world's currency markets, it seems, are no longer governed by central bankers in Washington and Bonn, but by traders and investors in Tokyo, London and New York, as the chaos in the currency markets this past week has shown...

As of February 1990, the daily worldwide volume of currency trading had reached \$650 billion, more than the market value of the 10 largest American companies, according to the most recent figures from the Bank for International Settlements in Basel, Switzerland. Improved technology, new financial instruments and the growth of international investment have combined to make the currency markets ever more fluid.

NY Times

Sept. 17, 1992

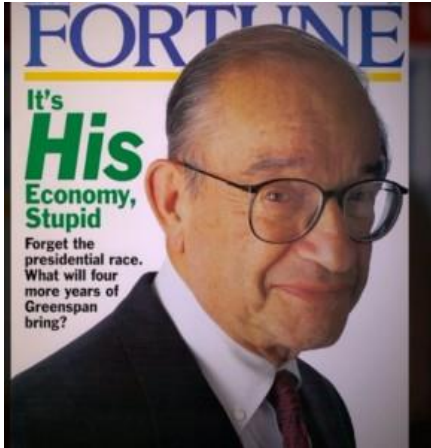
**Agility Counts in Currency
Chaos**

“ In former times, powerful central banks could usually frustrate speculators. They did so by simply buying massive amounts of the weaker currency and flooding the market with the stronger currency. But times are changing. While the central banks can mobilize tens of billions of dollars, trading in foreign currency markets now runs to a trillion dollars a day.

Forbes

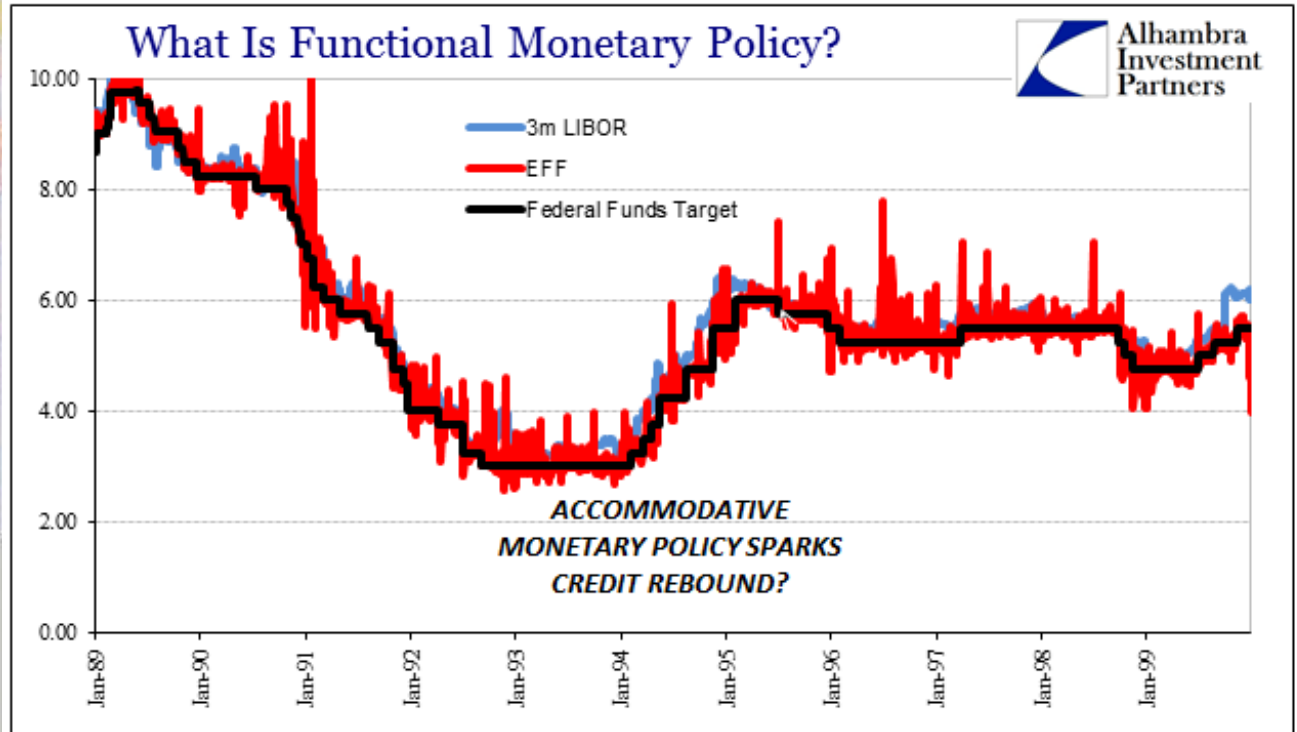
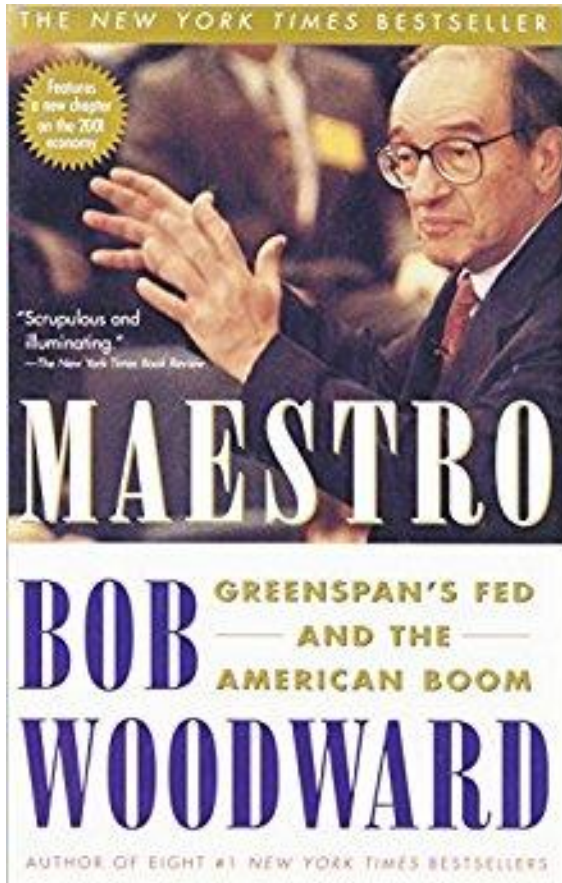
Nov. 9, 1992

**How the Market Overwhelmed
The Central Banks**



Forget money, money demand, or whatever it might be in the future. Alan Greenspan's Fed would control every single bit of it by targeting one single interest rate. Like something out of a Tolkien novel, it was one rate to control it all.

The **federal funds** rate.



That's what we were told, and what today
many (most?) people still believe.

**How Did/Does It Really
Work?**

According To Basel Accords



Assuming capital sufficiency of 8%:

\$1 billion Mortgages

\$1 billion A-rated MBS
tranche

\$1 billion AAA-rated
Super Senior MBS

$\$1\text{bln} \times 100\% =$

$\$1\text{bln} \times 50\% =$

$\$1\text{bln} \times 20\% =$

RWA	\$	1,000,000,000	\$	500,000,000	\$	200,000,000	\$	-
x 8% Capital								

Reserve "Charge"	\$80 million	\$40 million	\$20 million	\$0 million
---------------------	--------------	--------------	--------------	-------------

“ The consequences were and still are enormous. For example, in the initial framework residential mortgages were assigned to the 50% bucket. However, "claims or guarantees" provided by "qualifying" banks and entities (primarily, at the start, the GSE's) would be assigned instead to the 20% bucket. Thus, a bank for a given amount of statutorily-defined "capital" could hold two and a half times more assets if they could "somehow" define those assets by the "claims and guarantees" of "qualifying" counterparties.

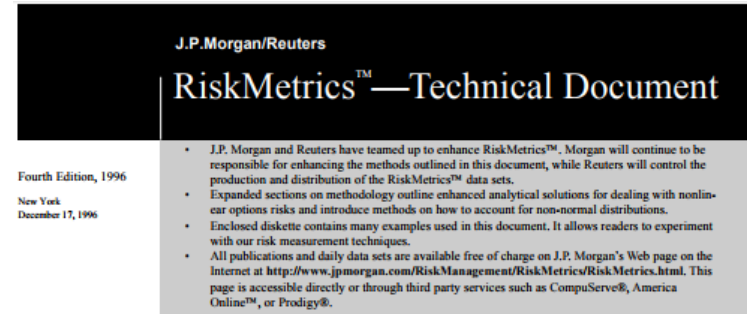
Jeffrey P. Snider
Sept. 30, 2016

**Banking Really Hasn't Changed Much Since
the Panic**

“ The growth and adoption of VaR in the 1980's was more limited, but by the 1990's as the shadow system sprung up and took over out of the ashes of the S&L crisis, VaR became common across every major firm in some form or another. A big break came in 1995, coincident to the rise in speculative eurodollars (i.e., the birth of the [serial bubbles](#)) when JP Morgan for the first time allowed total public access to its extensive (and quite impressive) database on variances and covariances for a far-reaching and meticulous set of securities and asset classes. Morgan called it RiskMetrics, allowing software to be developed and marketed on that basis.

Jeffrey P. Snider
June 19, 2015

Americans Are Sheltered And Wholly Unaware



Morgan Guaranty Trust Company
 Risk Management Advisory
 Jacques Longereau
 (1-212) 648-4936
riskmetrics@jpmorgan.com

Reuters Ltd
 International Marketing
 Martin Spencer
 (44-171) 542-3260
martin.spencer@reuters.com

This *Technical Document* provides a detailed description of RiskMetrics™, a set of techniques and data to measure market risks in portfolios of fixed income instruments, equities, foreign exchange, commodities, and their derivatives issued in over 30 countries. This edition has been expanded significantly from the previous release issued in May 1995.

We make this methodology and the corresponding RiskMetrics™ data sets available for three reasons:

1. We are interested in promoting greater transparency of market risks. Transparency is the key to effective risk management.
2. Our aim has been to establish a benchmark for market risk measurement. The absence of a common point of reference for market risks makes it difficult to compare different approaches to and measures of market risks. Risks are comparable only when they are measured with the same yardstick.
3. We intend to provide our clients with sound advice, including advice on managing their market risks. We describe the RiskMetrics™ methodology as an aid to clients in understanding and evaluating that advice.

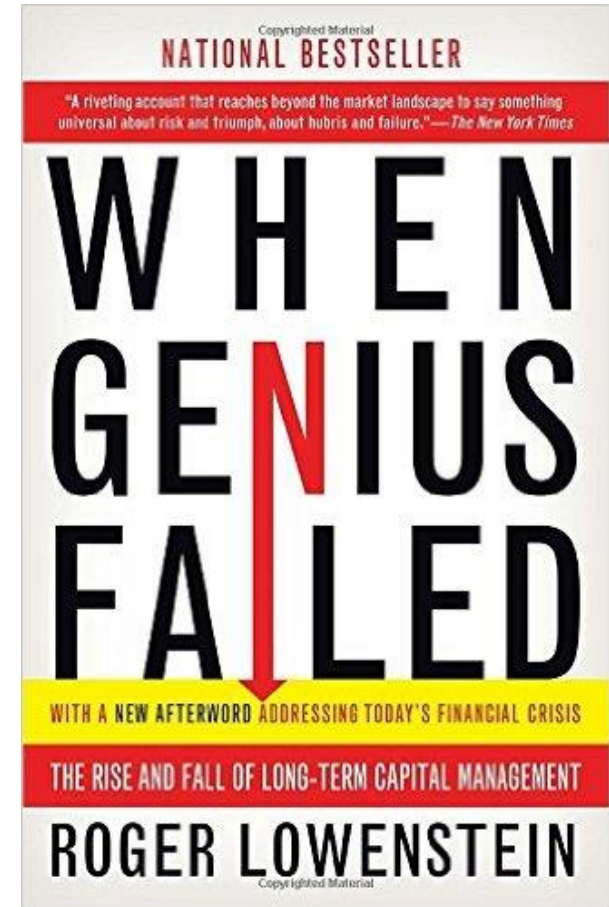
Both J.P. Morgan and Reuters are committed to further the development of RiskMetrics™ as a fully transparent set of risk measurement methods. We look forward to continued feedback on how to maintain the quality that has made RiskMetrics™ the benchmark for measuring market risk.

RiskMetrics™ is based on, but differs significantly from, the risk measurement methodology developed by J.P. Morgan for the measurement, management, and control of market risks in its trading, arbitrage, and own investment account activities. We remind our readers that no amount of sophisticated analytics will replace experience and professional judgment in managing risks. RiskMetrics™ is nothing more than a high-quality tool for the professional risk manager involved in the financial markets and is not a guarantee of specific results.

“CHAIRMAN GREENSPAN. Somebody mentioned to me that Bankers Trust had an August balance sheet for LTCM. Is that true?

VICE CHAIRMAN MCDONOUGH. Yes, but the balance sheet is a relatively small piece of the whole action because so much of the latter is off-balance-sheet.

FOMC
September 1998



BASIC INTERBANK FUNCTION

FIGURE 1-1

BANK A			
Assets		Liabilities	
Reserves	10	Deposits	100
Loans	50		
Due from Bank B	40		
Securities	10	Capital	10x1 10

BANK B			
Assets		Liabilities	
Reserves	50	Deposits	100
Loans	90	Due to Bank A	40
Securities	10	Capital	10x1 10

SYSTEMIC LEVERAGE (BANK A + BANK B)

(180 Loans + 20 Securities) / 20 Capital

10x1

BASIC INTERBANK FUNCTION - *Basel 'Conjuring'*

FIGURE 1-2

Bucket	Add'l Face Amt.	Risk Weight	RWA
UST	40	x 0%	0
AA MBS	40	x 20%	8
Qual. Res Mtgs	40	x 50%	20
Mortgages	40	x 100%	40

BANK B			
Assets		Liabilities	
Reserves	-40 10	Deposits	100
Loans	90	Due to Bank A	40
← +40			
Securities	10	Capital	10
		Leverage	14x1

BASIC INTERBANK FUNCTION - *Basel 'Conjuring'*

FIGURE 1-2

Bucket	Add'l Face Amt.	Risk Weight	RWA
UST	40	x 0%	0
AA MBS	40	x 20%	8
Qual. Res Mtgs	40	x 50%	20
Mortgages	40	x 100%	40

BANK B			
Assets		Liabilities	
Reserves	-40 10	Deposits	100
Loans	90	Due to Bank A	40
← Securities	+40 10	Capital	10
		Leverage	14x1

CAPITAL BASE or TIER 1 RATIO
 10 Capital / (90+10+40) RWA
7.14%

BASIC INTERBANK FUNCTION - *Basel 'Conjuring'*

FIGURE 1-2

Bucket	Add'l Face Amt.	Risk Weight	RWA
UST	40	x 0%	0
AA MBS	40	x 20%	8
Qual. Res Mtgs	40	x 50%	20
Mortgages	40	x 100%	40

BANK B			
Assets		Liabilities	
Reserves	-40 10	Deposits	100
Loans	90	Due to Bank A	40
← Securities	+40 10	Capital	10
		Leverage	14x1

CAPITAL BASE or TIER 1 RATIO
 10 Capital / (90+10+20) RWA
8.33%

BASIC INTERBANK FUNCTION - *Basel 'Conjuring'*

FIGURE 1-2

Bucket	Add'l Face Amt.	Risk Weight	RWA
UST	40	x 0%	0
AA MBS	40	x 20%	8
Qual. Res Mtgs	40	x 50%	20
Mortgages	40	x 100%	40

BANK B			
Assets		Liabilities	
Reserves	-40 10	Deposits	100
Loans	90	Due to Bank A	40
← +40			
Securities	10	Capital	10
		Leverage	14x1

CAPITAL BASE or TIER 1 RATIO
 10 Capital / (90+10+8) RWA
9.25%

BASIC INTERBANK FUNCTION - *Basel 'Conjuring'*

FIGURE 1-2

Bucket	Add'l Face Amt.	Risk Weight	RWA
UST	40	x 0%	0
AA MBS	40	x 20%	8
Qual. Res Mtgs	40	x 50%	20
Mortgages	40	x 100%	40

BANK B			
Assets		Liabilities	
Reserves	-40 10	Deposits	100
Loans	90	Due to Bank A	40
← +40			
Securities	10	Capital	10
		Leverage 14x1	

CAPITAL BASE or TIER 1 RATIO
 10 Capital / (90+10+0) RWA
10.0%

BASIC INTERBANK FUNCTION - *Basel 'Conjuring'*

FIGURE 1-3

BANK A			
Assets		Liabilities	
Reserves	10	Deposits	100
Loans	50	Unrealized Loss CDS	0
Due from Bank B	40		
Securities	10	Capital	10x1 10
Unrealized Gain CDS	1		

Off Balance Sheet

Gross Notional CDS	40
--------------------	----

SYSTEMIC LEVERAGE (BANK A + BANK B)

(241 Loans + Securities + Other) / 20 Capital

12x1

BANK B			
Assets		Liabilities	
Reserves	-40 10	Deposits	100
Loans	90	Due to Bank A	40
Securities	+40 10	Capital	Leverage 14x1 10

Bucket	Add'l Face Amt.	Risk Weight	RWA
AA MBS	40	x 20%	8
Qual. Res Mtgs	40	x 50%	20
Mortgages	40	x 100%	40

CAPITAL BASE or TIER 1 RATIO

10 Capital / 108 RWA

9.25%

BASIC INTERBANK FUNCTION - *Basel 'Conjuring'*

FIGURE 1-3

BANK A			
Assets		Liabilities	
Reserves	10	Deposits	100
Loans	50	Unrealized Loss CDS	0
Due from Bank B	80	Due to Bank C	40
Securities	10	Capital	14x1 10
Unrealized Gain CDS	2		

Off Balance Sheet

Gross Notional CDS	80
--------------------	----

SYSTEMIC LEVERAGE (BANK A + BANK B)

(322 Loans + Securities + Other) / 20 Capital

16x1

BANK B			
Assets		Liabilities	
Reserves	-80 10	Deposits	100
Loans	90	Due to Bank A	80
Securities	+80 10	Capital	Leverage 18x1 10

Bucket	Add'l Face Amt.	Risk Weight	RWA
AA MBS	80	x 20%	16
Qual. Res Mtgs	0	x 50%	0
Mortgages	0	x 100%	0

CAPITAL BASE or TIER 1 RATIO

10 Capital / 116 RWA

8.62%

BASIC INTERBANK FUNCTION - Basel 'Conjuring'

FIGURE 1-4

BANK A			
Assets		Liabilities	
Reserves	10	Deposits	100
Loans	50	Unrealized Loss CDS	0
Due from Bank B	80	Due to Bank C	40
Securities	10	Capital	14x1 10
Unrealized Gain CDS	2		

Off Balance Sheet

Gross Notional CDS 80

BANK C			
Assets		Liabilities	
Reserves	10	Deposits in ¥	39
Due from Bank A	40	Unreal... Loss \$swap	1
		Capital	10

BANK B			
Assets		Liabilities	
Reserves	-80 10	Deposits	100
Loans	90	Due to Bank A	80
Securities	+80 10	Capital	Leverage 18x1 10

Bucket	Add'l Face Amt.	Risk Weight	RWA
AA MBS	80	x 20%	16

BANK D			
Assets		Liabilities	
Reserves	5	Due to Bank E	5
Unreal... Gain Swaps	1	Capital	1

Off Balance Sheet

Gross Notional \$swap 40