The dismantling of the economy’s legal infrastructure

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Abstract: This paper studies the legal foundations of the US financial system, arguing that the 1930s reforms were stabilizing and that deregulation starting in the 1980s was destabilizing. The 1930s reforms stabilized a dynamic and inclusive financial system by very deliberately constructing a segmented system comprised of both structural firewalls and comprehensive regulation. Underlying this structure was a bank-based model of the monetary system that viewed banks as essential coordinating devices for the economy and asset price bubbles as a consequence of bank lending practices. By the 1980s, however, this model had been largely forgotten and, as a result, the reform of the financial system that took place from the 1980s on was founded on a completely different monetary theory that questioned whether asset price bubbles were even possible, much less associating them with the quality of bank regulation.

This paper sets forth in detail the regulatory structure that was in place by 1940, and then discusses how it was dismantled, with extensive focus on the Glass-Steagall Act, the US system of mortgage finance, derivatives regulation, and investment fund regulation. I find that deregulation facilitated the growth of the same conduct that the regulatory regime had been designed to repress in the first place. And I conclude that the new monetary theory has not just restructured the banking system to conform with the new theory, but has also transformed the financial system into one that is neither dynamic, nor inclusive, that is prone to asset price bubbles, and that fails most of all to provide the ubiquitous low-cost, short-term credit lines – or liquidity – that according to the bank-based model of the monetary system is the raison d’être of the banking system.
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The Background

In the 1930s and 40s, a comprehensive regulatory regime was designed for the financial system. The designers of this system had learned from the real estate and the stock market booms and busts of the 1920s and were not just conscious of the credit-creation function of banking, but also of the disastrous consequences that result when bank credit is used to finance leveraged positions in financial or real assets. Thus, the system was designed with firewalls that would keep credit from flowing inefficiently from the banking system into sectors, like housing and stock market investments, where there was abundant empirical evidence that the primary result would be asset price inflation.

The new system also took into account the fact that state and common law had long granted a limited form of self-governance to the commodities and securities exchanges, which set rules for their members, and gained certain privileges in deference to the role they played in establishing the prices for financial contracts. In the new regime the Exchanges would be recognized as “Self Regulatory Organizations.” Every one of them was, however, made subject to the supervision of either the SEC or Secretary of Agriculture (prior to the creation of the CFTC).

The financial regulatory laws enacted in the 1930s and early 1940s were designed to augment the existing legal regime governing financial contracts, which was constructed on the principle that financial contracts are legally enforceable only when they are tied to the real economy. Thus, if any one of three conditions are met (i) the contract insures one party against an existing risk, (ii) the intent is to deliver the underlying asset, or (iii) the contract is traded on a designated exchange, the contract is deemed to play a role in distributing real economic risk and is legally enforceable. On the other hand, a financial contract where both parties were speculating on some future event – such as the price of an asset – had to be traded on an exchange or it would be considered a wager and void.\(^1\)

The financial regulatory laws enacted in the 1930s and early 1940s were designed as a comprehensive regulatory regime where every financial product had a designated regulator. The first step in this process had been the Federal Home Loan Bank Act of 1932 which established a Federal Home Loan Bank System to support liquidity in the mortgage markets on the model of the Federal Reserve System. Mortgage lending had never been a significant activity for commercial banks, but was instead the purview of a variety of savings associations. Very innovative policies would be put in place to support the mortgage markets over the course of the decade, but this history is not pertinent here.

The second step in the process of creating a comprehensive regime with firewalls designed to construct a silo’d financial system was to separate out banks from brokers and dealers on financial markets. Formal separation of the commercial banks from their investment banking affiliates was adopted in the Banking Act of 1933 (“the Glass-Steagall Act”).

The next step was to extend federal law to cover the broker-dealers, the exchanges, and over-the-counter markets. The latter were covered, not because major improprieties on OTC markets had been discovered in the years leading up to the Great Depression, but because legislators recognized that

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\(^1\) Notice that in a contract where both parties are speculating, neither party has a real economic risk that is being transferred; instead, the two parties are just making different predictions about the future. As a result, the frequent claim that speculation serves to transfer risk away from those who will have difficulty bearing is not applicable to those contracts that were treated as wagering contracts under 19th and early 20th century financial regulatory principles.
“since business tends to flow from regulated to unregulated markets ... the regulation of exchange markets made necessary the regulation of [over the] counter markets” (SEC Tenth Annual Report, 1945: 44). That is, 1930s legislators were well aware of the need for a comprehensive regulatory regime. Thus, the Securities Act of 1933 (“‘33 Act”), the Securities Exchange Act of 1934 (“‘34 Act”), the Commodity Exchange Act of 1936 (“CEA”), and the Investment Company Act of 1940 (“‘40 Act”) were designed to ensure that there was no unregulated financial market into which business could flow.

The Commodity Exchange Act of 1936 (CEA) prohibited trading of commodities contracts for future delivery – a category which encompasses options and swaps contracts that reference commodities – with two exceptions, contracts traded on designated markets and the forward contract exclusion (which requires that delivery is expected to take place).\(^2\) Observe that this prohibition was simply a means of bringing well-established state and common law rules under the purview of federal law.

The SEC regulated broker-dealers and their over-the-counter transactions through the creation of a new self-regulatory organization (explicitly authorized by the Maloney Act of 1938), the National Association of Securities Dealers (which was replaced in 2007 by FINRA, the Financial Industry Regulatory Authority). This decision to create an SRO for the purpose of regulating the formerly unregulated segments of the securities markets should have been viewed as precedent. Any unregulated financial market, needed to form a self-regulatory organization, and apply to the SEC (or the CFTC as might be appropriate) for its right to exist.

So how did we go from a system of comprehensive regulation in 1940 to the 2008 environment where vast swaths of the financial system were unregulated? The short answer is that the deregulatory ideology of the 1980s and 1990s turned a comprehensive regulatory regime into a tattered web of regulations and in doing so facilitated the growth of the same kind of conduct that the regulatory regime had been designed to repress in the first place.

**Hedge funds and private equity funds: How vast pools of money escaped regulation**

From the beginning there was a “private offering exemption” to both the disclosure requirements of the Securities Act of 1933 (“‘33 Act”) and the investment company registration requirement of the Investment Company Act of 1940 (“‘40 Act”). The basic idea behind ‘33 Act and the ‘40 Act exemptions were somewhat different, however. For the ‘40 Act if an issuer’s activities were sufficiently small and didn’t involve marketing to the public they didn’t need to be covered. For the ‘33 Act the focus was on the fact that certain financial professionals, such as banks, as well as the principals of a corporation did not need the protection of the disclosure requirements.

Thus, the original ‘40 Act had the “section 3(c)(1)” exemption for funds “that are beneficially owned by not more than 100 persons” and that issue securities that are not offered publicly. Companies that were required to register under the ‘40 Act faced leverage restrictions and controls on self-dealing amongst other requirements. Until 1996, a private fund that sought to opt out of the ‘40 Act had to fall under the 100 investor exemption. Obviously, this constrained the size of any given hedge fund or private equity fund.

Similarly, the original ’33 Act had the Section 4(a)(2) exemption from the disclosure requirements for “transactions not involving any public offering.” From the earliest days, this was understood to exempt corporate activities such as obtaining bank loans, placing securities privately with institutions, and promoting a business endeavor amongst a small group of closely related individuals (SEC 2015: 11). This approach was affirmed by the Supreme Court in 1953 which interpreted a non-public offering to include “an offering to those who are shown to be able to fend for themselves” and found that an offering to corporate executives “who, because of their position, have access to the same kind of information that the Securities Act would make available in the form of a registration statement” could also fall within the exemption.3

In short, for the first decades of this comprehensive regulatory regime, the private offering exemption was narrow, and offered little or no scope for hedge funds to operate. Needless to say, the financial industry pushed continuously to widen the scope of the exemption.

The process by which hedge funds were allowed to grow started slowly when in 1974 the SEC adopted Rule 146 which stated that the Section 4(a)(2) exemption would apply to offerings with no more than 35 purchasers, with dissemination of information comparable to a registration statement, and “reasonable belief” that purchasers or their representatives had the capacity to evaluate the information.4 The Rule allowed sales to purchasers who couldn’t evaluate the information themselves, but instead (i) were wealthy enough to bear the risks associated with the security, and (ii) had a representative with the capacity to evaluate the information, thus creating an investment category specifically for wealthy individuals. At the same time in the Adopting Release the Commission declared:

“[I]t is frequently asserted that wealthy persons and certain other persons such as lawyers, accountants and businessmen are "sophisticated" investors who do not need the protections afforded by the Act. It is the Commission's view that "sophistication" is not a substitute for access to the same type of information that registration would provide.” (SEC Rule 146 Adopting Release No. 33-5487, 39 FR 15621)

In short, the ’33 Act’s goal of investor protection meant that regulation had to ensure that even sophisticated investors received the relevant information to evaluate. On the other hand, the rule imposed no constraint on the amount of money that could be raised from those 35 investors.

A year later Rule 240 was adopted to benefit small businesses by exempting issuers raising less than $100,000 in a 12 month period with no general advertising, and with no more than 100 investors. Notably, the requirement that investors have access to information comparable to a registration

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4 Rule 146 stated that the Section 4(a)(2) exemption would apply if:
   (i) Offerings were limited to 35 purchasers;
   (ii) Offerees had access to or were furnished with information comparable to what a registration statement would contain;
   (iii) Issuers reasonably believed that all offerees either (a) had the requisite knowledge and experience in financial matters to evaluate the risks of the investment or (b) could bear the economic risks of the investment;
   (iv) Sales were made only to those who had the requisite knowledge and experience or who had a representative who was capable of providing the requisite knowledge and experience;
   (v) There was no general advertising or solicitation.
statement was omitted from this Rule, presumably in order to reduce the costs and legal risks faced by small businesses.

The pressure for broader exemptions continued and was met in 1980 with Rule 242, which was the first time the concept of an “accredited investor” was used. An “accredited investor” included categories that had long been covered by the 4(a)(2) exemption including banks, institutional investors, and directors and executives of the issuer. Added to these groups were pension funds (explicitly), and anyone who purchased $150,000 of the issuer’s securities. And this rule no longer required that the investor be furnished with information “based on the assumption that accredited persons were in a position to ask for and obtain the information they believed was relevant” (SEC 2015: 14). In short, Rule 242 blew a hole in the comprehensive regulatory regime, but was designed to harm only those wealthy and institutional investors that happened to lack the financial acumen the SEC attributed to them.

A few months later in the Small Business Investment Incentive Act of 1980 (Pub.L. 96‐477) the concept of “accredited investor” was made law. The legislation (i) defined the term to include the broad categories of financial intermediaries covered by Rule 242 while authorizing the SEC to adopt additional categories and (ii) created a new exemption for issues of up to $5 million to accredited investors only (SEC 2015: 15).

Just two years later, the SEC replaced all of these refinements of the private offering exemptions with a single regulation, Regulation D. Regulation D was organized around the concept of the “accredited investor” and at the same time widened its scope. In addition to those covered by Rule 242 were added anyone with substantial net worth ($1 million) or income ($200,000 per annum), and any entity all of whose owners were accredited investors. At the same time the SEC explained that purpose of this redefinition was to define a class of investors who did not need the ’33 Act’s protections, because of their sophistication, ability to sustain loss, or ability to fend for themselves (SEC 2015: 17).6

Reg D significantly revised the three categories of exempt issues: Rule 504 exempted the sale of up to $500,000 without general solicitation (imposing no limitations on number or type of investors). Rule 505 exempted the sale of up to $5 million in a 12 month period to an unlimited number of accredited investors and 35 additional persons without general solicitation. Rule 506 dramatically broadened the Rule 146 safe harbor by treating as private offerings sales of unlimited amounts of securities to an unlimited number of accredited investors and up to 35 non-accredited, but sophisticated, investors without general solicitation. Although Rule 506 was viewed as a replacement for Rule 146, by allowing unlimited amounts to be raised from an unlimited number of investors, it was different in character from the original Rule 146. In addition, Rule 506 eliminated entirely the requirement for accredited investors that they be furnished with or have access to information comparable to a registration statement.

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5 The Dodd Frank Act, Section 413(a) caused the value of a primary residence to be excluded from the measure of net worth.

6 In 1988 the Commission’s position that a $150,000 investment guaranteed that the investor had sufficient “bargaining power” that no protection was needed was reconsidered “particularly at the $150,000 level” and this criterion for accredited investor status was withdrawn entirely (SEC 2015: 17-18).
Observe the structure of this change. It would have been very hard for the SEC to argue that the Regulation D exemptions were consistent with the legislature’s intent in enacting the ’33 Act, because in 1933 the primary purpose was to protect investors by addressing the problem of information asymmetry in the market and there was no intent to exempt wealthy individuals or pension beneficiaries (through their fiduciaries) from that protection. This was clear in 1974 when Rule 146 was adopted. But, with the passage of the Small Business Investment Incentive Act of 1980 the relevant intent when discussing an “accredited investor” was that of the 1980 legislature – and the stated intent of that legislature was to increase the ability of “small business” to raise capital. Thus, the adopting release for Regulation D states that its purpose is to “facilitate capital formation consistent with the protection of investors” and the emphasis throughout the release is on small business.7 Hedge funds and leveraged buyout companies were small businesses – not just from an employment perspective, but at the time in terms of their capacity to raise funds too. The latter was, however, due to the constraints imposed by the regulatory regime, as would become clear after those constraints were relaxed.

To summarize, the 1980 law opened the door to a 180 degree shift in the focus of the ’33 Act from the goal of protecting the beneficial owners of securities to the goal of making it easier for “small businesses” to raise vast amounts of money. And Regulation D threw that door wide open by eliminating the constraints that were designed to ensure that the exemptions were targeted to small businesses. Not only was an exemption created that allowed unlimited sums to be raised without any disclosure whatsoever, but the same exemption allowed that money to be raise from an unlimited number of wealthy investors.

With Regulation D a new era in U.S. finance was born.8 The 1980s saw private equity funds take off along with leveraged buyouts, see Chart 1. The economic inefficiencies created by leveraged buyouts were immediately recognized (e.g. Shleifer and Summers 1988), but apparently no connection was drawn linking the growth of these funds and their economically inefficient activities to the lifting of the ’33 Act’s limitations on private fundraising by securities issuers.

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7 The crude model of capital formation underlying this approach is remarkable coming from an agency that was created in order to address problems of information asymmetry. Afterall, it is investor protections that safeguard the economy’s long-term capacity to raise capital.

8 This growth has been attributed to other causes such as anti-takeover statutes or high yield bonds, but the timing doesn’t line up for these. High yield bonds began to take off as an asset class in the 1970s. And when the Supreme Court struck down an anti-takeover statute in 1982, it was far from clear that this would invalidate the statutes that had been enacted in other states, and indeed in 1987 the Supreme Court upheld an anti-takeover statute – and leveraged buyouts continued to boom.
Even though Regulation D made it much easier for investment funds to raise money without disclosure, most funds did not want to register under the ‘40 Act and as a result in order to qualify for the 3(c)(1) exemption the number of investors was capped at 100. It was not until 1996 that the National Securities Markets Improvement Act created a new exemption from registration under the ‘40 Act. Section 3(c)(7) funds are permitted an unlimited number of investors as long as they are “qualified purchasers,” a category which includes individuals with $5 million in investments and institutional investors with at least $25 million in assets under management.\(^9\) Legislative history indicates that Congress deemed these investors to be capable of evaluating “on their own behalf matters such as the level of a fund’s management fees, governance provisions, transactions with affiliates, investment risk, leverage, and redemption rights” (S. Rep. No. 104-293). In other words, as the SEC explained “Congress determined that the amount of a person’s investments should be used to measure a person’s financial sophistication” (2015: 25).

Thus, after 1996 we see once again a significant acceleration in growth of private funds, see Chart 2. Insert HF data here (from JKT ‘stylized facts’ Table 1)

\(^9\) Note that in order to avoid registration under Section 12(g) of the ‘34 Act, most funds today limit their investors to 499.
This unregulated environment fostered certain decades-long frauds like that perpetrated by Bernie Madoff and insider trading as took place at SAC Capital. The remarkable window that has been opened into one wealthy family’s activities by the Mueller investigation naturally raises the question of the degree to which these underreporting investment funds are systematically breaking the law on the principle that they are very unlikely to ever be caught doing so.

The wrongdoing that has been uncovered is entirely consistent with the wrongdoing that the Investment Company Act was designed to prevent. Six years before the Act was passed the Pecora Committee Report discussed the problem of investment trusts:

“laissez fair policy nurtured a mushroom propagation of investment trusts of incalculable economic significance. The investment company became the instrumentality of financiers
and industrialists to facilitate acquisition of concentrated control of the wealth and industries of the country. The investment trust was the vehicle employed by individuals to enhance their personal fortunes in violation of their trusteeship, to the financial detriment of the public. Conflicts of duty and interest existing between managers of the investment trusts and the investing public were resolved against the investor. The consequences of these management trusts have been calamitous to the Nation. ... the exposure of the abuses and evils of investment trusts must be expeditiously translated into legislative action to prevent recurrence of these practices” (S. Rep. 73-1455: 333).

In the event Congress moved with much more deliberation than Senator Pecora demanded. The newly created SEC was tasked with studying the problem, and the law was developed in close consultation with the investment industry. As a result, the final bill was sent to Congress with the full support of the both the SEC and the investment industry, leading a prominent legal scholar to remark that “the passage of such comprehensive legislation with virtually no debate is probably without precedent” (Jaretski 1941: 310-11). In short, the Investment Company Act was carefully designed to work to the benefit of the financial industry by improving its operation. While the term asymmetric information had not yet been coined, contemporary Congressional reports on the Act make it clear that that the law was carefully targeted to address information problems. To quote from the Senate Report on the Act:

“The representatives of the investment trust industry were of the unanimous opinion that ‘self-dealing’ – that is, transactions between officers, directors, and similar persons and the investment companies with which they are associated – presented opportunities for gross abuse by unscrupulous persons, through unloading of securities upon the companies, unfair purchases from the companies, the obtaining of unsecured or inadequately secured loans from the companies, etc. The industry recognized that, even for the most conscientious managements, transactions between these affiliated persons and the investment companies present many difficulties. Many investment companies have voluntarily barred this type of transaction. ...

“Finally, particularly with respect to those companies which have not registered their securities under the Securities Act of 1933 or the Securities Exchange Act of 1934, and only a small number has so registered its securities, the investor has been unable to obtain adequate information as to their operations. The accounting practices and financial reports to stockholders of management investment companies frequently are deficient and inadequate in many respects and oftentimes are misleading. In many cases, dividends have been declared and paid without informing the stockholders that such dividends represented not earning but a return of capital to stockholders.” (S. Rpt. No 76-1775: 8).

Currently in the US hedge funds have $4 trillion in assets under management and private equity funds have $2.5 trillion (SEC Private Fund Statistics Q1 2018). As the total assets of the U.S. commercial banking system are a little less than $17 trillion, we find that the funds in the US that are not subject to standard controls on the use and abuse of asymmetric information are equivalent in size to one-third of
the banking system. In short, one driver of financialization and the inequality associated with it is the vast quantity of underregulated investment funds that hide in the shadows of the US financial system.

It’s worth mentioning that the 1980s and 1990s also witnessed the proliferation of business forms that offer limited liability without either corporate status or corporate taxation. The limited liability company or LLC is the foremost of these structures, and plays a part in the development of a vast financial system that hides in the shadows of the regulated financial system. Many hedge funds are structured as LLCs.

Prior to 1988 the only business structure that combined pass-through taxation with limited liability was the S-corporation. The Chapter S election is available only to small corporations with no more than 100 shareholders, all of whom are individuals. In 1988 the IRS granted the LLC structure the “pass through” tax status that makes it such a useful tool for structuring and hiding assets. By 1996 LLC statutes had been enacted in every state. A variety of other limited liability business structures that have pass through taxation are also available now.

Overall, a vast swathe of the US financial system operates in the dark with minimal supervision even today. That this situation was allowed to develop in the name of financing “small business” is astounding.

An adjustment should be made in our understanding of the purpose of our financial regulatory laws: The deployment of hundreds of millions of dollars in funds has public implications. For this reason alone, all investment companies with assets under management in excess of $500 million and either at least one pension fund investor (and thus hundreds of beneficial investors) or more than 35 investors should be subject to the Securities Act’s reporting requirements.

The enforceability of margin

Derivatives are financial contracts that do not involve direct investment in productive activity, as stocks and bonds do, but instead reference such contracts (or other phenomena including stock market indexes and even the weather). In short, they are called derivatives, because their value is derivative from that of other assets. While derivatives contracts take many forms, for the purposes of this post it is enough to understand a specific derivative, a futures contract. A futures contract is a standardized contract to purchase/sell a specific amount of a specific asset at a specific price on a specific future date.

Consider an example, in which I can agree in December 2018 to sell 100 shares of ExxonMobil stock at a price of $72 a share (the current market price) on May 15, 2019. I will call the person who takes the other side of this agreement, my counterparty. Whether the market price of ExxonMobil is $65 or $80 on May 15 does not affect the price at which our contract will settle, because the whole point of a futures contract is to fix the price of the contract on the future date. For the purposes of discussion let’s assume that the price on May 15 turns out to be $80. Since I sell my shares at $72, I have $800 less, that is $8 less per share, than I would have if I had simply waited to sell my shares. Similarly, my counterparty has $800 more than she would have if she had simply waited to buy the shares.

Why would I have chosen to enter into this contract? If I owned ExxonMobil shares maybe I knew in December that I would need the money on May 15, but didn’t want to sell in December for tax purposes and was worried that the price would fall in the meanwhile. Alternatively, maybe I don’t own

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10 In the original law only 35 shareholders were permitted.
ExxonMobil shares, but have reason to believe that the price is going to fall over the next six months and want to have the opportunity to sell shares that I will be able to purchase at low price (as I expect to be the case in May) while selling at high price. In the first case, I am protecting myself against risk of loss – or hedging, and in the second case I am speculating on the price of the shares.

Why would my counterparty have chosen to enter into this contract? Perhaps, she expects the price of ExxonMobil shares to go up over the next six months, but doesn’t have the money to buy them now and wants to lock in today’s price on a contract that can be paid for when her funds are available. In other words, she is speculating on the price of the shares, since she could simply wait and buy the shares when her funds are available. (A retail investor would not be hedging, since that would imply some kind of an obligation to possess shares in May that aren’t owned in December. By contrast, a broker or financial professional might have such an obligation and be using such a position to hedge an exposure.)

Thus, a crucial aspect of a derivatives contract is that the same contract can be used either to hedge an exposure – i.e. to insure against an existing risk – or it can be used to speculate on a change in prices. The derivatives contract itself will not give any indication how it is being used. If the owner of shares enters into a contract to sell them in the future that is a means of protecting the owner against the risk of loss, and it would not be considered a wagering contract under the traditional law governing derivatives. Traditional gambling law applied only to derivatives where no contract participant was hedging, but instead both were speculating (in opposite directions) on a price movement.

With this introduction let’s get into some details.

Britain’s Gaming Act of 1845 laid a cornerstone of Anglo-American securities regulation: wagers, including derivatives that could be characterized as wagers, were void and could not be enforced as contracts. The reasoning behind this approach was cost-benefit analysis. Because a wager, by definition, involved two parties who did not have a real economic interest or productive purpose at stake, the benefit of enforcement was necessarily small and deemed not to be worthy of the costly expense of judicial resources (H.C. 1844: v-vi; see also testimony of Daniel Whittle Harvey, Esq., Commissioner of the City Police Force, Honorable Mr. Justice Patteson, and John Bush, Esq., Attorney and Solicitor).

In Britain, as in the US, the real world implications of a law are often determined only after the courts have interpreted the text of the law and developed a legal test that will be used to apply the law. In 1851, *Grizewood v. Blane*, 138 Eng Rep 578, 584 (C.B. 1851), interpreted the 1845 Act, establishing a seminal precedent that would undergird Anglo-American securities law for the better part of a century: if one of the parties genuinely intended to deliver/receive the underlying asset (typically a question of fact for the jury), the transaction was not a wager, but instead a valid contract. Over the next 50 years many US state legislatures adopted similar gaming laws and many US courts cited *Grizewood v. Blane* on the interpretation of such statutes with respect to financial transactions. The Supreme Court affirmed this interpretation in *Irwin v. Williar*, 110 US 499 (1884). ¹¹

Let us apply this legal test to the example given in the introductory paragraphs. If I am hedging my need to sell 100 shares of ExxonMobil in May, then the whole point of the transaction is that I expect to sell

¹¹ Note that Kreitner (2000)’s discussion of the intersection between securities regulation and wagering law starts with *Williar*, and this case apparently does not offer the best explanation of the logic underlying this form of securities regulation. Kreitner (2000) argues that moral rather than economic considerations drove this form of securities regulation.
(and deliver) my shares. On the other hand, if I am speculating, then I don’t have any shares to sell, and it’s easiest to just pay the difference between the contract price and the actual price in May. In this example, I pay my counterparty $800 without a transfer of shares. The fact that I own shares and need to sell them in May would be strong evidence of my intent to deliver, and therefore that the contract is not a wager. By contrast, the absence of any such evidence together with the presence of a pattern of entering into futures contracts and settling differences without ever taking ownership of shares is likely to be viewed as evidence that I am speculating. If the same is also true of my counterparty, then the derivative is a wager. As noted, in practice the evidence on each party’s intent was typically submitted to the jury so the jury could make the factual determination with respect to each party.

During this period derivatives contracts, particularly those that were typically settled by paying price differences, were at risk of being deemed unenforceable in court. Because settling by paying price difference was common on the Exchanges, they had to develop their own mechanism by which they could enforce the claims of parties to these contracts. That mechanism was margin, which is a synonym for collateral. Upon entering into a derivatives contract a trader was asked to post to the exchange margin that would cover a portion of the value that the trader might end up owing on it. And on a regular basis the exchange would reevaluate the contract and change the amount of margin that must be posted to reflect how the contract had changed value over time. In this way, if the trader went bankrupt the exchange had the means to make sure payment was still made on the contract.

In short, the system of margining derivatives contracts was designed for an environment where legal enforcement of contracts was not likely to be available to traders. This alternate system for ensuring payment on derivatives conflicted with the bankruptcy code which sought to catalog all of a bankrupt’s assets and distribute them fairly across creditors. The Supreme Court in 1876 created a carve-out for exchanges, allowing them to process transactions according to their rules and indeed even allowing them to use the proceeds from the sale of the bankrupt’s seat on the exchange to settle any remaining debts on the exchange – all outside the reach of the bankruptcy court (Hyde v. Woods, 94 US 523, 1876). This special status was preserved for commodities exchanges when the Bankruptcy Code was revised in 1978 by allowing commodities brokers to foreclose on margin despite a bankruptcy. In 1982 the contractual rights set forth by the rules of securities exchanges were also exempted from bankruptcy (Pub. L. No. 97-222).

In the early 20th century, the invention of the telegraph posed an existential crisis for the Exchanges as their prices were instantly transmitted for off-exchange trading, threatening not just members’ income, but the price discovery process itself (Levy 2006). This led in 1905 to a Supreme Court determination that exchange-traded contracts were a special category due to the important role they play in setting prices for the business world, CBOT v. Christie Grain, 198 US 236 (1905). This decision distinguished exchange-traded contracts from off-exchange contracts and deemed only the former legally enforceable. The wagering laws that had been enacted at the state level continued to apply to derivatives contracts that were not traded on an exchange.

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12 As Levy (2006) observes, while there are many cases arguing that exchange-traded contracts were void as wagers in the late 19th century, not one of them is brought by a member of the exchange. That is, they are all brought by the clients of exchange members.

13 In 1865 the Chicago Board of Trade introduced the first standardized futures contract together with the requirement that a “performance bond,” which serves the same function as margin, be posted by futures traders.
The Commodities Exchange Act of 1936 was therefore building on existing law when it prohibited trade in derivatives referencing commodities with two exceptions: exchange-traded contracts and contracts where the intent was to deliver the underlying. In 1974 when the CFTC was created and tasked with enforcing the Act, the definition of a commodity was deliberately amended to cover not just virtually all goods, but also “all services, rights, and interests in which contracts for future delivery are presently or in the future dealt in ... .” In short, the CFTC was granted jurisdiction over derivatives referencing virtually anything, except for categories that would be explicitly excluded, including currencies, government bonds and mortgages that were considered the domain of banks, and options on securities that were removed to the sole jurisdiction of the SEC.

As a result, during the 1980s there were two tiers of regulation governing derivatives. At the Federal level the CFTC Act made derivatives presumptively illegal, unless they were traded on an exchange, the intent was to deliver the underlying, or they were explicitly excluded from the CFTC’s jurisdiction. And at the state level derivatives contracts were void unless they either served to insure one party from an existing risk or the intent was to deliver the underlying.

At the same time, subsequent to the Savings and Loan crisis there were growing markets in new categories of derivatives, interest rates swaps which reference Treasuries and foreign exchange swaps. The 1974 Treasury Amendment’s exemption of commercial banking activities excluded some such derivatives from the CFTC’s jurisdiction. By 1985, however, products outside the exemption were being developed, and US investment banks were prominent dealers in this market alongside three major commercial banks. These dealers formed the International Swaps Dealers Association (“ISDA”) with the explicit goals of standardizing the unregulated contracts to facilitate trade and addressing accounting and regulatory issues. Effectively the ISDA was acting as a Self-Regulatory Organization (“SRO”) like the National Association of Securities Dealers, but without any supervising regulator. The market grew rapidly and increased tenfold from 1986 to 1990. (Sissoko 2017).

In 1990 at the request of the ISDA the Bankruptcy Code was amended to exempt interest rate and currency swaps as well as “any other similar agreement” from provisions of the Code (Pub. L. No. 101-311). Observe that, whereas the original Bankruptcy Code exemptions had only been granted to the contractual rights created by the rules of the regulated Exchanges (and related SROs), in 1990 these exemptions were granted to unregulated financial contracts and to contractual rights founded in common law; in short, this new exemption was much broader than the 1982 exemption. Having opened this breach in the financial regulatory structure, industry lobbyists spent the next decade and half forcing the gap open as wide as possible.

A 1992 law granted the CFTC the power to exempt any contract from its oversight and by doing so to preempt the application to the exempt contract “of any State or local law that prohibits or regulates gaming or the operation of ‘bucket shops’” (Futures Trading Practices Act, Pub. L. No. 102-546). The

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14 Derivatives were covered by the term “contracts for future delivery,” but the law was careful to state that “The term ‘future delivery’ does not include any sale of any cash commodity for deferred shipment or delivery,” thus creating what was known as the “forward contract exclusion.” (as currently encoded, 7 U.S.C. 1(a)(27))

15 The bank contracts were exempted in the 1974 Treasury Amendment to the CEA and securities with the 1982 enactment of the Shad Johnson Accord (GAO 2000).

16 Because the era of federal common law had ended in 1938, the exchange trading exemption to state wagering laws was unsettled.
structure of this exemption power was not just unwise, but also set a dangerous precedent. In order for the CFTC to exempt a contract from its own oversight, it also had to exempt the contract from one aspect of the traditional State law regulating securities contracts. In short, instead of treating the law that had supported economic activity for more than a century as valuable infrastructure, the 1992 law treated it as disposable. As a result, even the subject experts who staffed the CFTC were not given the choice of exempting a contract from CFTC oversight while at the same time leaving in place traditional state-based restrictions on wagering-type contracts.

In 1993 the CFTC exempted interest rate and currency swaps as well as “any other similar agreement” with the qualifications that they could not be standardized, fungible contracts and that they not be traded through a multilateral execution facility (58 FR 5587 at 5589 (Jan. 22, 1993)). By 1998 the swaps market had evolved such that it was no longer evident that the contracts complied with the qualifications on the exemption, and scandals that had led to litigation indicated that unwitting participants had in some cases been defrauded. When the CFTC proposed to revisit the question of regulating of the swaps market, stating explicitly that any such regulation would only be prospective (63 FR 26, May 12, 1998), industry lobbyists has sufficient influence at the Federal Reserve and Treasury to successfully pressure Congress to enact a six-month moratorium on the CFTC release (Greenberger 2018: 21-23).

The final outcome of the full-bore industry response to the CFTC’s proposal to evaluate the need for regulation of swaps was the enactment of the Commodities Futures Modernization Act of 2000 (“CFMA”; Pub. L. No. 106-554), which excluded not just interest rate and currency swaps, but financial derivatives more generally from the Commodity Exchange Act – as long as they were traded by “eligible contract participants,” roughly speaking entities with more than $10 million in assets. By excluding these derivatives from the Act itself, they were not just removed from the jurisdiction of the CFTC, but also from the CEA’s anti-fraud and anti-manipulation provisions. Furthermore, when it came to the application of State law excluded contracts were treated like contracts that had been exempted as per the 1992 FTPA; in other words, the CFMA explicitly preempted any application of state gambling law to excluded contracts (Greenberger 2018: 27-28).17

Pause for a moment to consider the hubris embedded in the CFMA. At least the 1992 FTPA had left the discretion to the subject experts at the CFTC to determine whether or not to exempt contracts from both oversight and state law. In the CFMA Congress assumed that it had the ability to judge not just whether the excluded contracts should be subject to the CFTC’s oversight but also whether they should be exempt from the State law and common law that had served the economy well for more than a century. And this decision was taken without even commissioning a study of the reasoning behind the use of the traditional wagering law to restrain securities markets. (One is reminded of Chesterton’s fence: “If you don’t see the use of something. Go away and think. Then, when you can come back and tell me that you do see the use of it, I may allow you to destroy it.”)

Although the CFMA established over-the-counter derivatives as an entirely unregulated market and allowed to the ISDA to organize that market unsupervised and without the constraints on anti-competitive practices that had been adopted throughout the financial system in the 1930s, this was not, however, enough.

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17 In current law this exclusion is found in 7 USC s. 16(e)(2).
The margining system that had been developed to enable the earliest exchanges to enforce their contracts without relying on the legal system could be used to create leverage that was invisible to the Federal Reserve, which was still using frameworks appropriate to unsecured interbank lending, and had not yet mastered the implications of the growing use of margin by the biggest financial participants. With the Fed blind not just to the risks of the derivatives margining system but also to the extent of its growth, commercial and investment banks could take on an unregulated form of leverage.

It seems unlikely that many of the financial industry lobbyists saw the big picture of what they were doing when they lobbied for the 2005 bankruptcy act. Most likely they simply saw an opportunity to shift the rules in a way that would be profitable for them and went for it, without a thought for the broader economy at all.

The outcome was legal reform of the Bankruptcy Code as it affected financial institutions that was just as stunning in its implications as the CFMA had been with respect to derivatives regulation: In an early paper I dubbed this legislation “The No Derivative Left Behind Act of 2005” (Sissoko 2010). The goal of the reform was to make it possible for the broker-dealer banks to manage collateral, not contract by contract, but in a way that would make the collateral as mobile as possible. The banks wanted to be able to aggregate all the margin posted by a certain counterparty on all of its contracts and deal with it as a whole. Since the broker-dealers (but for the most part not their clients) could reuse – or rehypothecate – the margin that was posted to them, the ability to aggregate collateral positions would free up more collateral for the broker-dealers to reuse. Reusing margin is a way for a bank to leverage its balance sheet.

The ability to aggregate collateral positions was created by, first, granting exemption from the Bankruptcy Code to master agreements that were designed to bring a wide variety of different contracts under a single netting agreement, and, second, by revising the specific terms of the bankruptcy exemptions granted to the different types of contract so that they would be uniform – and thus amenable to aggregation. Unsurprisingly the way the various terms were made uniform was by taking the broadest grant of exemption from the Bankruptcy Code and applying it to the various contracts (Sissoko 2010).

For example, exemption from the Bankruptcy Code for options on securities had been limited as was noted above to contractual rights established by the rules of a securities exchange. This was expanded to include the terms that applied to swaps and thus to the more general contractual rights that exist under common law. This was a vast change in the applicability of the Bankruptcy Code exemptions.

Other revisions in the 2005 Act also broadened its reach: to allow for new products to be developed, each type of exempt contract was defined to include similar contracts. One practitioner’s comment on the new definition of a swap was: “Read literally this language cedes the content of the definition to the players in the market.” Kettering (2008: 1712). In addition, before the 2005 Act exempt repurchase agreements had been limited for the most part to those referencing Treasuries and Agencies. After the Act, repurchase agreements on securities and mortgages had been included in the definition of securities, and were therefore exempt.

Like the CFMA, the hubris implied by this law boggles the mind. The bankruptcy exemptions had been created to facilitate the operation of Exchanges because they could not rely on the courts to enforce their speculative contracts. The whole logic of this financial structure was turned on its head by applying
the exemptions to off-exchange contracts, that had already been exempted from the state and common law governing speculative contracts. Not only this, but this brand-new, ill-considered financial structure was not applied to some very narrow set of contracts, but it was applied to a vast range of contracts and was designed to make it easy for the interested parties who had lobbied for the law to expand the range of contracts at will.

Just three years after the law was passed, the implications of establishing a vast unregulated financial market with extraordinary privileges under the Bankruptcy Code were realized. The repurchase agreement market which was a core part of the margining system for this unregulated market experienced a massive run and came close to bringing down the financial system entirely. The margining system was saved only by the Federal Reserve’s unprecedented measures.

With the Dodd-Frank Act supervision has been extended over these instruments, and many have been forced to trade on exchanges. The basic incoherence of this new financial structure remains, however. Off-exchange contracts are still exempt from provisions of the Bankruptcy Code and from state wagering laws. The central banks are struggling to develop a theoretic framework that can allow them to manage the new system of margin-based interbank lending successfully. It remains to be seen if the growth rates achieved under the old system can be attained under the new one.

**Mortgage lending and investment banking: 1930s reform and the post-war years**

1930s banking reform was predicated on the assumption that because commercial banks issue monetary liabilities, it is essential to control the flow of credit – financed by the expansion of the money supply – from banks. In the absence of such control the economy is prone to destabilizing asset price bubbles, because in Anglo-American financial systems there are robust capital markets, and feedback loops can develop between the expansion of the money supply by the banking system and securities prices or real property prices. Given the demonstrated inability in the 1930s of the recently-created Federal Reserve to impose such control through regulation, Congress took a statutory approach and created a compartmentalized financial system. Legislative history makes it clear that preventing the instability associated with asset price bubbles was a motivating force behind the legislation (Senate Report 1933; Sissoko 2018).

Thus, in the financial reform of the 1930s investment banking was separated from commercial banking and the existing distinction between mortgage lending institutions and commercial banks was preserved. This compartmentalized structure lasted for less than 40 years, as the inflation of the 1970s led to innovations and policy decisions that created deep fissures in the structure of the segmented system. By the 1980s reform was necessary. Both the policy decisions of the 1970s and the reforms of the 1980s were based on a completely different model of the financial system than that on which the 1930s structure had been built.

The discussion of this history will be separated into two parts: (i) the financial reform of the 1930s and the evolution of the segmented financial system through the 1960s, and (ii) the dissolution of that system. This blogpost addresses the early history.

**Mortgage lending in the 1920s**
In the years preceding the Depression mortgage lending was provided by a wide range of institutions including savings and loan associations, savings banks, mortgage companies,\textsuperscript{18} commercial banks and insurance companies. Only the savings and loan associations offered longer-term amortizing loans of up to 12 years. More typical loans were for five years or less and required only interest payments until maturity when a balloon payment of the whole principal was due.\textsuperscript{19}

This market structure reflected basic principles of asset-liability matching as they were applied to financial institutions at the time. In order to limit the likelihood of a liquidity crisis, commercial bank loans that were funded by demand deposits were generally short-term and/or callable. Longer term loans, such as mortgages, were funded by savings deposits which often required that notice be given before withdrawal. Thus, commercial banks were actively engaged in mortgage lending, but only with a small portion of their funding, since most of their funding was demand deposits. Even so, commercial banks were prohibited by statute from lending on mortgages of more than 5 years (\textit{Eccles 1937}: 164). Thus, it was the savings banks and savings and loan associations that put most of their funds into mortgage lending.

The term savings and loan association reflects the concept underlying this cooperative means of mortgage finance. A member in the association was expected to keep his or her savings with it, earning a good rate of return, and in exchange the member was eligible for a loan. Thus, these cooperatives did not intermediate between a group that saved money and a distinct group that borrowed money. Instead, these mutual associations were created because those who were saving money would also need to borrow money to purchase property. Members had an interest in establishing a savings account in order to meet the eligibility requirements of the savings and loan association for a loan, and would often continue placing their savings with the association even after they had paid their loan since a competitive rate of interest was earned while at the same time they were supporting other members of the community.

The 12-year amortized loan\textsuperscript{20} was the means by which the savings and loans made it possible for the middle class to afford a home, while at the same time managing the risks of funding these purchases with savings accounts (\textit{Weiss 1989}: 109). A $5000 home loan at 6% per annum amortized over 12 years results in a monthly payment just under $50 or about the weekly wage of a skilled urban worker. (At 9% interest the payment would be $57 per month.) At the same time even in the first year of a 12 year loan 6% of the principal is repaid, and on average across an evenly spaced portfolio of loans over 8% of principal is paid every year. In short, this was the type of loan that was both a little hard for a savings bank to manage and little bit of a stretch for a lower-middle class consumer at the time. By contrast, 30 year fixed rate loans strongly favor the consumer, and are very difficult for a depository institution to

\textsuperscript{18} Mortgage companies were intermediaries that sold whole loans or covered bonds – that is, bonds guaranteed by the mortgage company – to investors including commercial banks and pension funds.


\textsuperscript{20} I am simplifying here by describing the situation with respect to the maximum term of a savings and loan mortgage of the 1920s.
manage: A $5000 home loan at 6% amortized over 30 years results in a monthly payment of $30, just over 1% of principal is repaid in the first year and on average these loans repay 3% of principal every year.

In short, the reason that 30 year mortgages were not offered in the years preceding the Depression is because the savings banks funding mortgages could not possibly hope to manage the risks of lending over that time horizon. With 12 year loans 58% of their funds were committed for more than 5 years. With a portfolio of 30 year loans 83% of their funds would be committed for more than 5 years. Given that their liabilities were all short-term and a lot can change over the course of just 5 years, the 12 year amortized mortgage was considered to be the limit of risk that it was appropriate for a savings institution to take – for good reason.

On the other hand, this loan structure – and particularly the fact that many mortgages were insurance company, commercial bank, or personal loans that were only for about 5 years and were not amortizing – meant that a severe recession could cause defaults, foreclosures and declining housing prices. As a result, real estate crises in which many lenders failed were regular events: the late 1890s and mid-1920s are examples. Thus, the housing troubles of the 1930s differed mostly in terms of their severity and the nationwide reach of the crisis. During the Depression housing became a national problem, and it was addressed at the Federal level. Indeed, alongside employment and social security, preserving homes was one of the three goals President Roosevelt announced in his 1935 State of the Union speech.

**Mortgage lending: the reforms of the 1930s and their consequences**

The Federal Home Loan Bank System was established in 1932 under President Hoover (Pub. L. 72-304). It was modelled on the Federal Reserve System with 12 regional banks and a governing board, the Federal Home Loan Bank Board, in Washington, D.C. It was designed as a mutual association of savings institutions (also known as thrifts), all of which jointly guarantee Federal Home Loan Bank debt issues. These debt issues are used to fund purchases of mortgages originated by member institutions. Thus, the system was designed to serve as a source of liquidity for thrifts, which in 1932 financed over 46% of all residential mortgages.21

Unfortunately, the Federal Home Loan Bank Act was a matter of too little, too late and did little to mitigate the housing crisis. Furthermore, like banks, many thrifts failed in 1932 and 1933. Unlike banks, thrifts were not covered by FDIC insurance when it was created in the Glass-Steagall Act of 1933, and as a result over the course of subsequent months savings migrated from thrifts to banks. By 1934 the thrifts’ share in the mortgage market had dropped to 37% (Lea 1996), a dramatic 20% decline over the course of two years.

In 1934 the National Housing Act (Pub. L. 73-479) was designed to stimulate the building trades and promote employment in them by creating both the Federal Savings and Loan Insurance Corporation (FSLIC) to support the thrifts, and the Federal Housing Administration (FHA) to support other mortgage

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21 Note that another similar predecessor of the FHLB system was the Federal Farm Loan Act of 1916 (Pub. L. 64-158) which established 12 Federal Land Banks which were mutual associations owned by national farm loan associations and supervised by the Federal Farm Loan Board, and was designed to provide fairly priced credit to farmers. It was restructured in 1933 under the Farm Credit Administration which also refinanced mortgages for farmers. The Farm Credit System still operates today. See [Quinn 2016](#).
lenders (Cong. Rec. 1934: 11189). The FSLIC was designed to stabilize the thrift institutions, just as the creation of the FDIC had stabilized the banking system a year earlier. The thrifts’ share of the mortgage market would slowly recover reaching 40% in 1952 and would peak at about 55% in the mid-1960s (PC on Housing, 1982; Lea 1996).

The FHA facilitated non-thrift mortgage lending by creating a consumer-friendly long-term amortized mortgage product that commercial banks and insurance companies could invest in. The FHA addressed the fact that these mortgages were not viewed as appropriate investments for banks and insurance companies by providing government insurance to long-term fixed-rate amortizing mortgages that met specified underwriting criteria. The insurance premium of one-half a percent on the principal value of the loan was paid by the borrower on top of an interest rate with a statutory maximum of 6%. At the same time the new law permitted national banks to hold FHA-insured loans despite the general statutory prohibition on loans in excess of 5 years or in excess of 50% of the property value. (State legislatures promptly passed similar enabling legislation for state-chartered banks, Eccles 1937.) Thus, the FHA program served the needs of insurance companies and commercial banks, and their share of mortgages outstanding grew from 10% each in 1932 to about 20% each in 1952 (Lea 1996).

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22 The crisis was also addressed in 1933 by two additional programs, the Home Owners Loan Corporation and the Reconstruction Finance Corporation, which purchased respectively defaulted mortgages and the stock of bankrupt banks and thrifts. Because these programs did not continue, they are not relevant to our discussion. Note also that the federal charter for savings and loans was created by the 1933 Home Owners Loan Act.

23 This statutory maximum stayed in place until 1968 (Pub. L. 90-301).
By slowly increasing the participation of commercial banks and insurance companies in the mortgage market and by promoting consumer-friendly mortgages, the FHA almost certainly played a positive role in the recovery from the Depression and from World War II. This, however, came at a cost as the FHA played a dramatic role in shaping not just the structure of US mortgage markets, but also patterns of housing construction and of home-ownership in the US with vast and long-lasting unintended consequences.

America’s urban fabric places great emphasis on suburban living and on cars as means of transportation. Troubled inner-cities surrounded by well-to-do suburbs did not develop by accident, but in no small part because the FHA in its effort to promote the construction industry favored large, new buildings over the existing housing stock and more modest sized homes. Urban construction frequently did not qualify for insurance. The very structure of the typical American subdivision is a product of FHA handbooks, including the preference for strip malls over ubiquitous corner shops (Hanchett 2000; Zuegel 2018). 24

The FHA also played a huge role in institutionalizing redlining – or racially discriminatory practices – throughout the country and demanded racial and class-based segregation of subdivisions (Hanchett 2000; Brooks & Rose, 2013). And one should remember as one discusses the extraordinary advantages

24 As the spouse of an architect, let me add that the real estate industry’s focus on square footage over quality living spaces has meant that the whole housing stock is of remarkably low quality in terms of the use of space and quality of life. Visitors from Europe sometimes remark on this. The FHA favored the “efficiency” of large operations over small craft builders (Hanchett 2000).
of federal support for housing finance that the groups that were deliberately excluded from these advantages are much less wealthy today than they would have been if the same advantages had been extended fairly to all citizens (Baradaran 2017).

But our focus here is on how the FHA transformed mortgage markets. The FHA played a huge role both in the standardization of mortgages and in the reduction of the costs paid by the homeowner: the 30-year fixed rate mortgage with a maximum 90% loan to value became the norm, as did relatively low interest rates. Prior to the FHA the typical first mortgage was for up to 60% of the home’s value at a rate between 6 and 10% (depending on location) and most borrowers also carried additional mortgages at higher rates (Eccles 1937; FHLB Review 1934: 18). Although the thrifts did much less FHA insured lending, they too extended the terms of their loans and increased the amount they were willing to lend against the value of the home.

The National Housing Act (specifically Title III of the Act) had envisioned that liquidity would be provided to the non-thrift mortgage market through the creation of federally chartered, but privately owned, national mortgage associations that would stand ready to buy FHA insured loans. In fact, not one such association was formed – possibly because the thrifts had successfully lobbied against giving the national mortgage association’s debt the same tax exemption as the Federal Home Loan Banks’ debt (Cong. Rec. 1934: 11181, 11208, 12566). To address this situation in 1938 the government-owned Federal National Mortgage Association (Fannie Mae) was created. In 1948 (Pub. L. 80-864) Fannie Mae was made a federally chartered institution and authorized to purchase in addition to FHA loans the Veteran Administration-insured loans that had been created by the post-War GI Bill (Pub. L. 78-346).

As the economy recovered and Fannie Mae’s role in the mortgage market increased, concerns were raised over an excessive government role in the mortgage market. Transition to private ownership on the model of the Federal Home Loan Banks – that is lenders who sold loans to Fannie Mae had to also hold Fannie Mae stock – was initiated in 1954 (Pub. L. 83-560). In 1964 Fannie Mae was authorized to bundle FHA and VA mortgages together and to sell interests in the bundles. That is, Fannie Mae was authorized to securitize FHA and VA mortgages. At the same time national banks, thrifts, and FHLBs were authorized to invest in these securitizations (Pub. L. 88-560). In 1968, however, Fannie Mae was separated into two entities (Pub. L. 90-448): Ginnie Mae (the Government National Mortgage Association) remained a government-owned entity that packaged together FHA and VA loans and sold the securitizations to private investors; Fannie Mae was transformed into a government-sponsored private corporation that was required to allocate a reasonable portion of its business to mortgages on low- and moderate-income housing and was authorized to securitize mortgages, subject to government supervision.25

Observe that, because the thrifts had never relied heavily on Fannie Mae’s facilities, it was a commercial bank and insurance company-owned entity. The thrift industry immediately recognized that if Fannie Mae was authorized to securitize privately-originated mortgages, this could leave the thrifts at a disadvantage, so they lobbied for a similar facility.26 Thus, in 1970 the Federal Home Loan Mortgage

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25 Note that in 1959 Fannie Mae’s statutorily permitted investments had been expanded to include “obligations which were lawful investments for fiduciary, trust, or public funds” (Milgrom 1993: 83).
26 William Osborn of the National League of Insured Savings Associations testimony March 5, 1970 to the Senate Subcommittee on Housing and Urban Affairs of the Committee on Banking and Currency, Hearing on Secondary Mortgage Market and Mortgage Credit p. 284 (“The National League has no objection to the establishment of a
Corporation (Freddie Mac) was created, as an entity owned by the FHL banks and run by the FHLB Board with authority to purchase conventional mortgages (with a limit on the amount and on the loan-to-value of each loan) and securitize them (Pub. L. 91-351). This same law explicitly authorized Fannie Mae to purchase conventional mortgages on the same terms. This had the effect of establishing both a statutory standard targeting low- and moderate-income housing and a statutory prudential limit on the riskiness of the mortgages.

Let's pause for a moment and consider the structure of US mortgage markets in the post-War years. It was divided into two segments: the non-thrift financial institutions supported by Fannie Mae and the thrifts supported by the FHLB system, FSLIC deposit insurance, and later Freddie Mac. Up to 1968, the non-thrift financial institutions mostly originated FHA and VA insured loans that could be sold to Fannie Mae, and conventional loans (that is, those that were not government insured) were mostly originated by the thrifts. This structure had worked for most of the 1950s and 1960s, because the growth of lending by the thrifts had met the needs of the public and made government-insured loans a decreasing percentage of the mortgage market.

The problematic nature of private institutions funding 30 year loans with short-term deposits was in evidence by 1965 when the Federal Funds rate rose over 4%. Competition between thrifts led them to increase their savings account rates, which raised safety and soundness concerns at the Federal Home Loan Bank Board (Hester 1969). In 1966 Regulation Q, which had long governed the maximum interest rate paid on commercial bank savings deposits, was extended to the savings accounts held at thrifts and authority was given to the FHLB Board to set the maximum rate. The long-term effect of Regulation Q was, however, that as interest rates rose, the thrifts had fewer deposits with which to finance their activities, and through the early 1970s the diminished lending capacity of the Savings and Loans was a growing problem for the mortgage market.

**Investment banking: the reforms of the 1930s**

As was noted above, 1930s financial sector regulation was constructed on the premise that commercial banks are special because their primary liabilities and thus their primary sources of funding circulate as money. Commercial banks, like the savings and loan associations, had developed because the same businessmen who often had positive cashflow – and thus money to put in the bank – also were very aware that sometimes they had negative cashflow and that short-term loans could be very valuable under these circumstances. These businessmen kept their money with their local bank, not because the were “savers,” but because by doing so they could also rely on the bank to advance them money when they needed a short-term loan. The commercial bank was thus a coordination device that converted the local money supply into a source of short-term funding for local businesses. That a bank-based money supply expands the working capital available to the business community was a fundamental precept of monetary theory at the time.27

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27 For example Wicksell (1898: 135) wrote: “But money, which is the one thing for which there is really a demand for lending purposes, is elastic in amount. Its quantity can to some extent be accommodated—and in a completely developed credit system the accommodation is complete—to any position that the demand may assume.” See also Willis, American Banking 3-4 (1916); Dunbar 1909 13-14, 18.
In short, in the 1930s money was understood to be a network phenomenon that – to a limited extent – the banks could expand at will without affecting prices. Of course, if the money supply expanded beyond a certain threshold, it could cause either localized inflation, for example when a particular type of long-term asset was being financed by the issue of bank money, or general inflation when an excessive monetary expansion was not so targeted. In short, in the 1930s monetary expansion was understood to be the cheapest way to fund productive activity both for the banks and for the economy as a whole as long as the coordination problem of not issuing too much money and thereby setting off inflation and instability could be addressed (Schumpeter 1939). For 1930s regulators the challenge of financial regulation was to harness the extraordinary power of monetary finance and at the same time control it.

The 1929 stock market crash had been fed by commercial banks offering accounts that invested in stock market margin loans paying as much as 10% per annum – for an overnight, overcollateralized loan – despite the jawboning of the Federal Reserve and influential Congressmen (Senate 1933). In short, the stock market crash had made it clear that the Federal Reserve did not have adequate control over the commercial banking system and the use of funds created by expansion of the money supply (Sissoko 2018). 1930s policymakers decided to turn the monetary system into one that was susceptible of control.

Because of the ease with which the commercial banks can expand the money supply and because of the tendency for bank finance of long-term assets to result in asset price bubbles as had occurred in 1929, the most important aspect of this control was the structural separation of the commercial banks from the investment banks. The Senate Report on the Glass Steagall Act clearly identifies the asset price bubble in the stock market as a consequence of a feedback mechanism generated by bank finance of margin loans (Senate 1933; Sissoko 2018. See also Adrian & Shin 2010). Thus, when the Senate Report summarizes the ills that the Glass-Steagall is designed to address, the first point is “bank loans and their uses” and the Report goes into some detail into how the legislation is designed to control and restrain the use of bank loans. In short, the legislative history is crystal clear: the Glass Steagall Act was passed for the purpose of controlling the flow of bank money. (Note that real estate finance was already for the most part a structurally separate activity and thus was not directly addressed in the bills reforming the commercial banking system.)

While it is generally understood that the Glass Steagall Act separated commercial banks from investment banks (or broker-dealers), the full impact of the Act on the banking system is underestimated. The Glass Steagall Act was designed to protect deposit-taking institutions by (i) preventing them not just from acting as broker-dealers, but also from intermediating security-backed loans to broker-dealers; (ii) empowering the Federal Reserve (a) to regulate the quantity of security-backed loans held by banks as well as interest rates paid by them on deposits, and (b) to replace bank officers and directors who fail to comply with banking laws or to respond to safety and soundness warnings; (iii) prohibiting a bank from lending to its own executive officers, and limiting loans to affiliates and investments in bank premises; (iv) setting capital requirements for all Federal Reserve member banks; (v) creating the FDIC to provide federal deposit insurance to commercial banks; and finally (vi) prohibiting broker-dealers from receiving deposits and requiring state or federal examination and supervision over any deposit-taking institution. For national banks the Act also imposed limits on the interest rate that could be charged on loans; as the limit was the higher of the state usury limit or
1% over the 90-day commercial bill rate, presumably the goal was to limit the risk involved in any national bank loan.

In short, the Senate’s concern with the use of bank loans and their destabilizing flow into securities markets was addressed from every angle. Federal Reserve member banks were forced to spin off any affiliates whose principal activity was broker-dealing (“the issue, underwriting, or distribution of securities”). And broker-dealers were prohibited from taking deposits. And member banks were prohibited from having an officer or director who was also an officer, director, or manager of a broker-dealer. And directors, officers, and employees of any bank organized or operating under the laws of the US were prohibited from being at the same time the director, officer, or employee of a business that makes loans secured by the collateral of stocks or bonds. And every deposit-taking institution was required to be subject to either state or federal examination and regulation. And Federal Reserve member banks were prohibited from intermediating non-bank loans to the broker-dealers if they are backed by securities. And the Federal Reserve was required to set limits on direct bank lending to broker-dealers that is secured by stock or bond collateral.

As a result of this structure the flow of funds from banks that had access to the Federal Reserve discount window into securities-based lending was strictly regulated by the Federal Reserve, and this was an essential part of the structure designed in the 1930s to stabilize the financial system. While federal deposit insurance, statutory capital requirements, constraints on self-dealing, and the additional authority over banks granted to the Federal Reserve surely also played a role in the decades of financial stability, it is a mistake to forget that the first goal of the Act was the firewall it constructed between deposit-taking institutions and securities markets.

Overall, the goal of the segmented structure created by the Glass-Steagall Act was to support a liberal flow of bank money – which monetary theory at the time viewed as playing a crucial supporting role in the circular movement of economic activity – while preventing that liberal flow of money from playing a significant role in the finance of capital market assets or real estate. This structure remained intact through the 1960s, until the inflation of the 1970s coincided with a shift in monetary theory that no longer viewed the flow of commercial bank money as both essential and in need of control. Thus, the 1970s were years of dramatic financial innovation that set the financial system on a very different path from that laid out in the 1930s. The history of this evolution is the topic of the next post.
Mortgage lending and investment banking: The evolution of bank balance sheets

Over the last quarter of the 20th century mortgages grew to make up the principal asset in commercial bank portfolios and concomitantly housing now plays an increasingly important role in the economic cycle (Jorda Schularick & Taylor 2014). The shift in commercial bank balance sheets is depicted in Charts 1, 2, 3, and 4 all of which are drawn from the historical data available on the FDIC’s website: https://banks.data.fdic.gov/explore/historical. The vertical lines on the charts divide them into three eras: the war and post-war era up until 1965, the era of inflation from 1965 to 1981, the era of regulatory reform from 1981 to 2008, and the post-crisis era.

Chart 1 provides context, giving an overview of how the asset side of the commercial banks’ balance sheet has evolved over time. During World War II Treasuries (held as investment securities) and cash accounted for more than 80% of bank balance sheets. This declined fairly steadily, so that in 2007 cash and investment securities (which now were dominated by Agency obligations) fell below 20% of assets. This decline was mostly accounted for by an increase in bank lending.

Chart 1: US Commercial Bank Assets

Chart 2 shows that the dramatic increase in commercial bank lending after World War II only represented an increasing flow of bank funding into business activity up until the early 80s (with a
decline after the oil price shock of the mid-1970s). (Note that “C&I loans” is short for “commercial and industrial loans.”) From the early 1980s on, commercial bank business lending is mostly on the decline as a percentage of activity, and instead real estate loans begin to dominate commercial bank balance sheets. Furthermore, because most of the Agency securities in which commercial banks invest are also mortgage-backed, by 2004 an unprecedented 40% of commercial banks balance sheets are supporting real estate and that fraction has barely declined up to the present.

Chart 2: Select US Commercial Bank Holdings as a percent of assets

Chart 3 focuses on commercial bank loan portfolios and shows how the fractions of the commercial bank loan portfolio that went to businesses, to real estate and to individuals were remarkably stable up through the early 1980s except for a deviation presumably caused by the oil price shock of 1973. It also shows that during the era of regulatory reform business lending dropped from 40% of bank loans in the post-War era to 20% of bank loans today. At the same time real estate lending rose from 25% of bank lending to almost 60%. We also see that residential real estate lending makes up about 60% of commercial bank real estate lending, and except for a few years in the late 1980s has consistently comprised more than half of commercial bank real estate lending.

Chart 3: Select US Commercial Bank loans as a percent of total loans
In short, the data makes us ask: What happened to commercial banks during the era of regulatory reform? Furthermore, the pattern of the data in Chart 3 indicates that residential mortgage policy might have something to do with it.

1930s monetary theory held that the use of demand deposits to finance long-term assets like real estate would foster asset price bubbles in the long-term assets thus financed due to the feedback loop between bank expansion of demand deposits, loans, and asset prices. As a result, in the 1930s commercial bank real estate loans were funded by savings and time deposits and accounted for only a fraction of them, typically about 40%. And savings deposits made up only a fraction of the deposit base compared to demand deposits. Thus, it is worth looking at what has happened to commercial bank liabilities, too.

Chart 4 shows that commercial bank liabilities were composed mostly of demand deposits in the immediate post-war period, but their share declined steadily from about 1955 to 2008. Unsurprisingly the most dramatic decline took place during the inflationary era when most depositors were looking for a way to avoid holding a non-interest bearing asset. Savings and time deposits make up by far the majority of bank liabilities today. Even so, the growth in real estate loans up until the 2007 crisis was much faster. As a result, the ratio of real estate loans to savings plus time deposits grew steadily from 1983 to 2007 (see Chart 5). Another point to take into consideration is that savings deposits are much easier to use for transactions today than they were 70 years ago, as there are now a variety of means by which savings are transferred automatically in order to cover checks.
Chart 4: US Commercial Bank Liabilities

Chart 5: US commercial banks real estate as a fraction of savings + time deposits
Since real estate loans appear to have played a very important role in regulatory reform’s transformation of commercial banking, it’s worth taking a look at what was going on with the institutions that were set up in the 1930s to fund real estate loans, the thrifts. The FDIC has data on the thrifts under the title “Savings Institutions” dating from 1984.

Keep in mind, however, that these balance sheet data mask the fact that the thrift industry stopped growing at the end of the 1980s. Thus, even though thrifts accounted for approximately one-third of depository institution assets from the post-war period through 1988, today they account for only about 5% of depository institution assets. In short, what is going on in the diagrams below matters less and less over time to the economy as a whole.

Charts 6 and 7 demonstrate that for thrifts the era regulatory reform did not affect their activities. They would continue to specialize heavily in real estate loans right up until the 2008 crisis. And only in recent years have the thrifts begun to diversify their activities to a significant degree. Chart 8 presents thrift liabilities and demonstrates that aside from an increase in FHLB loans and in brokered deposits in the years preceding the recent crisis, the liability side of thrift balance sheets didn’t change much either.

Chart 6: Savings institutions holdings as a percent of assets
Chart 7: Select saving institution loans as a percent of total loans
Chart 8: Savings institution liabilities
To make very clear how the financial system as a whole evolved over the era of regulatory reform it is useful to combine the balance sheets of the commercial banks and the thrifts. (Together they cover close to 95% of depository assets. Credit Unions are omitted because I do not have that data.) Chart 9 presents holdings of loans and securities as a percent of assets. We see that changes in the aggregate balance sheet from 1984 to 2007 are in general not large with a few exceptions: the percent of combined commercial bank and thrift balance sheet devoted to business lending declined by 31%, while real estate loans increased by 21% and agencies increased by 48%.

On the other hand, Chart 10 presents the same data as Chart 9 with two differences: Both real estate loans and agencies on commercial bank balance sheets are separated from those on savings institution balance sheets. Chart 10 shows the primary transition that took place amongst depository institutions during the era of regulatory reform. Commercial banks started funding the mortgages that the shrinking thrift industry was no longer financing.

Chart 9: Select holdings as percent assets for commercial banks and thrifts combined
Chart 10: Select holdings as percent assets for commercial banks and thrifts combined with separate detail for real estate loans and agencies
So what conclusion should we draw from these charts? The era of regulatory reform was one in which commercial banks grew to look more and more like the thrifts on both the deposit and liability sides of the balance sheet. As a result, the effect of the regulatory response to the instability of the thrift institutions in the 1970s and 1980s was to reform the banking system so that it would be more like the unstable institutions. One result of this reform was that when the 2007-09 crisis blew up the U.S. banking system was structurally unsound and had to be saved by a simply grotesque bailout of the commercial banks.

Arguably another result, as I will argue in an upcoming post, was that the new structure of the banking system fostered the growth of a housing price bubble. That post will also attempt to fathom why this rather obviously destabilizing reform of the banking system took place. Before doing so, however, in my next post I discuss the character of 30 year fixed rate mortgages and the challenges of financing them.

**Mortgage lending and investment banking: An aside on the financial economics of 30 year mortgages**

Consider the practical questions of how the risks of financing 30 year fixed rate mortgages can be managed. There are two principal sources of risk: credit risk and interest rate risk; and two possible sources of funding: savings deposits, and capital markets financing.

Credit risk is the risk that borrowers fail to make their payments. Even the best managed portfolio will have some regular level of default as borrowers are affected by illness and idiosyncratic hazards. Loan
Origination practices play a crucial role in credit risk, because if the borrowers are not carefully vetted, their likelihood of default will be higher. In addition, because of the regularity of economic cycles and the resulting fluctuations in employment, credit risk also has both a strong cyclical factor and includes the risk of extreme recessions/depressions. Finally, credit risk is also significantly affected by the loan products being offered: loan products that attract a more risky type of borrower can have dramatic effects on credit risk.

Interest rate risk exists because the funding of mortgage lending is typically shorter term than the mortgage loans themselves. That is, interest rate risk exists because of maturity mismatch between assets and liabilities. At any given moment in time the interest rate being paid on a 30 year fixed rate loan is greater than the interest rate being paid on savings accounts or on the capital market instruments used for funding. Interest rate risk exists because the interest rate on the 30 year fixed rate loan stays fixed for 30 years, whereas the interest rates paid on savings accounts and the instruments used for funding are shifting over time. If the revenue being paid into the bank or funding vehicle from the portfolio of 30 year loans falls below the interest rate expense the bank or funding vehicle must pay to fund that portfolio, then losses will force the bank or funding vehicle into bankruptcy. In short, interest rate risk is the risk that the mortgage lender ends up in a nonviable situation where the lender can no longer afford to pay the interest rate necessary to continue to fund the mortgage portfolio. As a result, when maturity mismatch increases, so does interest rate risk: a portfolio of 12 year loans is safer than a portfolio of 30 year loans with the same funding.

It is important to understand that the greater the maturity mismatch between assets and liabilities, the harder it is to manage not only interest rate risk, but also credit risk. Over a 30 year period the likelihood that an extreme, unexpected recession will occur is much higher than over a 12 year period, and the very slow rate of repayment of 30 year loans means that repositioning the portfolio is much more difficult than it is for 12 year loans. In short, short term financing of a 5 year loan portfolio is easier to manage than short term financing of a 12 year loan portfolio, which in turn is easier to manage than short term financing of a 30 year loan portfolio. This fact explains the structure of mortgage lending prior to the Depression, where the safety of commercial banks was considered a paramount goal, and savings and loan associations were less regulated, but attentive to the risks of mortgage lending.

Once one understands the risks of 30 year fixed rate mortgages, the question becomes how it is possible for the private sector to finance them. Let’s go over the options.

First, consider the case of the very short term funding provided by savings and commercial banks. One solution is for the banks to only lend a fraction of their balance sheets to mortgages, say 10 or 20 percent. In this situation, the banking system as a whole can almost certainly manage its way around the risks. On the other hand, there will be very little availability of these mortgages compared to what we are accustomed to today. In order to reduce demand to this level, one would have to assume that 30 year fixed rate mortgages are actually very expensive – at which point other mortgage options are likely to become popular. Arguably this was more or less the situation before the 1930s: there was a purely

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28 Because the norm with 30 year fixed rate mortgages is to permit payoff without a prepayment penalty, when 30 year interest rates fall, the interest rate being earned on the portfolio tends to fall quickly as borrowers choose to refinance their loans. There is no counterbalancing effect when 30 year interest rates rise. This makes the interest rate risk problem even more severe, and is known as prepayment risk.
private bank-funded solution to the mortgage problem, but mortgages were much less favorable to
consumers than the 30 year fixed rate mortgage to which we are all accustomed.

So what are the alternatives for savings and commercial banks to fund 30 year fixed rate mortgages at
low rates and with general availability. Without some form of government support, there is little reason
to believe that it is possible for the private sector to manage the risks of this extreme maturity mismatch
when mortgages account for a significant fraction of bank balance sheets. To address credit risk, there
needs to be a government backstop for the lenders in the event of a severe recession. In the 1930s
when the 30 year mortgage was first introduced, Federal Housing Administration insurance was created
to provide this backstop. In 2009-2011 there was a “backdoor bailout” by a vast broadening of Federal
Housing Administration insurance and a program of Federal Reserve-financed refinancing of
mortgages. Interest rate risk can be addressed by either financial repression that stymies the market
forces raising short term interest rates and forces consumers to incur negative real returns on their
savings and thus to bear the costs of funding mortgages, or a government backstop that supports the
bank mortgage lenders through the period where they are upsidedown on their net interest rate
revenue.

Elements of a policy of financial repression were attempted in the 1960s and 1970s, but there was no
genuine commitment to stymying market forces (as there was in Nazi Germany, the classic case of
financial repression) and as a result by the early 1980s the realization of interest rate risk had left vast
swathes of the savings and loan industry bankrupt. Famously, the government instead of providing the
necessary backstop promptly attempted through deregulation to allow the bankrupt savings and loans
to earn their way to solvency – and succeeded only in making the problem worse. By the time the
savings and loan industry was finally bailed out by the government in 1989, the cost of the bailout had
increased dramatically.

An alternate solution to private sector funding of 30 year mortgages is to finance them using capital
market instruments. In particular if funding is both longer-term than the mortgage portfolio and callable
(that is, the borrower can choose to pay it before maturity), then interest rate risk cannot drive the
funding vehicle into bankruptcy. The reason long-term funding must be callable in order to address
interest rate risk is that the typical 30 year mortgage permits prepayment and is therefore refinanced
when interest rates decline. In order for maturity matching to work, the funding instrument must also
be pre-payable. Even if interest rate risk is addressed by maturity matching, credit risk remains and can
cause the funding vehicle to go bankrupt, putting losses to the capital markets investors. Thus, because
the 30 year lending horizon is inherently risky and because the embedded call option also has a price,
capital markets investors are likely to demand relatively high rates for this product, which will in turn
mean that for the vehicle to be financially viable 30 year mortgages will have to have relatively high

29 Note that in the 1930s the focus of concern was credit risk, not interest rate risk, because the gold standard had
precluded interest rate risk for the preceding generation or two and the immediate problem was deflation and low
interest rates.
30 Owners of shares in Fannie Mae and Freddie Mac make the case that one should add the conversion and use of
the GSEs as instrumentalities of the government to this list (Howard 2014: 250-53;
http://www.housingwire.com/articles/print/29008-paying-fannie-and-freddie-investors-was-never-part-of-the-
plan).
31 The permissive attitude to the growth of Eurodollar accounts and money market mutual funds precluded a
successful policy of financial repression.
rates. Certainly, in an environment where government subsidization of 30 year mortgages is the norm and is expected, it will be impossible for a purely private funding vehicle that eschews maturity mismatch to compete. (While this type of funding did exist for a short time in the US in the early ‘00s, the market for private label mortgage backed securities (PLMBS) collapsed entirely and had to be bailed out alongside the banks that participated in it. It is no longer a meaningful player in the US mortgage market.)

A standard mechanism for reducing the cost of funding on capital markets is to have a capitalized corporation provide a guarantee to the debt security instead of having it issued by a bankruptcy-remote funding vehicle. A corporate guarantee on the debt ensures that the shareholders of the corporation will bear any losses before the investors do. Under these circumstances the mortgage backed security will bear an interest rate comparable to that of the debt issues of the corporate guarantor. This is a standard means of funding mortgages and is comparable to the system of “covered bond” finance in Europe.

Whether an entirely private corporation will be willing to take on the risks of providing such a guarantee to a securitization of 30 year fixed rate mortgages is I believe unknown. (If you know of an example, please let me know.) The PLMBS that were issued in the US in the early naughties did not have such a guarantee. By contrast, government guarantee of the securitization of 30 year fixed rate mortgages is definitely a viable model, as illustrated by Ginnie Mae, which still issues MBS today.

There is another hybrid model of capital market funding of 30 year mortgages: that of Fannie Mae and Freddie Mac, which were private, but “government-sponsored” corporations (“GSEs”) from 1970 to 2008. These GSEs provided a corporate guarantee of all of their securitizations which put their shareholders at risk, and their longevity is indicative of the fact this model is at least potentially viable. Even though the GSEs had shareholder funds at risk, they were highly regulated and received government support of their debt in the form, for example, of legal preferences for GSE debt over general corporate debt as an asset that may be held by banks and the Federal Reserve (and other regulated entities). Timothy Howard makes the case in *The Mortgage Wars* for the success of this model.

Under the GSE structure, government support allows the corporations to raise both short and long-term funds cheaply, regulatory requirements set the level of capitalization and monitors that the vehicle is meeting goals for the provision of low-cost mortgage finance, and the private capital at risk creates incentives for careful management of interest rate and credit risk. The corporate guarantee is the key element that makes the GSE structure work: it is in the interests of GSE to carefully supervise the quality of the mortgages it securitizes; in economics jargon incentives are aligned. Thus, the GSEs set the mortgage standards in the US mortgage market for decades – the word “subprime” originally meant that a mortgage was below GSE standards. They reviewed loans carefully and were able to weed out from a plethora of newly introduced loan characteristics those that were consistent with quality

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32 Howard (2014: 131) explains the flaws of PLMBS. Because there is no corporate guarantee, there is no incentive for credit standards to be enforced. Thus, when mortgage lenders generate new risky characteristics for loans and rating agencies make risk judgments without adequate or applicable historical data, there is nothing to stop these loans from being securitized and sold on to investors. In this environment relaxed underwriting can bring in new buyers who would not have qualified in the past.
mortgages and those that were not. As a result, the securitization market that collapsed in 2007 was the private-label securitization market, not the GSE market.

Howard (2014) makes the case that through the 1990s and into the early naughties Fannie Mae had exceptionally high quality risk management. This is, however, also the pitfall of this GSE model. As Howard’s account itself indicates risk management was such a difficult task that a change in management at the end of 2004 was sufficient to destabilize a very effective mortgage funding mechanism. (On the other hand, one does need to be careful about allowing sceptics of government support to prove their point by sabotaging the GSEs, as Howard argues OFHEO, Fannie Mae’s regulator did. I, unfortunately, have no capacity to weigh these claims on their merits.)

Overall, the conclusion one draws from this discussion is important: there is virtually no reason to believe in the feasibility of the 30 year fixed rate mortgage as a financial product in the absence of some form of government support.

My next post will study what happened when the government, instead of recognizing that if it wanted to support the 30 year loan as a financial product, it would have to underwrite many of its risks, chose to distort financial regulation in order to promote cheap finance for housing.

Having set out the challenges posed by the finance of the 30 year mortgage, let us now turn to historical question of how it became the norm in US mortgage markets.

https://fred.stlouisfed.org/graph/?g=mLx4
Mortgage lending and investment banking: The era of “pro-competitive” reform

The inflation of the 1960s and ‘70s put a great deal of stress on the compartmentalized financial system that had been constructed in the 1930s. Arguably, this stress was transformed into fissures in the 1930s financial structure in no small part due to a shift in the intellectual framework through which the financial system was viewed.

From the perspective of 1930s banking theory, banks are special, because they issue monetary liabilities and serve as a coordinating device that promotes growth by making the monetary finance of working capital possible. For this reason, it is essential both to protect their special role in the financial system and to circumscribe and control bank activities in order to prevent expansion of the money supply from fostering asset price bubbles or inflation. Thus, the 1930s framework instructed regulators to manage the stressors on the financial system in such a way that the core functions of the banking system would be protected.

By the 1970s, however, policymakers were working with a different monetary model than the one that had been used to design the structure of the financial system in the 1930s. In the 1970s the dominant intellectual framework, portfolio theory, claimed that banks intermediated between borrowers and
lenders and were “special” only due to the privileges granted to them by law; non-bank financial intermediaries could provide the same services as banks and the money-ness of their liabilities was just a matter of degree, not kind (Tobin 1963; see also Keeley & Furlong 1986). With this new intellectual framework, policymakers did not perceive a need to police the boundary between bank liabilities and non-bank liabilities in order to protect the special status and role of banks in the economy (which notably was precisely what the Glass-Steagall Act was designed to do). Instead, policymakers believed that non-banks could provide the same services as banks and thus that competition between banks and non-banks was healthy.

Thus, when the inflation of the 1960s and ‘70s led to the growth of non-bank financial intermediation, this was viewed as healthy competition for banks, not as a stressor that threatened to destabilize the banking system. In this environment, financial innovation was allowed to create profound fissures in the banking structure that had been designed in the 1930s. By 1980 the system was clearly breaking down. Subsequent reform was based on the new theory that banks were just one kind of financial intermediary and should be forced to compete for funds with non-banks.33 In the jargon of sociology, portfolio theory became performative; that is, the theory was no longer just a description of the world, but began to transform it.

Portfolio theory affected the mortgage market as the legal distinctions between thrifts and commercial banks were steadily eliminated. Bank funding was also transformed in a way that raised the costs to banks and ultimately led to the transformation of bank asset portfolios, facilitated by regulators who sought to increase banks’ income-earning capabilities. As banks were permitted by supportive regulators to encroach upon the broker-dealers’ business, by the 1990s the Glass-Steagall Act mostly constrained the activities of the broker-dealers and not those of the commercial banks.

After three decades of on-going transformation of the financial system, the US entered the 21st century with a financial structure that embraced an intellectual framework where banks were just one of many financial intermediaries competing on a playing field that was superficially even. In fact, over the course of the 2007-09 crisis we learned banks were special – because they had access to the Federal Reserve’s discount window – and a major part of their business was providing guarantees to non-banks that effectively gave the non-banks indirect access to the discount window. Indeed, I have argued elsewhere that the only reason non-banks could issue monetary liabilities was due to the explicit and implicit support provided by the banks.

This post will first address the fissures created during the 1960s and ‘70s in the compartmentalized banking system. The next post will ...

address the reforms of the 80s including both the Volcker and the mortgage system. The reforms of investment banking. The end result.

The era of inflation, 1965 to 1980

33 There was a general movement in favor of “pro-competitive” deregulation at this time (see Derthick and Quirk 2001). Note that I put “pro-competitive” in scare quotes, because it is regulation that makes it possible for markets to be competitive, and the question should be directed to whether the market is correctly regulated to promote competition and other important goals – such as fair access and management of externalities.
Recall that the 1930s reform of the banking system created a segmented structure with commercial banks separate from investment banks and with two types of mortgage finance: government insured mortgages that were typically funded by commercial banks and insurance companies and “conventional” mortgages that were funded by the thrifts, which specialized in mortgage lending. Commercial banks could sell their mortgages to Fannie Mae while the Federal Home Loan Banks provided liquidity to the thrifts.

The late 1960s saw inflation and two sharp increases in interest rates. The first increase raised concerns about the viability of the thrifts as they raised the rates paid on savings in order to compete for funding. For this reason, in 1966 Regulation Q, which had since the 1930s restricted the interest that banks could pay on savings, was extended to the thrifts. The end result was, however that the savings and loan industry – which since 1945 had been growing by 11 to 19% per annum – suddenly found itself struggling to maintain funding levels. Commercial banks, on the other hand, had historically relied on non-interest-bearing demand deposits for funding, and so were less dependent than thrifts on savings accounts and less affected by the macroeconomic situation. As the thrifts were by far the most important source of residential mortgage finance, the availability of mortgages dropped, precipitating a crisis that was only addressed in part by legislation in 1968 and 1970.34

Thus, in 1970 when the President’s Commission on Financial Structure and Regulation was appointed,35 one of its’ principal tasks was to offer recommendations for transforming the financial system into one capable of achieving the administration’s housing goals (PCFSR 1972: 25, 48, 78). Two additional concerns were the finance of small businesses and of state and local government, which had also been adversely affected by the macroeconomic situation (PCFSR 1972: 49). The Commission stated pointedly in its report that it was not tasked with critical examination of the administration’s goals but only with how to achieve them and also offered the caveat that inflationary fiscal policy was the unaddressed underlying cause of the mortgage finance problem (PCFSR 1972: 8, 78-79).

As was noted above, by the 1970s the intellectual framework embraced by policymakers was based on portfolio theory and this was a very different monetary model from the banking theory that had been used to design the structure of the financial system in the 1930s. The new framework posited that non-banks could provide the same services as banks and promoted the idea that competition between non-banks and banks could ensure that financial services were more efficiently provided to consumers and firms.

In 1972 the Commission explained how to restructure the financial system to promote the finance of mortgages: convert the thrifts into commercial banks and authorize the use of demand deposit funding for mortgage finance (PCFSR 1972: 37, 40, 48).36 This policy was described as an increase in competition

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34 By creating Freddie Mac and authorizing an expanded role for Fannie Mae in the mortgage market this legislation enabled the GSEs to play an important role in supporting mortgage markets.
35 President Nixon was fulfilling a campaign promise made to business leaders to establish a panel studying financial structure for the stated purpose of addressing the problem of the Democrat’s overregulation of the financial sector and to prevent impairment of the nation’s ability to raise capital (NYT Oct 2, 1968, p. 28). He appointed a panel composed mostly of business executives and apparently the report was written for the most part by the staff of professional economists (Luttrell 1972).
36 Given that this position is central to the Commission’s recommendations, it is remarkable that the Commission also observes that it is in general best to pursue “social priority investments” via tax credits and direct subsidies to consumers in order to “avoid the warping of financial institutions” (PCFSR 1972: 86).
between financial intermediaries that was desirable, because commercial banks with their lower cost funding could provide borrowers with cheaper loans (PCFSR 1974: 45). The only danger that the Commission saw arising from this policy was that of an increase in bank failures, a risk that could be managed with safety and soundness tests (PCFSR 1972: 45, 48). That is, even though the Commission framed banks as “creating money” (PCFSR 1972: 43, 45), its members did not perceive the danger of financial market instability that can arise when money creation is combined with the finance of long-term assets.

Of the recommendations made by the Commission, only a few were implemented promptly: in 1973 Regulation Q ceilings for large time deposits were suspended, and in 1974 constraints on commercial bank funding of mortgages were relaxed and securitization was promoted (Consumer Home Mortgage Assistance Act, Pub. L. 93-383).37 Many more of the Commission’s proposals would be adopted over the course of subsequent decades including: the elimination of the regulation of interest rates on savings accounts (PCFSR 1972: 23); the elimination of restrictions on branch banking (PCFSR 1972: 59, 61-62); the use of insurance contracts to address interest rate risk, in other words, interest rate swaps (PCFSR 1972: 83);38 the promotion of variable rate mortgages (PCFSR 1972: 81-82); the elimination of statutory restrictions on assets eligible for discount at the Fed (PCFSR 1972: 48); the treatment of subordinated thrift and bank debt as regulatory capital (PCFSR 1972: 41, 51);39 and the elimination of statutory limitations on banks’ off-balance sheet guarantees (i.e. acceptances) (PCFSR 1972: 49-50).40

From the perspective of 1930s banking theory these policy recommendations did not make sense: careful regulation is needed both to protect banks’ special role in the financial system and to circumscribe bank activities in order to prevent expansion of the money supply from fostering asset price bubbles or inflation. As a result of the very different monetary framework being used in the 1970s, however, the blueprint for financial reform that was laid out in the early 1970s sought very deliberately to erase the clearly drawn distinction between commercial banks and thrifts.

Subsequent regulation typically emphasized the importance of facilitating competition between intermediaries and of removing the “inefficiencies” created by the “anti-competitive” restrictions placed on commercial bank activities (CEA 1981: 111; Isaac 1984: 197-98). Some of these reforms, such as the lifting of constraints on interest rates paid by depository institutions and the elimination of branch

37 National banks were permitted to hold loans of up to 90% of the value of residential property as long as the loan was amortizing and the term was no more than 30 years. (In 1955 the maximum term of National bank real estate loans had been extended from 10 years to 20 years, Pub. L. 84-343). The loan to value permitted on mortgages purchased or securitized by Fannie Mae and Freddie Mac was raised to 80%, with an exception as long as the excess over this level was covered by private mortgage insurance. For national banks aggregate real estate loans not insured/guaranteed by an Agency could not exceed the greater of capital plus surplus or savings plus time deposits. Second lien loans could not account for more than 20% of capital plus surplus. (§ 24(a)(3) ).

38 Note, however, that the Report finds that “Since the principal causes of wide interest rate movements are changes in the mix of monetary and fiscal policies, the only appropriate insurer against interest rate risks would appear to be a federal government agency.” (PCFSR 1972: 83).

39 Note that bank debts of less than seven years – including repurchase agreements – were treated as deposits and subject to both reserve requirements and interest rate regulation (PCFSR 1972: 51). In the inflationary environment of the 1970s there probably was a need to distinguish bank deposits from repos and subordinated debt.

40 Note that the Commission was aware of the benefits of securitization, but, concerned that it contributed to disintermediation, gave it only lukewarm support (PCFSR 1972: 84).
banking restrictions, have likely improved the operation of the financial system.\textsuperscript{41} There was however a failure when reforming the structure put in place in the 1930s to distinguish the wheat from the chaff, because the aspects of the 1930s structure that served to stabilize the financial system were impossible to see when they were evaluated using a theoretic framework, portfolio theory, that took financial stability as given. In the language of economic sociology, portfolio theory played a performative role in reshaping the real world environment to conform with the theory: financial stability became an assumed property of the system, rather than one that was carefully crafted and protected.

The inflation of the late 1960s did not just result in the development of a blueprint for transformation of the financial system, but also had a more direct effect on the financial system. When the larger commercial banks due to Regulation Q were unable to offer their best corporate clients a competitive rate on savings accounts, in an effort to keep their business the banks facilitated the transfer of savings accounts into lending on repo, commercial paper, Treasury bills, bankers’ acceptances, and other money market instruments (PCFSR 1972: 28; CEA 1981: 108-09; Hahn 1993: 111). To address the funding gap thus created, the large banks were able to turn to Eurodollar markets or issue commercial paper at the holding company level which would then buy loans from the subsidiary bank (PCFSR 1972: 47). In short, already in the 1960s inflation had begun to result in disintermediation of the banking system. This left the smaller banks and the smaller businesses that did not have access to these options at a disadvantage.

Four key elements of the disintermediation of the banks that were important through the 1970s and 1980s are discussed in detail below: thrift transaction accounts, Eurodollar markets, money market mutual funds, and the standby letter of credit.

\textit{Thrift transaction accounts}

Based on the traditional banking theory of the 1930s, when thrift funding first became a problem in the late 1960s the government should have made a determination of how important consumer-friendly mortgages were as a policy matter and then based on the answer either subsidized the thrifts’ activities directly or allowed the thrift industry – and the availability of mortgages – to shrink. Unsurprisingly, politicians preferred to have their cake and eat it too – and by embracing the new theory that the 1930s restrictions on banking were anti-competitive they were able, temporarily at least, to do so.

By the mid-1970s the FHLB Board was encouraging thrifts to compete with banks by making transactions using savings accounts easier. Thus, thrifts were early adopters of ATM machines and of contracting with local business to provide point-of-sale access to thrift savings accounts (Lovati 1975). Around the same time the laws governing thrifts were relaxed to permit those located in New England and New York to offer what were effectively interest-bearing checking accounts (CEA 1981: 110).\textsuperscript{42} As interest rates continued to rise over the course of the 1970s, the effect of this new policy was to redirect the

\textsuperscript{41} One should note, however, that Regulation Q meant that monetary policy that pushed interest rates above the statutory limit could have a fairly immediate quantity effect on bank funding and this gave monetary policy an effectiveness that has arguably never been recovered.

\textsuperscript{42} Technically they were NOW (negotiable order of withdrawal) accounts.
flow of transaction accounts from commercial banks which faced a statutory prohibition on paying interest on checking accounts to the thrifts.\(^{43}\)

**Eurodollar accounts**

A Eurodollar account is an account denominated in US dollars that is held outside of the United States. As every Eurodollar account is associated with a US clearing account, Eurodollar accounts are either held at the foreign branches of US banks, or at foreign banks which access the US clearing system through US correspondent banks.\(^{44}\)

The Eurodollar system began to develop in the 1950s as British exchange controls and the weakness of the pound led to the dollar being the preferred currency for the finance of international trade, while at the same time the banks with expertise in international trade finance were mostly British. The Eurodollar system made it possible for international trade to continue as it had in the past, just denominated in dollars held abroad rather than in British pounds. The British (and other foreign) banks were not subject to US regulation (including Regulation Q and FDIC fees)\(^{45}\) and British regulation of international finance was “light touch.” As a result, Eurodollar accounts were for the most part unregulated.\(^{46}\) On the other hand, mostly located in Europe, Eurodollar accounts were completely inaccessible to most individuals and small firms in the US.

Banks issuing Eurodollar deposits could not just pay higher interest rates than US banks, they also had lower operating costs because they did not need to meet reserve requirements or pay FDIC fees. As a result, these banks could also afford to charge less on loans. In short, the Eurodollar market did not compete with the US banking system on an even playing field. Foreign bank lending in the US more than doubled over the course of the 1970s (CEA 1981: 109).

**Money market funds**

In 1971 the first money market fund was created. A money market fund (MMF) is an investment product offered by a brokerage firm or mutual fund company that invests only in short term assets and that treats its shares as having a fixed value that earns interest, just like a savings account. These “interest-bearing” accounts also offer some check-writing privileges. As the accounting treatment for MMFs was first addressed by the SEC in 1977 (42 FR 28999) and only formally approved by the SEC in 1983 (48 FR 32555), this was a case of industry pushing boundaries and being successful after the instrument had

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\(^{43}\) Congress authorized NOW accounts in New York in October 1978. The next four months saw a rare decline in national demand deposits of 1%, while “Other checkable deposits” which include NOW accounts doubled. On the other hand, at the same time commercial banks were permitted to offer “automatic transfer of savings” or ATS accounts which also fall under “Other checkable deposits” (WaPo Oct 29 1978), so the causality here is unclear.

\(^{44}\) While the account is held outside the US, every Eurodollar account clears within the US system and every Eurodollar transfer is associated with a transfer of reserves from one US bank to another within the US (just as would be the case with a domestic transfer of funds). Because of the way Eurodollar accounts are cleared, one can reasonably claim that even though the Eurodollar account is held abroad, the dollars never actually leave the US. Given this structure, the Eurodollar system was only possible because US regulators facilitated its operation.

\(^{45}\) Eurodollar borrowings were subject to reserve requirements up through July 1980 (Feinman 1993).

\(^{46}\) Note that while branches of US banks located in foreign countries were also not subject to Regulation Q, reserve requirements, or FDIC fees, there were constraints on the transfer of money within a bank from the US to its foreign branch.
become “too big to fail.” By the end of 1982 nearly as much money was held in MMFs as in demand deposits at commercial banks (see Chart 1).

Chart 1: Cash assets

https://fred.stlouisfed.org/graph/?g=mYXZ

If regulators had required MMFs to obtain a banking charter in order to offer fixed value accounts and/or checking privileges, and if MMFs had therefore chosen investment fund regulation, mark-to-market valuation and no checking privileges, they probably would still have seen some growth in the 1970s. But they also would probably have been a short-lived wonder that saw massive outflows to the banking system as soon as banks were permitted to pay competitive rates. This would certainly have been the case if MMFs had not been subject to regulation that distinguished them from other mutual funds and effectively approved them as a cash equivalent asset class. In short, if regulators had embraced the 1930s view of banking and defended the special role of banks, the disintermediation of banks would have been smaller and most importantly much easier to reverse.

Unsurprisingly, with what used to be bank deposits flowing into MMFs, the banks also found they were facing stiff competition on the lending side of the market. From 1972 to 1979 the role played by the commercial paper market in short-term business lending nearly doubled. In addition, as was noted above, business lending by foreign banks more than doubled. At the demand of their biggest clients domestic banks were forced to lend below the “prime rate” – nominally the rate they offer their best customers – and saw their share of short-term business debt drop from 86% in 1972 to 60% in 1979 (CEA 1981: 109).

The standby letter of credit and loan commitments

47 See Kettering (2007) on too big to fail financial instruments.
48 Note that in the early 1970s Regulation Q was suspended for large time deposits. This policy was inadequate to reverse the flow of funds out of banks.
The growth of the commercial paper market was only possible, because bank regulators allowed banks to provide guarantees that supported its issue. Lenders in the commercial paper market recognized that commercial firms could face unpredictable liquidity crises and were unwilling to lend to them at competitive rates unless a bank was willing to guarantee payment on the paper in the event of a liquidity crisis. Thus, issues of non-bank commercial paper were – and are – typically supported by a bank guarantee (Hurley 1977: 530; Judd 1979: 42; Stigum & Crescenzi 2007).

The law governing bank guarantees in the US was clear in the early 1970s: there were specific recognized types of guarantee that were permitted, including letters of credit. Guarantees that did not fall under a recognized category were ultra vires and most likely void. A letter of credit (LOC) is a contract for a bank to make payment if the conditions in the letter of credit are met, and is a traditional means by which international trade is financed since the seller of goods can reliably collect payment from the bank on the basis of shipping documentation. A couple of creative bank lawyers created the “standby letter of credit” in the early 1950s, which was a promise to pay a customer’s obligation upon evidence of the customer’s default. The standby LOC is distinguished from the LOC by the fact that the bank does not anticipate having to make payment on it. A standby LOC is the equivalent of a guarantee of a customer’s liability,49 which (with explicit exceptions) was ultra vires. The OCC, the national banks’ regulator, turned a blind eye to it, and through the 1960s this was a corner of the banking world that drew little attention (Kettering 2008: 1662-66).

In the early 1970s the Fed was trying to hold a strict line on traditional banking regulation. It deemed that if a bank issued commercial paper, borrowed using a repo, or guaranteed a customer’s IOU, all those liabilities were subject to the regulations governing deposits including required reserves and interest rate ceilings (Mayer 1974: 236). Similarly, the FDIC treated standby letters of credit as violations of their regulations. But neither the Fed nor the FDIC regulated national banks. The dramatic growth in the use of these instruments by national banks forced the Fed and FDIC to relax their stance, and in 1974 the regulators jointly agreed to very limited regulation – requiring reporting of outstanding standbys in the footnotes to the banks’ financial statements as well as treating them as loans for some purposes (Kettering 2008: 1667-69). The regulators all defended this policy before Congress in 1976, when Congress, worried that regulatory competition was weakening the banking system, threatened to impose strict controls on these instruments (US Senate 1976).

It was generally recognized at the time that by issuing a standby letter of credit, a bank was engaging in “off-balance sheet” banking: this was a way to fund off-balance sheet assets with off-balance sheet liabilities and earn a fee instead of an interest rate spread (Naegele 1976: 278; Keeley 1988: 12). The opportunities for regulatory arbitrage are obvious (and indeed what the Fed was trying to avoid with its initial strict policy). The door was, however, opened in the 1970s, and now bank guarantees of customer liabilities are treated as bank activities of long-standing (Kettering: 2008: 1671).

Capital requirements on standby LOCs were not imposed until the early 1990s when the Basel I Accord was implemented (Kettering 2008: 1671). Even then, however, guarantees that were short-term or “of less than one year” were granted a zero credit conversion factor under the risk-weighting rules – in

49 The SEC recognized this fact by treating standby LOCs as guarantees within the meaning of the Securities Act (Kettering 2008: 1664).
other words, some guarantees were not subject to capital requirements at all. Needless to say, banks structured their guarantees in order to take advantage of lower capital ratios (Moody’s 1997: 4).

Summary: the disintermediation of the 1970s

In short, the massive disintermediation of the banks that took off in the 1970s was only possible, because regulators allowed it to happen. While some leakage into the Eurodollar markets – which provided support to the international role of the dollar – was inevitable, it was also naturally limited in scope. By contrast, the growth of money market funds and of bank-supported commercial paper markets was not inevitable. It was instead the product of a combination of forces including the fragmented structure of US regulation that hampered the enforcement of strict regulatory policies, and an environment where the predominant monetary theory held that the services provided by banks could also be provided by competitive financial intermediaries. Indeed, in some ways MMFs were a realization of the portfolio theory vision expressed by Tobin in his 1963 paper on banking.

But portfolio theory, like all theories, is an incomplete representation of a more complex reality. Thus, if the primary effect of portfolio theory in this period was to transform the financial system to be more like the theory, an important secondary effect was to obscure the actual relationship between the banks and the money market funds and commercial paper markets with which they were putatively in competition. While MMFs that invested only in government obligations could be viewed as “narrow banks” that competed with the conventional banks, for decades such MMFs comprised only about 25% of all MMFs or less. The vast majority of money market funds served as an indirect form of bank finance.

Chart 2 (which aggregates both Prime and Government MMFs) shows that bank CDs, commercial paper and repos made up 70 to 80% of MMF assets in the 1980s. Repos were typically repos of government debt obligations with a bank counterparty and thus served as a means by which banks could treat their government debt holdings as liquid assets. While commercial paper could be financial or non-financial, the Federal Reserve’s Flow of Funds report (Table B.103) makes it clear that there simply wasn’t enough non-financial commercial paper outstanding to make up more than a portion of MMFs commercial paper assets. In short, in most years half or more of the MMFs’ commercial paper holdings were comprised of financial commercial paper, that is, commercial paper issued by banks. Furthermore, as was discussed in detail above even non-financial commercial paper relied on the support of off-balance-sheet bank guarantees.

In short, MMFs were only nominally in competition with banks. In practice, MMFs were just an indirect way of funding banks. They served to replace direct deposit-based bank funding with more indirect, wholesale bank funding intermediated through the MMFs.

Chart 2: Taxable Money Market Fund Assets

50 In addition, I have data on financial and non-financial commercial paper outstanding from 1991 to the present that was downloaded in the past from the Federal Reserve website. (Currently the data on the 1990s is apparently no longer available.) These data make it clear that since 1991 financial commercial paper outstanding has been at least double non-financial commercial paper and that the ratio has grown significantly over time.
Just as MMFs were only nominally in competition with banks, commercial paper could not be accurately characterized as “market-based” competition for bank loans although this was a common claim (see, e.g. Moskow 2005). First, as was noted above most of the commercial paper outstanding was financial commercial paper and thus provided financing for banks, not competition for bank loans. Secondly, non-financial commercial paper relied heavily on off-balance-sheet bank guarantees. Indeed, the regulators of the 1970s viewed the guarantees that supported the commercial paper market as a means for banks to make off-balance-sheet loans (OCC 1974, 39 FR 28974; FDIC 1974, 39 FR 29178; Federal Reserve 1974, 39 FR 29916). As a result, while non-financial commercial paper did encroach on bank’s direct lending activity, it was only able to do so because of indirect “loans” in the form of off-balance-sheet guarantees provided by banks to support the issue of non-financial commercial paper. Another illustration of the complexity of the banks’ relationship to the commercial paper market is the fact that starting in December 1986 the Federal Reserve Board permitted banks to “engage to a limited extent in commercial paper placement activity” (73 Federal Reserve Bulletin 138, 1987). From the perspective of many borrowers, commercial paper may have just looked like a special kind of bank loan.

Thus, portfolio theory didn’t just shape a new financial system, it also had the effect of obscuring the relationship between the new entities and instruments and the banking system. By framing MMFs as “competing” with banks for deposits, portfolio theory concealed the fact that MMFs mostly served as an
indirect “wholesale” channel of bank funding. Similarly, by framing commercial paper as “competing”
with bank lending activities, portfolio theory concealed the fact that the off-balance-sheet bank
obligations that made the issue of non-financial commercial paper possible were themselves variants of
loans – and consequently that commercial paper was arguably just a more complicated form of bank
lending.

Portfolio theory, by concealing the true nature of the transformation of the financial system, also
concealed the fact that in this new system of indirect rather than direct bank intermediation, the largest
banks had a significant advantage. Wholesale funding carries risks for the lender that deposits don’t and
therefore wholesale funding markets favor large, too-big-to-fail banks. For the same reason, too-big-to-
fail banks had an advantage in providing the guarantees supporting commercial paper issues. In short,
the principal effect of the shift from banking theory to portfolio theory was not the advertised effect,
that of promoting competition and facilitating the growth of “market-based” lending, but instead to
promote the interests of large, too-big-to-fail banks which played key roles in making the so-called
“market-based” lending work.

https://fred.stlouisfed.org/graph/?g=mQFP

The era of regulatory reform: the transformation of mortgage finance in the 1980s

The 1980s saw dramatic reform of the structure of the banking system as the 1970 Hunt Commission’s
recommendations for increasing the flow of funds into the mortgage market began to be adopted: first,
bank and thrift funding was put on an equal footing; then, existing restrictions on mortgage lending by
both commercial banks and thrifts were largely eliminated; at the same time, a policy of regulatory
forbearance towards the troubled thrifts was enacted – in the vain hope that they would earn their way
to solvency. Legislation during these years also promoted the growth of mortgage securitization which
played an increasingly important role in the mortgage market. The originate-to-distribute model of
mortgage finance was born, where non-bank affiliates of commercial banks originated mortgages, and
Fannie Mae and Freddie Mac set the standards that “conforming” mortgages had to meet in order to be
salable. In short, over the course of the 1980s the mortgage finance system was completely transformed
from one in which banks played a peripheral role to one where banks played the most important role in
the market. This took place because the predominant theory at the time, portfolio theory, saw no
reason to maintain the distinction between banks and thrifts that had been drawn when banking theory was dominant.

It was in this period that the US banking system was effectively divided into two classes. An elite segment of very large banks thrived in the new environment and were able to leverage the new system of “market-based” finance into special treatment: these were the too-big-to-fail banks. The rest of the banking system, however, struggled in this environment where non-banks and the elite banks had special privileges that the typical bank did not. This section addresses the reforms that directly affected the majority of banks, while the next section will focus on the nascent too-big-to-fail banks.

Charts 1 through 4 below, drawn from FDIC data, demonstrate how very different the business model of the 7 largest US commercial banks was from that of the bulk of the banking system. Over the course of the 26 years covered by these charts the 7 largest US banks grew from accounting for only 20% of US bank assets to accounting for about 50% of US commercial bank assets just prior to the 2007-09 crisis. They continue to account for about 50% of assets today.

*I have assumed that “long-term assets” are all loans & leases. If in fact a significant number are securities, then this chart over-represents securities and underrepresents loans & leases.
I have assumed that “long-term assets” are all loans & leases. If in fact a significant number are securities, then this chart over-represents securities and underrepresents loans & leases.
Liabilities - US Commercial Banks excl 7 largest

- Deposits held in domestic offices
- Foreign deposits
- Federal funds purchased & repurchase agreements
- Trading liabilities
- Other borrowed funds
- Subordinated debt
- All other liabilities
- Total equity capital
The problem of monetary control

By the end of the 1970s many commercial banks were struggling. Their key source of funding was being eroded by competition with financial intermediaries that had been granted preferential regulatory status: the thrifts in the Northeast could pay interest on transaction accounts, MMFs could pay interest while offering limited checkwriting privileges, and for their biggest clients the banks had to compete with the totally unregulated Eurodollar market. In this difficult environment regulators had suddenly authorized the writing of “off balance sheet” guarantees. Unsurprisingly this set off destabilizing competitive dynamics, where the largest banks began to shift their business to fee-earning off-balance-sheet activities, promoting disintermediation at the expense of the banking system as a whole. Thus, in Chart 5 we see significant growth in MMFs and deposit substitutes at the end of the 1970s even as the growth in demand deposits stagnates.

Chart 5: Cash assets

Through the 1970s the Federal Reserve actively managed reserve requirements and their application to different instruments – including Eurodollar funding – in order to control the supply of credit. The Fed found, however, that banks were giving up their Federal Reserve membership in order to escape the regulatory burden of maintaining non-interest-bearing required reserves. Over the course of the 1970s the percent of transaction deposits held by member banks fell from 75% to 65% (and this measure did not include MMFs). The Fed’s ability to implement monetary policy was being eroded. A unilateral Fed proposal to start paying interest on reserves was blocked by Congressional opposition (Feinman 1993:...
The Fed believed that monetary control required extending its authority to impose reserve requirements to cover all depository institutions (Volcker 1979). (Note that Volcker in his testimony on this issue is clearly aware that MMFs also have implications for monetary control, but does not appear to have solutions to offer.)

The Depository Institutions Deregulation and Monetary Control Act of 1980 (“DIDMCA,” Pub. L. 96-221) largely eliminated the distinction between thrifts and commercial banks on the liability side of the balance sheet (as the 1970 Commission had recommended).\(^51\) It authorized thrifts to offer checkable deposits, phased out Regulation Q’s interest rate caps on all depository institution accounts, made thrifts subject to the Federal Reserve’s reserve requirements (with an eight year phase in), opened the Fed’s discount window to the thrifts, and raised the deposit insurance limit for both banks and thrifts to $100,000. On the asset side of the balance sheet, it repealed all usury restrictions on mortgages, including those at the state level (CEA 1981: 111).

Observe that the standard view at the time attributed the stabilization of the banking system in the 1930s to deposit insurance\(^52\) (since the structural reforms of the 1930s were viewed as misguided) and thus there was an expectation that the expansion of deposit insurance mandated by the 1980 Act— together with the elimination of Regulation Q—would give the banks and thrifts a decisive competitive advantage over MMFs and Eurodollar accounts (FDIC 1997b: 93). While DIDMCA was effective at stemming the outflow of deposits (see Chart 5), it slowed the growth of MMFs only temporarily.

In fact, there is strong evidence that any government sanction of a financial instrument that, like a bank deposit, is convertible at par into currency will be perceived as official support by the general public: the second wave growth of MMFs (see Chart 5) dates to the 1983 decision by the SEC (48 FR 32555) to formally authorize accounting for money market funds like bank deposits (that is, with a $1 net asset value) instead of using investment fund accounting. It is doubtful that MMFs are consistent with the intent of the Investment Company Act of 1940, which has two sections on “face amount certificate” companies that specify the capital and reserves that these companies are required to hold. As a result, in order for MMFs to operate as they had at the end of the 1970s, the SEC had to grant them exemptions from the Act and Rule 2a-4 (see 47 FR 5428). The 1983 Final Rule formalized this process of granting exemptions to the law in a regulation. In short, the post-Depression regulatory structure was explicitly designed to prevent investment funds from competing with deposits— unless they, like banks had capital and reserves. We have apparently learned the hard way that this structural separation was as important as deposit insurance in stabilizing the banking system post-Depression.

The Garn St Germain Act and its consequences

By 1980 the thrifts had been struggling for years with their legacy portfolios of long-term mortgages that had low fixed interest rates. The dramatic interest rate increases that accompanied Volcker’s policy of taming inflation had a devastating effect on these institutions, leaving many of them insolvent. Instead of recognizing the need to follow Roosevelt’s 1933 model of dealing assertively with a banking crisis by

\(^{51}\) On the asset side, it also allowed savings and loans to hold 20% of their assets as consumer loans.

\(^{52}\) See Isaac (1984: 198) citing Friedman and Galbraith. This view may date to Friedman and Schwartz who described deposit insurances as “the most important structural change in the banking system to result from the 1933 panic.” (Economist 1984: 41).
closing some thrifts and recapitalizing others, policymakers chose to eliminate restrictions on the thrifts’ asset portfolios in the hope that the thrifts would be able to earn their way to solvency.

The 1980 DIDMCA had already eliminated all interest rate ceilings on mortgages. In 1982 legislation dramatically broadened not just the types of residential mortgages the thrifts could make, permitting adjustable rate mortgages, balloon payments and negative amortization, but also dramatically increased what had been strict caps on commercial real estate lending (Pub. L. 97-320; McCoy et al. 2009: 499). It also eliminated entirely statutory limits on mortgage lending by commercial banks (§403(a)) such as the requirement that aggregate real estate loans not guaranteed or insured by a government agency could not exceed the greater of bank capital plus surplus or savings plus time deposits.53

For the first time in US history the regulation of bank mortgage lending was being left entirely in the hands of regulators. That is, the statutory restrictions on banking that legislators of the 1930s had put in place to protect financial stability and prevent real estate bubbles were first reframed by portfolio theory as “anti-competitive” and “inefficient,” and then eliminated by legislators unfamiliar with the actual history of the legislation. The OCC responded promptly with a regulation that placed no restrictions on national bank real estate lending (FDIC 1997b: 95). In addition, within 5 years of this dramatic shift away from statutory restrictions, every single member of the Federal Reserve Board of Governors had been appointed by Reagan and the Fed was throwing its weight behind a deregulatory agenda.

Another part of the same legislation, known as the Garn St. Germain Act, made it easier for the depository institution insurers to provide assistance to troubled banks. Since 1935 the FDIC and FSLIC had been authorized to provide assistance to the merger of a failing bank with a sound one (Isaac 1984: 202). In some cases, the insurers provided “open bank assistance” to these mergers in the form of loans, deposits or purchases of assets, so that deposit-holders and other bank counterparties of the failed institution would experience no inconvenience. Prior to the Garn St. Germain Act the statutory requirements for such assistance were the determinations (i) that the institution was in danger of closing and (ii) that its services were “essential to the community.” Subsequent to the act these criteria were broadened significantly: the insurers could provide open bank assistance for the purpose of preventing the closing of an institution, restoring a closed institution to normal operation, or due to the danger of financial instability (§§ 111, 122; Gorinson & Manishin 1983: 1325).54 They also could provide this assistance in additional ways including purchasing securities, assuming liabilities, and making contributions. The issue of “net worth certificates” to undercapitalized institutions whose loan portfolios were at least 20% mortgages were authorized (Title II).55

Observe that it was not just the thrifts that would be transformed by the Garn St. Germain Act. The law made it possible for the FDIC in 1984 to take Continental Illinois National Bank over on the basis of

53 Additional restrictions that were lifted had required 30-year amortization for certain loans, had limited the maximum loan-to-value of mortgages, and had limited the aggregate unpaid balance on second lien real estate loans to 20% of bank capital plus surplus.

54 It is highly likely that the Federal Reserve pushed for the addition of this latter clause, but I have not yet been able to document this claim.

55 Mergers were also permitted across regulatory boundaries (e.g. of banks and thrifts or despite geographic restrictions), but only after determining that mergers within regulatory boundaries were not equally advantageous (Gorinson & Manishin 1983: 1326).
financial stability concerns. The development of the “too big to fail” doctrine protecting large banks will be explored in the next section. The same legislation also raised the statutory limit on national bank loans to a single borrower from 10% of bank capital to 15% of capital or, if the loan was secured by marketable assets, to 25% of bank capital (FDIC 1997b: 94). While small rural banks were the public poster child for this reform, it had obvious benefits for the too-big-to-banks that often dealt with large corporate and government accounts.

As for the thrifts, as might have been expected, the reforms proved disastrous. Insolvent institutions are, after all, not well positioned to go through the learning process of mastering a new business. By 1989 the thrifts’ worsening condition could no longer be ignored and was addressed in the Financial Institutions Reform, Recovery and Enforcement Act (“FIRREA,” Pub. L. No. 101-73) by a complete overhaul of the regulatory structure governing them. The FHLB Board was abolished and replaced by two new agencies, the Office of Thrift Supervision governing the thrifts and the Federal Housing Finance Board governing the Federal Home Loan Banks. Freddie Mac was placed under the supervision of the Department of Housing and Urban Development, just like Fannie Mae (Colton 2002: 14). At long last, a new Resolution Trust Corporation was created to administer the assets of the failed thrifts, and the FSLIC was replaced by a fund administered by the FDIC. FIRREA required those thrifts that were solvent to lower their risks by selling loans and increasing their holdings of liquid assets. The resolution of the insolvent thrifts would end up costing more than $130 billion. As an additional step in the elimination of the structural distinction between the thrifts and the commercial banks, FIRREA opened membership in the FHLB system to commercial banks.

We should also note that in 1987 the Competitive Equality Banking Act was passed (“CEBA”, Pub. L. 100-86). It had the important effect of closing the “non-bank bank” loophole, that had been created in 1970 when the Bank Holding Company Act had been amended to define a bank as an entity that accepted demand deposits and made commercial loans. By either restricting funding to exclude demand deposits or avoiding making commercial loans, a financial institution could preclude Federal Reserve regulation of its holding company. In the early 1980s the OCC did a brisk business in such “non-bank” charters. CEBA redefined a bank to include any entity insured by the FDIC in addition to any entity that accepted transaction accounts and made commercial loans (FDIC 1997b: 98).

**Mortgage Securitization**

One consequence of the efforts to deal with the troubled thrifts was the stimulation of securitization. When a thrift sold a below-market-rate mortgage, instead of taking the loss immediately – which would have reflected the reality of the transaction – thrifts were permitted by an FHLB Board policy adopted in 1981 to spread the loss over the remaining years of the mortgage (Lea 1996: 166). The result of this

56 FIRREA also create cross-guarantee provisions to protect the insurance fund. These could require the healthy affiliates of a BHC owner of a failed bank to contribute to pay a share of any FDIC losses (FDIC 1997b: 101).

57 The Fed had just lost a lawsuit challenging its effort to close the loophole by adopting regulations that relied on very broad rather than narrow interpretations of the relevant terms. Board of Governors of the Federal Reserve v. Dimension Financial Corporation, 474 U.S. 361 (1986).

58 CEBA also imposed a six-month moratorium on regulatory agency decisions that expanded the role of banks in securities, insurance, or real estate (FDIC 1997b: 97). In theory Congress was to reach a decision on these issues and enact a new statutory framework to replace Glass-Steagall. No such law was passed, however, and as soon as the moratorium was over the regulatory repeal of the statutory framework (that will be discussed in detail in a section on the Greenspan era) continued.
policy was a boom in mortgage securitization that facilitated a transition in the finance of conventional mortgages from the thrifts to the GSEs. As a result, the GSEs were financing more than half of all mortgages originated in the US from the late 1980s on and most of these mortgages were then securitized (Lea 1996: 166). In short, the collapse of the thrifts was eased dramatically by the rise of agency securitization.

While Freddie Mac’s business model from its founding in 1970 was based on the securitization of conventional mortgages (Howard 2014: 117), through the 1970s Fannie Mae focused on purchasing loans for its own portfolio and addressed the challenges of mortgage finance in the 1970s by shortening the length of its funding. Thus, the high interest rates of 1979 affected Fannie Mae in the same way that it had affected the thrifts: Fannie Mae was losing money on a daily basis and risked exhausting its capital. Fannie Mae, however, unlike the thrifts was not offered capital relief or allowed to change its mission. Indeed, the recommendation of the 1982 President’s Commission on Housing was that the GSEs should be fully privatized. Left to earn its way into solvency, Fannie Mae was successful in doing so by (i) dramatically widening the types of mortgages it purchased to include for example ARMs (On these mortgages Fannie required originator guarantees instead of underwriting the loans itself.) (ii) funding new purchases with debt issues that were maturity matched; (iii) generating fee income by securitizing mortgages (starting in 1981); and (iv) as interest rates fell extending debt maturities (Howard 2014: 27-28).

In 1983 Freddie Mac developed the first mortgage backed securitization that used tranching to address the uncertainty inherent in the timing of mortgage prepayments: some tranches were designed to pay off first. (This product was called a Collateralized Mortgage Obligation or CMO, but to limit the use of jargon I will call it a multi-tranche MBS.) While the multi-tranche MBS had more desirable properties for investors than the single tranche MBS, it was not clear under contemporary tax laws whether pass-through taxation would always apply or whether the structure itself could be subject to taxation (creating an undesirable situation of taxation both at the level of the structure and at the level of the investor) (Howard 2014: 118). This problem was addressed in the 1986 Tax Reform Act (Pub. L. 99-514) which created Real Estate Mortgage Investment Conduits (REMICs). By qualifying as a REMIC an MBS could have pass-through taxation (Howard 2014: 120).

This tax reform had been recommended by the 1982 President’s Commission on Housing, which also advocated that “all mortgage lenders and borrowers should have unrestricted access to the money and capital markets” (Colton 2002: 11). Thus, the Commission recommended the 1984 Secondary Mortgage Market Enhancement Act (SMMEA) which sought to put private label mortgage backed securities (PLMBS) on an even playing field with Agency MBS. Prior to this legislation PLMBS had been subject as securities to significant registration requirements and did not qualify as legal investments for many regulated entities. SMMEA exempted PLMBS from state antifraud and registration laws and made them legal investments for banks, thrifts, insurance companies, and pension funds (Howard 2014: 119-20).

Note that the latter created a significant distinction between Agency MBS and PLMBS. Agency MBS was deemed an appropriate investment for banks because the agencies were closely regulated government-sponsored entities with the goal of benefiting homeowners and the mortgage market. While PLMBS was also issued by regulated entities, that is banks, the goals of bank regulation place emphasis on the safety and soundness of the banking system and allow for bank failure. And there was no expectation that bank regulators should emphasize the interests of the mortgage market – or of MBS investors. Thus,
SMMEA introduced the additional criterion that PLMBS had to receive an investment grade rating from a rating agency in order to be deemed an appropriate investment for a bank or other regulated institution. The end result was, however, that SMMEA was one of the early laws granting the credit rating agencies “de facto” supervisory authority over a segment of the financial industry.

As a result of this legislation, the market evolved so that the GSEs set standards for the mortgages they would purchase and securitize, and those loans that fell outside this category were held by banks or thrifts or placed in PLMBS. The loans eligible for purchase by the GSEs were known as “conforming” loans, while the ineligible loans were “non-conforming” and comprised of “jumbo” loans – or loans for an amount in excess of the GSEs’ statutory maximum – and “subprime” loans – which didn’t meet the GSEs’ lending criteria. (Later, and especially when the GSEs broadened their lending criteria, the number of categories increased and the terminology shifted.)

Because the GSEs made their money on volume, they competed to reduce costs to borrowers and to reduce origination costs by, for example, developing automated underwriting programs and encouraging competition between a large population of loan originators (Howard 2014: 90-91). To better match liabilities with assets, the GSEs started issuing callable debt, which by 1990 had become common (Howard 2014: 43). At the same time, because they bore the credit risk of every loan purchased for the life of the loan, they studied the market in order to set sustainable credit standards (Howard 2014: 91). By 1993 Fannie Mae, which had been at risk of failure in the early 1980s had brought its credit losses down to 4 basis points – despite lending on newer products like adjustable rate mortgages (Howard 2014: 46).

As securitization grew to be a more and more important source of mortgage finance, mortgage lending itself transitioned from the originate-to-hold to the originate-to-distribute model. This was accompanied by a shift to the origination of most mortgages by unregulated mortgage companies and brokers instead of by regulated thrifts as had been the case in the past (Immergluck 2009: 465). These unregulated mortgage companies were often subsidiaries of the bank holding companies. On the one hand, the new system was fiercely competitive which tended to keep costs down. On the other hand, many of the originators were thinly capitalized (Lea 1996: 168-69). On balance, however, mortgage securitization functioned well through the 1980s and 1990s.

Through most of the 1990s the GSEs made possible the standardization of mortgage underwriting and kept the cost of the 30 year mortgage consistently low at a spread of less than 1.5% to the 10 year US Treasury Bond (see Chart 6). This was made possible by the entry of mutual funds, pension funds, and foreign entities into US housing investment (Lea 1996: 167).

Chart 6: Mortgage and Baa bond spreads

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59 As Lea notes standardization might have worked against the interests of non-traditional borrowers who could no longer successfully appeal their case to the local lender (1996: 167).
Note: while from a thematic point of view I should be trying to explain how Portfolio Theory led to too-big-to-fail, I think that’s less true than the view that too-big-to-fail was a direct response to the collapse of Bretton Woods. So this section is thematically an outlier.

**The collapse of Bretton Woods and the entrenchment of Too-Big-to-Fail**

In 1971 Nixon put an end to the Bretton Woods agreement by unilaterally terminating the US commitment to exchange dollars into gold. It was no coincidence that at about the same time US regulators began to ignore Walter Bagehot’s most basic advice: under no circumstances should a government give aid to a bad bank.60 It was the desire to promote international financial stability and to protect the role of the dollar in the world economy that made it possible for a consensus in favor of bank bailouts to develop.

For fifteen years after the collapse of Bretton Woods the fundamental stability of the international financial system was being challenged every few years. The US supported financial stability by effectively guaranteeing that the creditors of a large international US bank would be protected whether or not the bank had engaged in fraud and was as a result insolvent. I argue here that the means by which the international financial system was stabilized involved a catastrophic mistake that has yet to be rectified. The foundations of the previous international order had been constructed on a tight-knit London money market where there was no question that one bank’s fraud was every bankers’ problem and prompt reporting of concerns about not just fraud, but even insufficient controls, at counterparty banks was both expected and understood as a moral imperative. The new international order left responsibility for both stopping fraud and ensuring that a high level of internal controls was being maintained entirely in the hands of US regulators who were in no way equipped for the task. These regulators ended up

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60 “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.” (Lombard St, Ch IV ¶ 4.)
developing an ideology that imagined that both fraud and mismanagement would have the “natural” effect of extinguishing themselves. So here we are.

The development of the Eurodollar market in the early 1970s

The collapse of Bretton Woods is closely associated with the growth of both international banking and the Eurodollar market, that is, the market for dollar denominated bank accounts held in banks outside the United States. This growth took place in part because capital controls were lifted, but also because of the Federal Reserve’s commitment to support the market by standing ready to protect the offshore creditors of US banks that failed. To understand why the Eurodollar market exists, we must look back to the early years of the Bretton Woods agreement.

In the years following the end of the Second World War, restrictions on the use of sterling in international trade led to a shift in favor of the dollar as the currency in which short-term trade credit was denominated (Strange 1976: 60). Since it was British banks that had expertise in the finance of international trade, the result was the birth of the Eurodollar market and dollar denominated accounts held in London. Because these accounts must clear through the US banking system, they are held either as deposits in foreign branches of US banks or in foreign banks that have access to the US clearing system through a US correspondent bank. US regulators chose to exercise little control over the Eurodollar market and thus allowed it to grow, relatively unregulated, until by 1973 it was $132 billion and equivalent to about 20% of US commercial bank deposits (Kapstein 1994: 35; St. Louis Federal Reserve Fred database). By 1980 it was $575 billion and a little less than half the amount of US commercial bank deposits (Kapstein 1994: 21).

In 1973 the US money center banks did not have the experience that British banks had in financing international trade. As a result, the US connection to international markets was managed through the Eurodollar market and relied heavily on the London interbank and foreign currency markets. When the Eurodollar market was disrupted, the whole of dollar-based international trade was threatened, because the US was not prepared to provide equivalent services in New York or any other domestic financial center. As a result, instability in the Eurodollar market threatened global trade and also, according to pessimists, a complete breakdown of the international financial order akin to the Depression (Spero 1980: 115). In the 1970s subsequent to the termination of the Bretton Woods agreement, US policymakers faced the challenge of proving to the world that they were competent to manage the new international financial order – and the first order of business was protecting the stability of the Eurodollar market.

While the first bailout of a large bank, the Bank of the Commonwealth, was mostly a domestic event, it was triggered by the Federal Reserve’s decision not to let the bank in question open a foreign branch that would have given it access to Eurodollar funding. (The following account derives from Sprague

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61 Some have argued that the deposit of “petrodollars” by oil-exporting countries also played a large role in the growth of the Eurodollar market, but that growth was in fact much faster than can be accounted for by OPEC countries (Spiro 1999: 60-62).
62 Note, however, that the first FDIC bailout was of a tiny minority-owned bank in Boston that the FDIC sought to support in hopes of fostering banking services in a disadvantaged community (Sprague 1986). The experiment was not a success, and there have been virtually no bailouts of small banks since.
1986: Ch 4.) Such decisions are public and in this case the decision was delivered with a very clear statement about the Fed’s concerns about the bank’s management and general condition.

Through the 1960s an enterprising bank lawyer at the Bank of the Commonwealth in Detroit had come up with a way to circumvent Michigan’s prohibition on bank holding companies and restrictions on bank branching: owning multiple banks through more than 100 interlocking partnerships run by just 18 general partners. The group’s activities were financed by Chase Manhattan Bank. The group’s management determined that in the high interest rate environment of the late 1960s punting on municipal bonds was a sure-fire way to make capital gains when interest rates fell. (Of course, they didn’t fall.) Management also deliberately created future tax deductions – and booked their value upfront as income. Regulators spent years trying and failing to “nudge” this network of banks into less disastrous behavior. Finally, in 1970 the Fed pulled the plug and forced the group to start selling off their banks. Chase Manhattan ended up taking over the biggest bank in the group, the Bank of the Commonwealth, but due to interstate banking restrictions could only own the bank for two years.

Under any rational system this would have been Chase’s problem to solve. But the Fed was concerned that the failure of a billion dollar bank could set off a banking crisis and so in 1972 the Fed put pressure on the FDIC to bail the bank out. The challenges of managing the dollar in the new environment with no tie to gold undoubtedly affected the Fed’s views. Under this pressure, the FDIC caved and provided its first bailout of any significance. According to Irvine Sprague, the FDIC chairman at the time, his eventual justification for the bailout was to avoid an increase in the significant concentration in the Detroit market – from 77% to 87% of deposits in just three banks – that would be created by a takeover of the Bank of the Commonwealth that complied with Michigan’s legal restrictions on branch banking. This explanation reads, however, like the veneer of conscience-soothing justification that any one of us is apt to adopt when forced to take a decision that is patently unjust.

While the FDIC was careful to structure the bailout as a loan and to force the Bank of the Commonwealth to book a loss on its investment portfolio, the loan paid a below market rate and the FDIC was forced to extend the loan multiple times, so that payment was not complete until 1995. From a banking theory perspective the extension of a loan that will be repeatedly rolled over is effectively an equity investment. Thus, the effect of this first bailout of a large bank was that the FDIC put de facto equity into a bad bank. Unsurprisingly the FDIC board had little desire to repeat this experiment. The spread of international banking would, however, affect the FDIC’s decision-making process.

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The structure of the US regulatory system rendered extremely difficult the task of demonstrating to the world the competence of the United States in managing the new international monetary system. There were three federal bank regulators in the United States. Banks with a national charter were regulated by the Office of the Comptroller of the Currency (“OCC”), while state-chartered banks were regulated both by state banking authorities and either the Federal Reserve or the FDIC depending on whether the bank was a Federal Reserve member bank. The OCC was (and is) funded by the assessment it imposes on

63 The Federal Reserve had two forms of additional authority over banks. All national banks were required to be members of the Federal Reserve, and the Fed was the regulator of all bank holding companies, which typically were the owners of the national banks.
national banks, and had a long history of attracting banks by offering more favorable regulation. In this era, the OCC was also notoriously uncooperative with its fellow regulators (Sprague 1986: 236).

While US banks were accustomed to navigating the regulatory turf battle and apparently knew when to be cautious about taking on exposure to an instrument approved by the OCC, but not the Fed or FDIC, foreign banks did not have this skill. With the massive growth of cross-border banking this had the natural effect of leaving foreign banks exposed to an instrument that the Fed and FDIC considered *ultra vires*, that is, beyond the limits of the activities permitted to a bank. Because national banks had been issuing these instruments – standby letters of credit – for a decade before the FDIC had the opportunity to challenge their validity in court in *First Empire Bank v. FDIC*, foreign banks were “infuriated and embarrassed” when the FDIC did not immediately honor them (Spero 1980: 94).

This case arose in 1973, a year which opened with the *de facto* floating of exchange rates after the failure of efforts to peg rates subsequent to the collapse of Bretton Woods, and closed with the Iranian revolution and the first oil crisis. In short, 1973 was a year in which the bezzle generated by a decade of lax financial conditions in the US was beginning to be revealed as fraudulent banks were exposed. The FDIC case associated with these arguably *ultra vires* instruments arose when the bank that issued them failed and was purchased, and the buyer refused to assume the standby letters of credit due to an underlying fraud. As a result, the instruments were transferred along with other bad assets to the FDIC. Ultimately, the FDIC in its lawsuit over the standby LOCs didn’t even raise its strongest legal argument, i.e. that the instruments were *ultra vires*, a fact that the adjudicating court commented on (Kettering 2008: 1669). It seems likely that the FDIC backed down in no small part, because having an apparently well-established instrument declared *ultra vires* would have threatened global confidence in the competence of the United States as a manager of the international financial system at a time when that system was already under a great deal of stress. It was by this far from carefully considered process that bank issuance of standby letters of credit became a generally accepted activity in the US.

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The next bank to have its fraud exposed had been speculating on currencies and then covering up its losses (amongst other misdeeds). Franklin National had grown very quickly to become the 20th largest US bank, and in 1973 the size – and unprofitability – of the positions it was taking in the foreign exchange market made its lack of internal controls obvious to its counterparties who had shut it out of one Eurodollar market, that for forward contracts (Spero 1980: 83-84). By the end of 1973 Franklin had to pay a premium for the Eurodollar borrowings on which it relied heavily – and Spero (1980: 93) connects this premium to the FDIC’s treatment of the putatively *ultra vires* standby letters of credit discussed above which raised concerns in foreign markets about exposure to the failure of a US bank.

In May 1974 when Franklin finally lost access to Eurodollar funding, the Federal Reserve decided that it was in the interests of financial stability to support the bank. The Fed’s lending policies in support of Franklin National would shatter precedents as the $4.7 billion bank saw $2 billion in funding flow out over the course of two months (Spero 1980: 126-27).

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64 *First Empire Bank v. FDIC*, 572 F.2d 1361 (9th Cir. 1978).
65 Galbraith (1955): “At any given time there exists an inventory of undiscovered embezzlement in – or more precisely not in – the country’s business and banks. This inventory – it should perhaps be called the bezzle – amounts at any moment to many millions of dollars.”
This outflow was undoubtedly aggravated by the June 26, 1974 closure of a German bank, Bankhaus I.D. Herstatt of Cologne, also due to losses on currency speculation.\(^{66}\) (This section relies on Spero 1980 and Kapstein 1994.) In this case, not only did the German Bundesbank choose not to support the bank, but the bank was closed while both the London and New York markets were open – and while a significant intraday balance was outstanding in both the foreign currency spot market and the interbank market. That is, the failure disrupted the settlement process in both markets causing losses and frozen funds. As the London interbank and foreign currency markets froze up, small and medium-sized banks were either shut out of them or forced to pay a premium. Only in September 1974, after the G-10 central bankers issued a joint statement that “the means are available ... for the provision of temporary liquidity” to the Eurodollar market, did interest rates on the market fall (Schenk 2014: 1141). The tiered rate structure in interbank markets would continue into early 1975. In many cases, small banks were unable to execute foreign currency trades for their clients. To revive the foreign exchange spot market the New York Clearinghouse created a temporary emergency rule allowing banks to recall payments one day after they were made. It would remain in place for almost six months. As Herstatt’s foreign exchange trading book was only one-tenth the size of Franklin National’s, there was good reason to believe that a disorderly failure of Franklin could have had a devastating effect on the nascent Eurodollar markets and would have – at a minimum – created major complications for the program of establishing a post-Bretton Woods international monetary system (Spero 1980: 113-14).\(^{67}\)

Before Franklin National was finally sold in October 1974, the Federal Reserve had lent it almost $1.8 billion allowing unlimited outflows to foreign branches abroad that would ultimately amount to nearly half a billion dollars.\(^{68}\) As Franklin National ran out of collateral in the US, the Federal Reserve arranged for the Bank of England to act as the Federal Reserve’s agent maintaining physical possession of collateral in London.\(^{69}\) The loan to Franklin National was of such long duration that the Fed altered its regulations in order to charge an interest rate above the official discount rate – and closer to the market rate – in cases of “protracted assistance where there are exceptional circumstances or practices involving only a particular member bank” (Spero 1980: 204n19).\(^{70}\) Finally, because Franklin was shut out of participation in the London foreign exchange market due to settlement risk, and no buyer was willing to take on Franklin’s foreign exchange book due to its reputation for unauthorized and illegal trading,

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\(^{66}\) While employees of Herstatt were later convicted for hiding their losses using improper accounting entries, the criminal convictions associated with the Franklin National failure were much more extensive.

\(^{67}\) As the OPEC oil exporting countries were important beneficiaries of the smooth operation of the international monetary system, the counterfactual of a collapse in that system raises the possibility that oil prices would have been forced down due to a collapse in trade – and thus that the world would have been sent down a very different historical path.

\(^{68}\) The Federal Reserve’s stance on the Eurodollar market increased the attractiveness of depositing Eurodollars in US bank foreign branches, but caused some consternation amongst certain European central bankers who were unwilling to provide similar encouragement to offshore banking (Kapstein 1994: 42).

\(^{69}\) In addition, to avoid publicity the Federal Reserve typically does not “perfect” its liens in the collateral it takes because doing so requires providing public notice of the lien. This practice leaves it open to third party claims on the collateral. In order to ensure that Franklin National’s London assets would actually be transferred into the US liquidation, the Bank of England arranged to transfer the collateral to the FDIC immediately upon the formal declaration of insolvency of the bank, effectively spiriting the collateral away from any of Franklin’s creditors in London who might have a claim to it (Spero 1980: 152).

\(^{70}\) In the event, Franklin was only charged the special rate starting in late September, and thus only paid it for 11 days.
the Federal Reserve Bank of New York had to purchase the trading book and operate it until all the outstanding contracts were filled (Spero 1980: 132-35).\footnote{The contract of sale for the foreign exchange book required Franklin to indemnify the New York Fed for any losses in excess of those estimated – and when Franklin was finally declared insolvent a month later the FDIC assumed the contract and therefore indemnified the New York Fed for any excess losses (Spero 1980: 135).}

Finally, on October 8, 1974 the bank now just $3.7 billion in size was declared insolvent, after the Fed and FDIC had managed to arrange a government-assisted sale of the bank. Franklin’s deposits were assumed by the purchaser which was permitted to select $1.5 billion in assets to form a “good” bank. The remaining “bad” bank assets along with the loan from the Federal Reserve were transferred to the FDIC for liquidation. The liquidation was complex and involved substantial litigation. Ultimately, in 1989 the FDIC returned $23 million to the shareholders of Franklin National (FDIC 1997a: 262).

It is easy to underestimate the enormity of the decision to take such extraordinary action to ensure that Franklin National’s creditors were made whole. The Federal Reserve because of its vast holdings of US government debt remits its surplus profits to the US Treasury every year – and the FDIC which was also put at risk by this policy has access to a line of credit from the Treasury. The Fed effectively committed the full faith and credit of the US government to stand behind the liabilities of US banks with significant exposure on the Eurodollar markets – whether or not they were engaged in fraud (which Franklin National most definitely was). There is no question that this provided significant support to the dollar’s role in international finance subsequent to the collapse of Bretton Woods – which was both the intent of the policy and a rather obvious effect of it. The policy is, however, euphemistically referred to in the literature as that of a “lender of last resort” or provision of liquidity to international markets (e.g. Kapstein 1994: 20, 42. See also Gourinchas, Rey & Sauzet 2019). Of course, since it is in practice a credit guarantee – which is why the FDIC is involved – it really has nothing to do with liquidity at all. The likely reason this is referred as “liquidity” support is that the Federal Reserve does not have legal authority to provide a credit guarantee to a bank. I will discuss below how this fairly direct government support of the US money center banks represented a complete transformation of the nature of the international monetary system. For now, however, let us continue with our history.
Personnel changes in the Fed Board’s General Counsel’s office may help explain the extraordinary nature of the Fed’s support of Franklin National: just when the bailout took place the average level of experience as staff in the Federal Reserve General Counsel’s Office of the attorneys in the Office fell below two years, down from 8 years in 1969. In short, the attorneys making these decisions had probably barely begun to understand the basic operations of the Fed, much less the most appropriate way to handle a crisis. The reasons for this are unclear. Was this the beginning of the “revolving door” where banks offered huge paychecks to Fed lawyers that were not matched by the salaries paid by the Federal Reserve? Was General Counsel Thomas O’Connell a catastrophically bad manager, or was he the only attorney with such a strong sense of public service that he stayed at the Fed despite strong financial incentives to leave? Was the exodus of attorneys somehow associated with the new role of the Fed created by inflation and Nixon’s decision to end Bretton Woods? We do not know.

One of the most remarkable events of 1974 that took place within the Fed was the Board’s appointment of Thomas O’Connell, the only attorney with significant experience in the General Counsel’s office to a new position, Counsel to the Chairman. This took place on July 10 after it was clear that Franklin

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72 Through most of the 1960s the office had been staffed with a stable team of five to six attorneys, who had many dozens of years of Federal Reserve General Counsel experience between them and were led by General Counsel Howard Hackley who had been a law clerk in the office in the 1930s. When Hackley departed in 1968 things changed. The next General Counsel served only three years and by 1970 when Thomas O’Connell, who had joined the General Counsel’s office in 1956, took the helm, all the other experienced attorneys had left.
National was insolvent and that any sale of the bank would require government assistance (Spero 1980: 137). At the same time, Andrew Oehmann was made Acting General Counsel (Fed Bulletin July 1974). Oehmann, who had served in the Kennedy Administration but had little banking experience, had been hired in 1973 as Special Assistant to the General Counsel. At the time the only attorney remaining in the General Counsel’s office who had been hired before 1972 was Pauline Heller, and she had been brought in as a specialist in bank holding companies in 1969. A very high level of staff turnover continued through the 1970s. As a consequence, the only Fed attorney with long experience in the General Counsel’s office continued to be Thomas O’Connell who would serve not as General Counsel, but as Counsel to the Chairman until his death in January 1979 at 53 years of age.

The decision to move O’Connell out of the General Counsel’s office and into a position advising the Chairman is remarkable, especially when one takes the timing of the decision into account. As General Counsel to the Board of Governors, an attorney must treat the Board itself as its client and may not advise the Chairman as an individual, except to the degree that the Chairman’s interests are closely aligned with those of the Board. In particular, if the Chairman were to insist on acting in a manner that was clearly illegal the Board’s attorney would have a duty to report the Chairman to the Board and/or the White House. On the other hand, the Counsel to the Chairman does not need to put the Board’s interests first, but can advise the Chairman as to how best to achieve his goals – and for the most part it would be unethical for an attorney to report on his client based on confidential attorney client communications. In short, moving the General Counsel into the role of Counsel for the Chairman in the midst of an unprecedented bailout of financial markets gives the appearance that the Fed Board at this time was preparing to act in a way that did not just push to the limits of the Fed’s statutory authority but also exceeded them. In this situation, O’Connell could have chosen to resign, but that would have left the Fed Board without a single attorney with significant General Counsel experience. It is easy to imagine that an attorney placed in this situation might conclude that the interests of the public as well as the Fed would be better served if he did not resign. It is perhaps telling that O’Connell died of health problems at 53. In any event, the General Counsel’s office was left with no one with any depth of experience in the job though the Franklin National bailout, and this makes it somewhat less surprising that the Fed was setting new precedents in 1974 rather than following old ones.

The implications of the remarkable rescue of the Eurodollar market from the consequences of Franklin National’s failure were not ignored by the members of the Board. Two weeks after the assisted sale of the bank, Federal Reserve Chairman Arthur Burns gave a speech addressing the fact that “for the first time since the Great Depression, the availability of liquidity from the central bank has become … an essential ingredient in maintaining confidence in the commercial banking system.” First, he analyzed why this had taken place and then discussed what needed to be done to ensure “a free enterprise system.”

Burns described five destabilizing and interconnected trends that had been generated by the new policy of promoting competition in the banking sector: declining capital, increasing reliance on volatile market-based funding, expansion of off-balance-sheet commitments, declining asset quality, and for the largest banks increased exposure to foreign currency risk. He then explained that these trends had raised questions about bank solvency and found that “while faith in our banks is fully justified, it now rests unduly on the fact that troubled banks can turn to a governmental lender of last resort. … In a free enterprise system, the basic strength of the banking system should rest on the resources of individual banks.” After listing the ways in which the Fed was restraining the banking system, he concluded that it
is time to set aside the tacit assumption that “the sweeping financial reforms of the 1930’s had laid the problem of soundness and stability to rest” and that “a substantial reorganization [of our bank regulatory system] will be required” to avoid the problem of “competition in laxity” and a complete failure to address the demands of this new environment. He emphasized that it was important to end the system whereby banks were free to choose their regulator (Burns 1974). Burns’ colleagues on the Board of Governors expressed similar concerns, and one of them went so far as to conclude that if banking was going to be a “no failure industry”, then public “control” would probably be necessary (Coldwell 1976. See also Holland 1975). Reforms promoted by Burns were adopted into law in the Financial Institutions Regulatory Act of 1978.

The Growth of LDC Loans

In the meanwhile, starting in late 1973 the Eurodollar market saw a significant inflow of funds as the first oil price crisis directed an extraordinary flow of funds to the OPEC member states, and they turned to the Eurodollar market as a safe savings vehicle that paid relatively high interest rates. As a result, funding costs plummeted for the large banks active in these markets. At the same time, these banks were losing their biggest commercial borrowers to the commercial paper market, supported with off-balance sheet guarantees from the money center banks. These banks had no desire to restrain the growth of their off-balance-sheet activities which both faced limited regulatory oversight and were protected from the competition of smaller banks. (Smaller banks couldn’t issuer off-balance-sheet guarantees as easily as large banks, because even in the 1970s a large bank failure was far less likely to impose losses on unsecured creditors since regulators always did their utmost to sell off a large, failed bank together with its liabilities, whereas small bank creditors were often handled more harshly.) Thus, the money center banks, faced with an unexpected windfall in funding and having shifted their traditional clients to off-balance-sheet financing, needed to find earning assets that were alternatives to their traditional commercial lending (FDIC 1997b: 196-98).

They turned to syndicated loans: in the late 1970s and early 1980s these loans typically financed the dollar-denominated debt of developing countries.73 After the LDC debt crisis of the early 1980s, syndicated “leveraged loans” would be used by the banks in partnership with takeover specialists to load conservatively run companies with debt. At the same time, mortgage lending was opened up to banks and this would become another avenue for non-traditional on-balance-sheet lending.

Despite the common claim that in the 1970s the banks were “recycling” petrodollars from oil exporting countries to oil importing countries, that was more the job of the multilateral institutions, such as the IMF, which was willing to lend to countries with significant credit risk (Spiro 1999). Although the Eurocurrency markets tripled in size from 1973 to 1978, less than 30% of the $325 billion increase was accounted for by the OPEC surpluses (Volcker 1980: 9, 15).74

Furthermore, the banks were lending to a select group of developing countries, some of which were oil exporters (Spiro 1999: 70-71). This is explained by the support provided by the developed countries to their export industries in response to the oil crisis. By increasing the provision of government guarantees

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73 LDC lending by commercial banks rose by $120 billion from 1973 through 1979 (Volcker 1980: 10-11).
74 One should also note that on the bank funding side of this equation, a significant portion of the OPEC surplus was processed through the domestic US and European banking systems. Only about one-third of the “petrodollar” funds flowed through the offshore Eurodollar markets (Spiro 1999: 58; Kapstein 1994: 67).
on the debt incurred by the buyers of the exports many developed countries were able to keep their current accounts from going heavily into deficit (Kapstein 1994: 62, 68). As a result, the deficits created by the transfer of value to the largest oil exporters were shifted towards developing countries. Indeed, by 1978 the OECD country current account surplus was greater than the OPEC surplus (Volcker 1980: 34). As the goods exports of developed countries increased in response to the export guarantees that were expanded during the oil crisis, even those developing countries that were oil exporters experienced deficits. Since the countries with a robust source of export earnings were naturally viewed as particularly creditworthy by the banks, these countries had generous access to the syndicated loans provided by the banks that operated in the Eurodollar market. Thus, Spiro (1999: 130-31) questions the standard narrative which assumes that finance does not have a causal role in driving trade flows and asks instead whether it was the banks’ willingness to fund a developing country’s debt that made it possible for that country to run a trade deficit.

By 1976 divisions were showing amongst the developing countries. In May at a UN Trade and Development conference the G-77 countries were seeking a moratorium on debt. They did not, however, have the support of the biggest and richest developing countries, which were the beneficiaries of the money center banks’ syndicated loans and as a consequence had the most to lose from being shut out of international lending markets (Kershaw 2018: 303) – or so they thought at the time. In fact, over the course of 1976 US banks would seek to reduce their exposure to Mexican debt in the face of a growing expectation that currency devaluation would be necessary in order to address the current account deficit. Needless to say, such prophecies are self-fulfilling. As market-based credit became scarce, Mexico was forced to turn to the IMF which imposed currency devaluation as a condition of its loan (Kershaw 2018). In the months before the IMF loan was concluded, the Federal Reserve provided a $360 million credit line to Mexico and then repeatedly rolled it over in order to avoid a moratorium on the Mexican debt and the consequent damage to the US commercial banking system (Kershaw 2018: 307). Overall, at the behest of the IMF and the US government in 1976 the Mexican government chose to embrace austerity in order to maintain access to international credit markets.

How then should the government role in the banks’ lending to developing countries be characterized during these early years of the LDC lending boom? For this early period, I have been unable to find clear evidence that “the U.S. government encouraged the American banks to recycle petrodollars to borrowers in Latin America” as Feldstein (1991) claims. In particular, there is little evidence that government officials attempted to direct the flow of funds to particular borrowers (Madrid 1990: 44). On the other hand, government officials created an environment where syndicated lending – and the LDC lending associated with it – was facilitated (Braun et al. 2019). First and foremost, as was discussed in detail in the previous section, US policymakers prevented a significant collapse in the Eurodollar market when they bailed out international creditors from the fraud perpetrated by Franklin National Bank. This was strongly reinforced by the September 1974 declaration of the G-10 central bankers that they were ready to support Eurodollar markets (see Kapstein 1994: 66 and Kershaw 2018: 305). When

75 Note that Kapstein’s source for this is Wellons (1987).
76 The facts that the non-oil LDCs import prices rose faster than their export prices and that their export trade with developed countries grew slowly (Volcker 1980: 18) may support Spiro’s claim.
77 Because, as was acknowledged at the time, Mexican exports had little room to grow and were already effectively priced in US dollars, the devaluation was not likely to increase the revenue from exports, but instead would have to work by reducing Mexican consumers’ demand for imports (Kershaw 2018: 307).
combined with the US refusal to support an expanded role for multilateral institutions to address the balance of payments problem, the effect was to place the burden of managing the balance of payments problem on the banks and the Eurodollar market (Spiro 1999: 141-43; Kershaw 2018: 305). Add when one then adds to this situation the Federal Reserve’s role in the 1976 Mexican debt crisis, one can easily conclude that LDC lending was the natural consequence of the environment created by US policymakers during the oil crisis when they demonstrated in 1974 and 1976 that they viewed instability in the international monetary system as a threat to US hegemony and were therefore willing to take unprecedented actions to avoid such instability by bailing out the money center banks, both directly and indirectly and with no exception for cases of fraud. It is equally unsurprising that in this environment the LDC loans were high margin and very profitable during the boom years of the 1970s (Madrid 1990: 46 - 52).

While one can take the position that the Franklin National bailout and the role played by the Fed in the 1976 Mexican debt crisis served to “encourage” US banks to lend to developing countries, it is worth pausing a moment to consider what this approach implies. The Federal Reserve had demonstrated (i) that it was committed to protecting the Eurodollar market creditors from the failure of a US bank and (ii) that together with Treasury it was willing to intervene in a case of sovereign default to protect the interests of US banks. To the degree that these actions are treated as “encouragement” to the banks to increase their loans to risky sovereign borrowers, the mechanism at work is clearly moral hazard, or the tendency of insurance to cause an increase in risk-taking. In short, when people like Martin Feldstein claim that the US government encouraged LDC lending by banks in the early years of the lending boom, what they are actually acknowledging is that the Federal Reserve’s protection of interbank markets was creating a serious moral hazard problem and driving a significant increase in bank LDC lending.

To the degree that such “encouragement” existed, it was not at all uniform. By 1977, the Federal Reserve was expressing concern that the syndicated loans to developing countries would cause problems for the banks (FDIC 1997b: 198-99). The regulators gathered data so that they could track bank lending to LDCs carefully and so that the banks had appropriate data with which to refine their underwriting techniques (Volcker 1980: 13). On the other hand, in keeping with its history of lax regulation the OCC issued a Final Rule in 1979 that had the effect of increasing the exposure that a bank

78 In addition, the relaxation of capital controls in the US made it possible for the petrodollars that flowed into the domestic US banking system to flow out again (Kapstein 1994: 68).
79 The role of the Fed and the Treasury in the 1976 Mexican debt crisis likely explains Madrid (1990: 70-72)'s finding that bankers expected official intervention in the event of a sovereign default.
80 Fed Chairman Arthur Burns (1977b) offered a particularly astute evaluation of the risks to the global economy as it was adjusting to the oil price hike (together with an unrealistic assessment of the benefits of IMF loan conditions to developing countries). Because he understood that many countries were being forced to borrow heavily and that banks were likely to “be tempted to extend credit more generously than is prudent,” he saw significant risks to the international credit structure, especially in the event of another large recession or “a new round of oil price increases.” In the absence of such challenges, he was optimistic that an increase in official lending, better data collection on developing country credit risk, and the benefits of IMF conditionality – supporting not just the repayment of IMF but also private sector debt – would together result in a successful adjustment of the world economy. He encouraged private lenders to avoid undercutting the IMF and more particularly to coordinate with the IMF in demanding loan concessions. He also called out oil-importing countries that were running persistent surpluses for the costs they were imposing on the rest of the world. (A refrain that has been resonating for nearly a century now.)
was permitted to have to any single country. Overall, regulatory demands that banks control their foreign lending were moderately successful in 1977, restricting the growth of LDC loans to 11% (Burns 1977b; Madrid 1990: 59). But by 1978 US bank loans to developing countries were growing by 17% per annum, a rate that more or less continued until the 1982 debt crisis (Madrid 1990: 59).

In the meanwhile, in response to the unprecedented role played by the Federal Reserve in the bailout of Franklin National Bank, the Fed was seeking a significant expansion of the regulators’ statutory authority over both bank holding companies and bank management. The legislative reforms demanded by the Fed included (i) authority to regulate foreign banks operating in the US, (ii) establishment of a Council to set uniform bank regulations in the US, (iii) monetary penalties for violations of banking laws and regulations, (iv) authority for the Fed to compel divestiture of a nonbank from a bank holding company if it poses a serious financial risk to a subsidiary bank, and (v) an expansion of the grounds for removal of bank officers and directors to include continuing disregard for safety and soundness (Burns 1977a).

This legislative wish list was largely granted in the Financial Institutions Regulatory and Interest Rates Control Act of 1978 (“FIRA” Pub. L. 95-630). By the time FIRA was passed, however, Thomas O’Connell, the long-time Fed attorney, who likely shaped the law’s provisions, was just two months away from his death, Arthur Burns’ term as Fed Chairman had expired, and President Carter had appointed a new Chairman. Furthermore, this was an era of particularly rapid turnover not just of attorneys in the General Counsel’s Office, but also of Federal Reserve Governors. As a result, by 1978 there was only one Fed Governor and not one General Counsel attorney who had been in office through the events of 1974. Thus, it appears that due to the lack of continuity in the leadership of the Fed, several aspects of this substantial expansion of its statutory powers were never actually put to use.

The Bailout of First Pennsylvania Bank

In the last months of 1978 the Iranian Revolution triggered a second dramatic rise in oil prices, and by 1979 US inflation was beginning to spiral out of control. As the Federal Reserve struggled with the problem of monetary control, regulators were very aware that non-bank liabilities and the Eurodollar market with its 20% per annum growth rate were part of the problem (Hawley 1984: 148). As the nature of the money supply was transformed, the Fed began to have control over only a portion of the de facto money supply: the Fed had traction over local domestic markets, but not the Eurodollar market; it had traction over bank-reliant SMEs, but not large firms that could raise funds on the commercial paper market (which was of course also bank-reliant, but off-balance-sheet and subject to little or no

81 There was a statutory limit on loans to any single “person” to 10% of capital, and regulators had traditionally treated all foreign loans to any government entity as loans to that country’s “government” as a single person for the purposes of the statute (Kapstein 1994: 77). In the Final Rule depending on how the loan was to be used and on the means of payment available to the borrower, this aggregation would not be required (44 FR 22712, 1979). Paul Volcker, President of the New York Fed at the time, apparently took a positive view of this regulatory change describing it as “a Solomon-like judgment” (Kapstein 1994: 77).

82 Note, however, that in this year non-US banks apparently stepped into the breach, so total LDC debt to private creditors increased by 33% (compare Kapstein 1994: 71 to Madrid 1990: 59).

83 The authority to force a BHC to divest a subsidiary is encoded in 12 USC s. 1844(e), the authority to force termination of an officer or director is encoded in 12 USC s. 1818 (e), and the Federal Financial Institutions Examination Council was formed in 12 USC 3301.

84 Henry Wallich was the Governor. Philip Coldwell had arrived at the Board late in October 1974. Two attorneys in the General Counsel’s office had been hired over the course of 1974, Charles McNeil and Allen Raiken.
monetary control). The changing nature of the money supply meant that by the end of the 1970s the tools of monetary policy mostly affected local domestic markets and SMEs, that is those with no or limited access to Eurocurrency and commercial paper markets (Hawley 1984: 149, 153).

As a result, in early 1979 Fed Chairman Miller, New York Fed President Paul Volcker, and Treasury Undersecretary Anthony Solomon (who would succeed Volcker as New York Fed President) sought (i) to bring non-banks within the purview of the Fed’s control and (ii) to control and regulate the Eurodollar market (Hawley 1984: 151). The Depository Institutions Deregulation and Monetary Control Act of 1980, which is discussed above, was (mistakenly) expected to address the first agenda item. The second item required coordination with foreign regulators. This type of coordination had been initiated in 1974 with the formation of the Basel Committee of Bank Supervisors ("BCBS"). The US policymakers in 1979 had two policy objectives: the systematic collection of data on Eurocurrency markets and the imposition of minimum reserve requirements on Eurocurrency deposits (Hawley 1984: 152-55). The BCBS was, however, composed of regulators with very different interests and thus was unable to frame a common approach to the problem, much less a common solution. Neither of the regulators’ goals was achieved (Kapstein 1994: 52; Hawley 1984: 158-59). Acknowledging defeat, US regulators ultimately stopped advocating for controls on the Eurodollar market and settled instead in 1981 for a policy that attempted to draw the offshore accounts onshore by permitting international banking facilities (IBFs) – with their minimal level of regulation – to be located in the United States (Hawley 1984: 156; 46 FR 32426). This was a solution the biggest banks had been lobbying for since 1978 as a step towards deregulation of the domestic market (FRBNY 1978).

The bank regulators imposed the first mandatory capital requirements on banks between 1980 and 1981 without Congressional prompting, presumably due to concern over the deterioration of bank balance sheets during Volcker’s interest rate hike (FDIC 1997b: 89. Prior to this policy, regulators were described as “attempting to persuade” banks to improve their capital ratios, Gilbert et al. 1985: 15.) The distinction between primary (now called Tier I) and secondary (now called Tier II) capital, that is the treatment of subordinated debt of more than seven years as secondary capital, was incorporated into these early requirements.

By mid-summer 1979 there was a sense that the economic situation was spiraling out of control and that President Carter might not have what it takes to deal with the situation (Greider 1987). Carter

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85 Eventually Governor Wallich got on board, worried that Fed could lose control of monetary aggregates (Hawley 1984: 153).
86 DIDMCA made the thrifts subject to the Federal Reserve’s reserve requirements, eliminated Regulation Q interest rates caps, and increased the level of deposit insurance in hopes of giving deposits a competitive advantage over money market funds. As was noted above, regulators at this time apparently underestimated the importance of structural separation and simply assumed that deposit insurance was the key stabilizing innovation of the 1930s.
87 The International Lending Supervision Act of 1983 also mandated the imposition of capital regulations (Pub. L. 98-181 §908; FDIC 1997b). Wallich (1981) indicates that the early capital requirements that were being implemented by examiners were still not very effective and served mostly to put a bank’s management and board on notice that a problem was brewing.
88 The treatment of subordinated debt as capital dates backed to Kennedy’s enterprising Comptroller of the Currency, James Saxon, who was the first regulator to approve the issue of subordinated debt by banks. At the same time he ordered its treatment as capital (Mayer 1974: 397-400). By 1970 all the federal regulators permitted the issue of subordinated debt (Mayer 1974: 237). On Saxon, see also Kettering 2008: 1667.
reconfigured his cabinet and, after moving the Chairman of the Federal Reserve to Treasury, appointed Paul Volcker to the Federal Reserve. There is no question that Volcker’s job was to restore economic confidence – or that Volcker was going to take aggressive measures to stem the rise in prices. Note that Volcker was aware that one of the reasons interest rates would have to be raised to unprecedented levels was because the Fed’s monetary control had been eroded by the growth of thrift transaction accounts, money market funds, and Eurodollars (Volcker 1979: 54-56). This also meant that when monetary policy was used to slow the economy, local domestic markets and SMEs bore the brunt of the burden, while firms with access to international markets bore less of it. Volcker viewed the oil price hike as a stimulus to inflation that was forcing him “to push harder against inflation than ever before and risk damage to economic activity here and abroad” (Volcker 1980: 33).

In order to force inflation back under control, Volcker initiated a policy of raising short-term interest rates as high as was necessary to complete the task. Early 1980 was a moment in Fed history when the path set by the Fed was designed to shift the future performance of the economy onto a better path. As a result, the last thing the Fed needed was to set off a banking collapse. And Paul Volcker knew that the Fed had the capacity to keep a troubled bank alive indefinitely. Thus, a little recognized aspect of Volcker’s monetary policy was a commitment to support banks through the tight money period – in order to ensure that the seeds of confidence that Volcker was sowing could take root.

Just eight months into Volcker’s chairmanship, the sharp rise in interest rates triggered the failure of an incompetently managed bank. (This discussion is based on Sprague 1986: Ch 5.) In 1968 First Pennsylvania Bank, one of the nation’s oldest banks, had appointed a CEO who sought to join the ranks of the largest banks by embracing a policy of aggressive growth based on volatile funding sources such as brokered certificates of deposits and Eurodollars, together with not-so-careful loan origination. Increasingly intrusive Fed supervision starting in 1969, had led the bank to convert in 1974 to a national charter and OCC supervision. Finally, in 1976 the bank had tried to gamble its way out of its difficulties by investing heavily in long-term Treasuries that were paying unprecedentedly high yields, funding the purchases with short-term borrowings.

By the start of 1980 the OCC, whose Comptroller was a member of the three-man FDIC board, was sure that when First Pennsylvania reported another quarter of massive losses, a run on its market-based funding would ensue. The FDIC had spent the previous year preparing for the failures of mutual savings banks that invested primarily in mortgages and were doomed in the contemporary high interest rate environment through no fault of their own. Thus, the remaining two FDIC directors were acculturated to imposing market discipline on banks, and had to be convinced that there was a good reason to make an exception for First Pennsylvania. Their resistance was worn down in no small part because the Fed was lending ever increasing amounts to the bank and Fed Chairman Paul Volcker told the FDIC board that he was committed to continue doing so. At the same time, the Fed alongside the Comptroller (and FDIC Board member) pressured the remaining two members of the FDIC board that “there was no

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89 Note also that Volcker had a more sanguine view of the severity of the effects of Eurodollars and nonbanks on monetary control than, for example, Anthony Solomon, but also deferred to Treasury on international monetary matters (Volcker 1979: 33).

90 Technically, there was a “monetarist experiment” first, but it is still being debated whether this was only a front to make Volcker’s aggressive policy more palatable (see e.g. Stigum & Crescenzi 2008: 377).

91 The FDIC was able to force out the CEO, but not to undo the “golden parachute” he had negotiated prior to the collapse.

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alternative” to an FDIC bailout as a crisis of confidence would follow. The FDIC, of course, knew that the Fed could keep the bank alive indefinitely – at increasing cost to the insurance fund as more and more uninsured depositors withdrew their funds.

The FDIC finally settled on a bailout via a below market-rate loan together with warrants that would provide a controlling interest in the bank. In this case, the bailout was successful: within five years First Pennsylvania had paid off the FDIC loan and bought back the warrants.92

Observe what had taken place. In market-based lending’s first decade, it had been used to hold financial regulators hostage, not once, but twice. At least in response to the Franklin National failure the Fed Board had recognized that the bailout was a very dubious way to socialize private losses and therefore sought to dramatically expand control over the banks. The First Pennsylvania bailout, although it took place only six years later, did not generate a similar reaction. Bailouts of poorly managed banks – at least those that were financed on the Eurodollar market – had become the usual course of business for the Fed.

One can only speculate as to what had happened within the culture at the Fed that made possible this shift in policy in favor of bailouts. Two factors, however, stand out. It seems very likely that the turnover that was taking place at both the Fed Board and the Fed’s General Counsel’s office played a role in the normalization of the use of the Fed to socialize private losses. And it is noteworthy that banks were using the language of the new portfolio theory to frame their activities: in federal testimony they presented the “competitive advantages” provided by Eurodollar markets as promoting “efficient” allocation of resources; they described the Eurodollar market as “simply an efficient intermediary between national markets,” denying the evident capacity of the Eurodollar markets to create money; they portrayed the offshore interbank market as something that should be ignored when calculating monetary aggregates – despite the fact that Eurodollar markets were funding banks that could not get domestic funding; at the same time they argued that the central banks as lenders of last resort were “responsible not only for the banking systems, but ... for the totality of financial markets” (Weatherstone 1979a, 1979b; Ogden 1979).93 In this environment where the instability being generated by Eurodollars and other forms of so-called market-based funding was not being acknowledged as a problem, the coming bailout of Continental Illinois National Bank had been made inevitable.

**The LDC Debt Crisis and the Birth of Leveraged Buyout Loans**

By the end of 1981 Paul Volcker had demonstrated success in controlling inflation – having allowed the Federal Funds Rate to rise over 20%. 1982 would, however, prove to be a difficult year for financial markets. July saw two significant bank failures, one Italian bank and one US bank. And then there was the LDC debt crisis: in August the Mexican government defaulted on its debt, followed by a series of additional defaults.

The Italian Banco Ambrosiano roiled the Eurodollar market when it failed and neither the Italian nor the Luxembourg government was willing to support the Luxembourg branch of the bank. The losses this

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92 In 1998 First Pennsylvania merged into First Union National Bank, which later changed its name to Wachovia. Wachovia failed in 2008 and was taken over by Wells Fargo.

93 Hawley (1984: 132-34) describes the contradictory positions taken by the money center banks with respect to the Federal Reserve and the banking system as “policy schizophrenia.”
policy imposed on the Eurodollar market once again caused two-tier pricing in the market to the disadvantage of small banks (Kapstein 1994: 54).

Penn Square Bank was an Oklahoma bank that financed oil and gas exploration and after its failure turned out to have been engaged in fraud (Sprague 1986: Ch. 6). Penn Square had sold $2 billion in participations in its oil and gas loans to other banks, so once again the Federal Reserve pushed the FDIC to protect the creditors of the bank. Only after the FDIC made clear the extent of the fraud and the fact that a sale of the assets to another bank would be likely to destabilize the purchaser did the Fed concur that the only legal alternative was a liquidation of the bank. The bank was closed on July 5, 1982. Its books were in such disarray that it would take the FDIC almost a year to come up with an estimate of the losses to uninsured creditors of the bank of 35%. The Penn Square liquidation would play a role in the failure of the seventh largest US bank due to Continental Illinois’ $1 billion in exposure to this fraudulent bank.

Mexico was an oil-exporting country and the decline in oil prices that began in 1981 and continued through early 1983 eroded its capacity to carry dollar-denominated debt (Broughton 2001: 283). The country’s problems were exacerbated by the fact that it maintained a fixed exchange rate – that was growing ever more obviously unsustainable, and thus Mexico experienced massive capital flight in the years leading up to the 1982 debt crisis (Kapstein 1994: 84, 88). Capital flight, of course, just exacerbated the pressures driving a devaluation. The immediate cause of the crisis was, however, the decision by US money center banks not to roll over a substantial principal payment that was due on August 16, 1982 – despite having agreed to a significant increase in lending just seven weeks earlier (Boughton 2001: 286, 290).

In the period since the second oil price shock, the exposure of the money center banks to LDC debt – and Mexico in particular – had been increasing, so that by the end of 1981 LDC loans made up more than 10% of their assets and 2.6 times their capital (FDIC 1997: 196, 199; Boughton 2001: 283-86). A Mexican default would force the biggest banks in the US to recognize significant losses, and almost certainly result in one or more bank failures – especially immediately following the losses associated with the Penn Square liquidation. Once again, the stability of the international financial system was at risk – just two years after the First Pennsylvania bailout.

Arthur Burns had foreseen this danger (see footnote x above) and Paul Volcker (1980: 21, 27, 31-32) too had expressed concern in early 1980 that having “muddled through” the first oil price crisis by relying on the lending capacity of the commercial banking system without sufficiently addressing the underlying problems, the temptation would be to continue along the same path, “overloading the commercial banking system” and failing to serve the long-run interests of either borrowers or lenders. Both Fed Chairmen believed that an effective solution would require an expansion of IMF lending and more balanced emphasis on adjustment to the new cost of oil in addition to financing.95

94 Mexico is a clear example of the fact that the LDC crisis was not generated by the “recycling” of oil-based earnings to oil-importing countries.

95 “Let us not delude ourselves: financial flows cannot fill indefinitely a gap that must be covered by conservation, production, and new forms of energy.” (Volcker 1980: 33).

On the other hand, as Spiro (1986: 141-42) observes, political decision-makers in the US chose not to provide the IMF with enough funds to play the role envisioned by the Fed Chairmen.
Volcker (1980: 26) also observed, however, that adjustment in the developing countries would mean a decline in developed country exports – and a shift in the current account deficit toward the developed countries. For this reason, it is perhaps unsurprising that other US policymakers – notably not those involved in bank supervision – were actively encouraging developing countries to borrow (Kapstein 1994: 85, quoting Deputy Secretary of State Elinor Constable). In this environment, one begins to understand why the inaccurate euphemism “recycling of the OPEC surplus” gained so much currency (id). This was a way to use language to imply that bank loans to LDCs were just a way of efficiently reallocating resources, while avoiding acknowledgement of the dangers of this massive increase in debt to both the borrowers and the lenders. Bank regulators were naturally focused on the latter, and much less concerned about the effects more prudent bank lending might have on the balance of payments.

When Volcker was giving his speech the Federal Funds Rate had barely breached 17%. He could not have known that it would ultimately take many months of interest rates in excess of 17% to control inflation. (Indeed, this was understood at the time as evidence of a remarkable decline in the effectiveness of monetary policy, Economist 1984: 62.) From the oil-importing countries’ perspective, there was not just an oil “tax” during this period, but also a debt “tax.” Adjustment would have been devastating, and many countries chose to borrow their way through 1981. There was a major difference this time around: whereas the first oil price hike was accompanied by inflation that reduced the real burden of the debt, the “debt” tax instead had the effect of ending the US inflation and thus making the dollar-denominated debt burden that was being taken on heavier than expected.

Why the banks were willing to accommodate the growth of LDC debt during 1980 and 1981 is not entirely clear. In June 1981 Fed Governor Wallich (1981) was publicly calling on the banks to limit their exposure to LDC debt just as Volcker had done a year earlier, but to no effect (GAO 1982). Was the First Pennsylvania bailout interpreted by bank management teams as evidence that the Fed was willing to do “whatever it takes” – a view that shifted only when Penn Square was liquidated? Were the bank supervisors – despite Volcker’s and Wallich’s warnings – not paying enough attention? Did the Fed, or some part of it, have a policy, like that during the First Pennsylvania bailout, of avoiding bank failures due to LDC debt exposure during the Volcker disinflation?96 Given how clearly the Fed saw the risks in 1980, how publicly the Fed discussed its’ concerns, and the fact that formal capital requirements were developed in this period to constrain LDC lending (Wallich 1981: 13; FDIC 1997: 89), the evidence indicates that the expansion of LDC lending by the money center banks in 1980 and 1981 was a decision made by the banks despite the bank regulators’ efforts to restrain this growth.97

Bank management had a responsibility to both shareholders and the bank corporation more generally to run the bank in a responsible manner with a view to future solvency and profits. Given that the seven

96 Kapstein (1994: 76-77) indicates that the Economist reported that central bankers pushed the banks to extend their loans during this period, but in context it is far from clear that the Economist is making this claim for 1980 and 1981, rather than for the period after the debt crisis broke in August 1982 (Economist 1984: “To make the [IMF’s] case-by-case approach work, several central banks have been ready to twist arms, persuading their commercial banks to keep lending to Latin America. With hindsight they agree that the lending went too far and too fast in 1978-82; foresight warned them that too big a slowdown would make it harder for debtors to service their debt. Though commercial bankers dislike being bullied by their central banks many admit it was necessary.”)

97 It is interesting that Volcker (1980: 29) observed that “the record since 1973 has shown that outright defaults by borrowing countries are virtually non-existent,” perhaps indicating that he understood very well that LDC default might be avoided with the help of multilateral institutions like the IMF.
largest banks accounted for significantly more of the growth in US bank loans to LDCs during this period than the rest of the banking system, there is strong evidence that the credit backstop (improperly labeled “lender of last resort” support) provided by the US to the Eurodollar market had the indirect effect of interfering with the operation of traditional market-based restrictions on this LDC lending. In other words, the presence of moral hazard has to be part of the explanation both for bankers’ willingness to take on excessive exposure to LDC debt and more importantly for these bankers to continue to have access to funding on interbank markets despite their significant and increasing exposure to this debt. Indeed, even if evidence eventually arises to support the view that regulators were promoting the extension of LDC debt during the Volcker disinflation, moral hazard would have to be part of the explanation for bankers’ willingness to comply with such non-economic pressures.

Due to the money center banks’ massive exposure to Mexican debt, in August 1982 the international financial system was put at risk. Prompt recognition of losses on the debt would have caused the failure of seven or eight of the ten largest US banks at the time. To avoid this outcome, the banks were granted regulatory forbearance and given time to earn their way out of their losses (FDIC 1997b: 207). Just when default was imminent, the US government stepped in to prevent it (Boughton 2001: 292-93). The measures taken, however, were stopgaps, designed only to buy time for a longer-term solution to be worked out. Due to the limited resources of the IMF what was viewed as a viable program for restructuring the debt and reforming the economy would require a $5 billion increase in private sector loans. In the meanwhile, although the outstanding loans were concentrated in the money center banks, syndication meant that more than half of the debt was held by about 500 additional banks. The smaller banks had managed their exposures much more carefully than the large banks and stood ready to take their losses – they did not need a bailout. Of course, if the small banks walked away the burden on the large banks of the proposed restructuring would be much heavier, increasing the concentration on their balance sheets (Broughton 2001: 305-07, 312).

The solution to this problem was “officially sponsored concerted lending” (Broughton 2001: 312): the IMF began to meet repeatedly with the Chairmen of the largest banks in order to determine the best way to bring hundreds of banks on board with the extension of new loans. The big banks asked the IMF to help persuade domestic bank regulators to both pressure the smaller banks to participate in the loan extension and also provide regulatory forbearance for bank LDC loans. The money center banks were also able to use the fact that the smaller banks needed to be induced to participate to wrangle very favorable terms from Mexico for the loan extension – which of course the bigger banks with their larger exposures also benefited from (Broughton 2001: 309-11). The net effect would be that the bank creditors would receive large net transfers from the debtor countries, while the official creditors made large net transfers to the debtor countries (Kapstein 1994: 95-96, quoting Sachs 1986).

98 The seven largest banks accounted for 56% of US bank loans to LDCs in 1980 and 60% in 1982 (Madrid 1990: 59; see also FDIC 1997: 199).
99 On October 15, 1982 with the passage of the Garn-St Germain Act statutory limits on lending to a single borrower were increased to 15% of capital or 25% when backed by collateral. Given the timing this section appears to have been designed to facilitate an increase in commercial bank lending to Mexico and other LDCs.
100 Thus, when the Economist (1984) discusses central bankers “bullying” the banks to extend their lending to LDCs, it may well be referring to this episode late in 1982 when there is no question that a great deal of pressure was put on the banks to extend their loans.
In short, the money center banks were first able to profit from their aggressive lending practices in the lead up to the crisis, and then to negotiate a restructuring with the Mexican government as representatives of the much more cautious lenders who could easily walk away. This was the effect of forcing Mexico to deal with an officially-sponsored cartel of lenders that was working hand-in-hand with the IMF, which in some cases was even willing to act as an intermediary presenting the bankers’ objections to Mexican regulations to the Mexican government (Broughton 2001: 308). If the Washington Consensus-based austerity policies imposed on the LDCs by the IMF had actually been the formula for economic success that they purported to be, there might have been an excuse for this dirigiste approach to the LDC debt situation. In retrospect, however, it is obvious that these policies served only to strengthen the money center banks at the expense not just of the developing countries, but also of the non-money center banks in the developed countries.

After the Mexican debt crisis, “spontaneous” new lending to Latin America dried up entirely, replaced by “officially sponsored concerted lending” that combined bank and IMF loans with IMF adjustment packages that imposed austerity on the developing countries (Kapstein 1994: 91, 96). Indeed, because the banks were expected to work with the IMF and to promote its adjustment programs, it seems that independent lending by the banks might well have met with policymakers’ disapproval. In the International Lending Supervision Act of 1983 the US (finally) increased its funding for the IMF.101 With new bank lending slowing to a trickle, and massive outflows from the LDCs to the banks in interest payments, by the mid-1980s the Latin American economies were not just stagnating, they were suffering (Kapstein 1994: 88, 97).

By 1987 the money center banks had largely recovered from the crisis. The developing countries, however, had not. In that year Brazil declared a moratorium on the interest payments on its debt, and the banks began to realize most of the losses on their LDC debt (Kapstein 1994: 99). Only in 1990 did the reality of the developing countries’ economic regression finally result in a policy of debt reduction. In practice, however, the developing countries had to negotiate the Brady Plan reductions with the banks, and the amount of the reduction was generally small (Kapstein 1994: 100-01).

Overall, in the years leading up to the 1982 crisis the capacity of the money center banks to continue to receive market-based funding despite the reckless risks they were taking can be explained only by the moral hazard created by the US policy of protecting bank creditors from losses. That this was distorting the banking system’s capacity to allocate credit efficiently should have been obvious by 1982 when the Mexican debt crisis broke out, as it is a clear cut case of gross mismanagement by the largest US banks. Instead of recognizing that the government-guaranteed funding of the largest banks was undermining the banking system’s capacity to exercise careful judgment when underwriting loans, in the face of abundant evidence to the contrary the money center banks were treated as if they were inherently endowed with good judgment. The result of this experiment was aptly predicted by Bagehot (1873): “aid to a present bad Bank is the surest mode of preventing the establishment of a future good Bank.”

In addition to the evident moral hazard aspects of the 1982 debt crisis, it also seems to mark a turning point in the relationship between developed country governments and the money center banks. Instead of responding to the banks’ gross errors in lending judgment by disciplining the banks, insisting that

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101 The same law created congressionally mandated capital requirements for banks and called for international coordination of such requirements.
management be replaced, that business lines be sold, that the worst-managed banks shrink their balance sheets, the governments entered into a confederacy with the mismanaged banks to extort concessions from the debtors. These debtors who had traditionally borrowed on the London market, where banks had for more than a century been required maintain high lending standards or fail,\textsuperscript{102} were completely unprepared for the change in regime. The non-money center banks were being treated as subservient to policymakers and were called upon to make loans “for the good of the banking system,” instead of being treated and respected as independent entities, responsible for their own decisions. Starting with the 1982 crisis, the IMF regularly refused to lend unless its lending was accompanied by new commercial bank loans, and policymakers and bankers were careful to work together and present a united front to debtors (Kapstein 1994: 96).

In short, if in the 1970s the credit guarantees provided to US money center bank liabilities set the stage for the growth of a massive government-supported international financial system on the weak foundation of moral-hazard-ridden bank decision-making, in the 1980s the system evolved so that these same fundamentally compromised banks were treated not just as the partners of official institutions, but as cronies who generally had the right to favorable terms by comparison with those earned by the government. In less than a decade the rot in the international financial system had settled very deep indeed. This set the stage for the Asian financial crisis fifteen years later – and also for the savings glut that was a response to the crony capitalism that lay at the heart of the international financial system post-Bretton Woods.

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Another consequence of the special protected status granted by the US government to the money center banks was that they continued to raise money with ease and at low cost relative to smaller banks on both international and domestic markets. Thus, despite their demonstrated inferiority to smaller banks in managing their loan portfolios, vast sums were available – due only to their government-supported status – for them to lend. Furthermore, due to that same protected status, these banks would have the capacity to extend their loans indeﬁnitely. Under these circumstances it is not surprising that money center banks sought out a new source of earning assets to replace the much reduced LDC loan market. Syndicated lending turned to “leveraged loans,” that is, the loans that are used to load corporations up with debt in leveraged buyouts.

Recall that the Small Business Investment Incentive Act of 1980 had shifted the SEC’s mandate from one of protecting investors (both wealthy and non-wealthy) to one that also promoted the capital formation of small businesses. This was adopted in the name of helping the small businesses that were struggling due to the shift to “market-based lending” that favored big banks and big firms at the expense of SMEs. This law encoded into legislation the concept of the “accredited investor” and allowed large classes of investors to be exempt from the protections that had in the past been held to cover even the wealthy. Subsequently, in 1980 the SEC promulgated Rule 506 of Regulation D, which unlike all the rules that preceded it, permitted firms to use private offerings to raise an unlimited amount of funds from an unlimited number of accredited investors as long as the there was no “general solicitation.” (In the past,

\textsuperscript{102} Indeed, the Baring crisis of 1890 is an apt comparison. When Baring Bros. failed due to reckless lending in Argentina, the managing partner was left impoverished and offered a stipend by a relative who had retired from the firm and had no liability for the losses (Sissoko 2016).
all of the SEC’s private offering rules strictly limited either the amount that could be raised or the number of investors from whom funds were raised.)

Regulation D made the leveraged loan market possible. Whereas junk bonds are issued in public offerings that meet the stringent requirements of SEC registration, leveraged loans are issued in private offerings and are subject to only a very limited set of investor protections. According to the SEC the adoption of Regulation D was motivated by a desire to promote the capital formation of small businesses. Ultimately, however, the “small businesses” that were able to grow due to the creation of the leveraged loan market were financial firms, not the non-financial SMEs that the legislators had in mind when they passed the 1980 Act.

Private equity firms (also known as leveraged buyout firms) would use leveraged loans and a technique known as the “leveraged buyout” to either facilitate a management buyout or a hostile takeover of a corporation. In a management buyout private equity assists a corporation’s management in the purchase of the corporation’s assets from the owners of the corporation, subject to a majority vote of the corporation’s shareholders. Because the corporation’s management has a fiduciary duty to the firm’s owners and management’s interests are directly in conflict with the shareholders’ interests in these transactions, such transactions may be motivated by managers and private equity professionals who are arbitraging weaknesses in the law governing corporate management’s duty to shareholders.

In a hostile takeover the private equity firm is able to literally force debt on a corporation whose management believes such debt is not in the interests of the corporation. A hostile takeover is typically executed by the private equity firm making a conditional offer to shareholders to purchase their shares at a price above the market price – the condition is that the offer will only be executed if enough shareholders accept to give the private equity firm control.

To explain fully how buyouts operate it is important to review the well-established effects of taking on leverage. When an equity holder leverages her investment by borrowing to fund the investment, she increases the risk of her investment making it more likely that the project will go bankrupt and she will lose money, but at the same time in the event that the project makes money she increases her potential return. Because a firm is unlikely to go bankrupt immediately upon increasing its debt load, the immediate effect of leverage on the share price of a corporation is often an increase in the price. The cost of that increase is however the increased price volatility inherent in a leveraged investment – and the increased likelihood of a total loss or bankruptcy.

Both management buyouts and hostile takeovers typically take place in an environment where share prices are low relative to the value of firm assets, since this is the environment in which an increase in leverage is likely to result in a short-run positive effect on the share value. Both types of leveraged buyout then have the effect of paying an immediate higher return to current shareholders who are bought out and who give up their claim to the firm’s assets and the possibility of a future even higher return. They also both have the effect of significantly increasing the likelihood that the firm in question goes bankrupt.

What makes these deals of questionable economic value is the fact that the private equity firms (and in some cases the corporate managers) who organize these transactions are not simple equity investors in the new firms – and their incentives are typically not aligned with that of making sure that the firm that has been loaded up with debt will continue to be a going concern. Instead these organizers of leveraged
buyouts are able to extract upfront fees and payment from the transactions, and thus have an interest in keeping a flow of leveraged buyouts going even if the end result will be a rush of bankruptcies, layoffs, and economic dislocation (Applebaum & Batt 2016).

Thus, the Small Business Investment Incentive Act and Regulation D had the effect of creating a leveraged loan market that was arguably designed to enable private equity firms to arbitrage weaknesses in the legal and regulatory structure governing corporate governance. Where do the money center banks fit in this picture? This new lending market was opening up just at the time that the money center banks were finding that they needed to cut back on the LDC loans, as the borrowers were close to default. The extraordinarily cheap funds that were available to the money center banks due to their government-guaranteed status could be put to use in the syndication of the leveraged loans that financed private equity and corporate buyouts.

Consider this new perversion of the financial system: The money center banks use their access to funding which due to government support was available at low cost in almost unlimited amounts in order to promote the development of a new type of financial firm which specializes in arbitraging weaknesses in the law governing US corporations for the purpose of loading US corporations with debt. The end result has been a massive leveraging of US corporations – even in circumstances where corporate management believes the debt is not in the long-run interests of the corporation. On the one hand, the threat of hostile takeover pushes corporate management to take a less and less conservative approach to debt, and, on the other, money center banks and private equity firms are able by charging fees on this process to profit generously from their arbitrage of corporate law. Effectively, the extraordinary leveraging of corporate America is a consequence of government-guarantees provided to money center banks and the banks’ search for a way to profit off of this this vast source of funds.

It’s worth pausing a moment to compare the post-Bretton Woods financial environment with the one that existed at the height of Bretton Woods. When banks were at risk of failure and did not have access to significant sources of so-called “market-based” funding, they had to behave like traditional banks that could only keep their liabilities in circulation by lending – prudently. There was in this traditional model a tight connection between lending, the circulation of bank deposits, and bank funding. This tight connection was broken by market-based lending with the 1970s growth of the Eurodollar market and the commercial paper market. Suddenly the largest banks were able to finance themselves on markets (in fact as we have seen due to a government guarantee) and no longer needed to worry about lending in order to put deposits into circulation. Indeed, due to the government guarantee the incentives for these banks to lend prudently had declined dramatically. They turned to lending to foreign countries and to lending on a term basis to corporations in a way that served to increase debt on corporate balance sheets and the flow of funds from nonfinancial corporations to the financial sector without in fact having much of a transformative effect on the activities of the corporations. In short, the growth of market-based lending is closely associated with the growth of bank lending, that is not productive, but instead seeks out borrowers who can be induced to make interest payments as a form of tithe to the financial sector. Indeed, this transformation of banking post-Bretton Woods may explain the puzzlingly high cost of financial intermediation in the current era (Philippon 2012; see also Philippon 2015).

(The remainder is still in progress.)