



***“Can We Ensure that Global Banks  
Do Not Create Global Problems?”***

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***European Economics and Financial Centre  
Distinguished Speakers Seminar***

**London, England  
November 10, 2009**

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It is a pleasure to be at the European Economics and Financial Centre to discuss a very important and timely issue – how we can avoid having global banks create global problems.\*

I applaud the Center’s focus on both economics and finance, and on the nexus between the public and private sectors. Much of my own research career has been similarly focused, with particular attention to the connections between economics and finance, and to the ways that financial

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\* *Of course, the views I express today are my own, not necessarily those of my colleagues on the Federal Reserve’s Board of Governors or the Federal Open Market Committee (the FOMC).*

problems can spill over to the real economy – research that, I am sorry to say, turned out to be quite useful during the recent crisis.

Indeed, one of the lessons from this crisis is how underappreciated were the potential spillovers from financial problems to the economy. I think it is incumbent on us to explore the implications of these spillovers for both public policy and macroeconomic modeling – which generally incorporates little if any role for financial intermediaries and their problems.<sup>1</sup>

My remarks today center on a particular irony that I would like to discuss – that, despite the widespread acknowledgement of the “too big to fail” problem, many of our largest global banks have actually *expanded* during the crisis. Indeed, in many cases the sizes of the largest banks have become quite large relative to the sizes of both their *home* and *host* countries.

As a result, the ability – more specifically, the economic capacity – of many countries to resolve troubled global banks is, in some instances, in question. Also, the potential cost to taxpayers has made providing emergency government support to global banks deeply unpopular – a situation that in some cases significantly complicates the available resolution options. Nor is this a new problem, as illustrated by the Japanese experience in the previous decade.

Policymakers, academics, and other observers are proposing a variety of measures that would reduce the probability of a large bank failing, or limit the potential impact if a large bank does fail. But please note that I am sharing my own general views today, rather than discussing any specific proposal under consideration.<sup>2</sup>

Underlining the seriousness of the matter, I would note that large banks do not tend to fail in isolation. Rather, large-bank failures tend to be clustered – highlighting the need to minimize the *macroeconomic* impact should groups of large banks become troubled.

After briefly reviewing some of the issues that have become evident in the recent crisis, I will cover some of the options for reform. Allow me to preview some of my points, which I will then go on to explore more fully:

- *First*, despite concerns about the too-big-to-fail issue, in a variety of countries the largest banks are becoming ever larger relative to the size of the economy.<sup>3</sup>
- *Second*, banks that are *global* (not just large) create additional complications – they are more difficult to resolve and can “export” capital adequacy problems (a so-called “credit crunch”) to countries that host their operations.
- *Third*, so-called “living wills” that outline, in advance, wind-down arrangements in the event of a failure, are not only important for addressing too-big-to-fail problems but can also be used to enhance the coordination of the bank regulators and supervisors in various affected countries – which should improve resolution procedures.
- *Fourth*, narrowly defining the acceptable activities of financial institutions will merely *shift the location of* systemic problems, rather than reduce them. Instead, systemically important institutions should in my view be required to hold greater reserves and capital, to be built up during good times. Also, measures should be put in place that would facilitate global banks’ obtaining and retaining capital during economic downturns. Such measures could include automatic reductions of dividends, and required use of debt instruments that could be converted to equity should the firms face a liquidity or solvency crisis. And in general, supervisory policy should be more focused on the potential build-up of systemic risk.

## **Global Banks, Global Problems**

One of the salient features of the most recent crisis is that among banking institutions, initially the problems were concentrated in large global institutions actively engaged in complex financial transactions.

This feature of the crisis created a number of significant complications. First, because many of the troubled financial transactions were bilateral – that is, between two firms or counterparties rather than through established exchanges – the firms were not only large, but were highly interconnected. As a result, the ability (or inability) to fulfill the terms of financial contracts had a significant potential to impact counterparties. Second, when a large interconnected financial institution became troubled, there were only a very limited number of institutions with sufficient size or sophistication to acquire the problem institution. Third, banking problems are particularly difficult to resolve when the banking institution spans national borders. Because of the nation-specific nature of bankruptcy codes, bank regulation, bank supervision, and lender-of-last-resort facilities, there are currently no robust infrastructures for addressing the resolution issues surrounding global institutions. Fourth, many of the activities that proved problematic were transactions involving supposedly highly-rated assets held in off-balance-sheet entities like conduits or “structured investment vehicles,” which were not particularly transparent. And the legal, accounting, and reputational issues surrounding these off-balance-sheet activities were often unclear.

The result was that a variety of financial institutions became “too big to fail” not because of *deposits*, but rather because they were so intertwined in the global financial infrastructure that their disorderly failure could cause the flow of financial transactions to freeze – calling into question the financial viability of their counterparties and the functioning of markets where they were key players. In essence, “too big to fail” was really “too interconnected to fail” or “too relied-upon to fail.”

Again, as the discussion of too-big-to-fail institutions has increased so (somewhat ironically) has the size of many of our largest global financial firms. **Figure 1** shows the size of the three largest U.S. banks, relative to the size of U.S. GDP. As is clear from the figure, the largest institutions have over time become larger relative to the size of the economy. And not only have many of the largest U.S. banking institutions grown larger, but in some cases they have become more complex – as they acquired firms that offer investment banking services and, also, expanded the global reach of the acquiring firm.

The trend toward rapid growth of the largest financial institutions has not been unique to the United States. As **Figure 2** illustrates, the three largest banks in many countries have grown, relative to the size of the country's economy. What is also apparent – note the scale on the figures – is that in many countries the size of the three largest financial institutions relative to the size of the economy is much larger than it is in the United States. In fact, in several countries the combined size of the largest three banks is substantially larger than the GDP of the country.<sup>4</sup>

### **Implications for Policymakers**

When financial firms become large relative to the size of their home country's economy, it can pose significant challenges for policymakers. First, should the largest banks become troubled, there may be questions as to the financial capacity of the sovereign nation to resolve these firms. Second, even if there is the *capacity*, the costs to taxpayers may be so large that there is not the *political will* to take the steps that would ensure a non-disruptive resolution. Third, in many countries where banks are large relative to GDP, the largest banks have significant operations outside the national borders of the home country. Fourth, most countries are likely to follow measures that protect *domestic* depositors and borrowers relative to foreign depositors and borrowers, and will be more focused on preventing “collateral damage” to their own domestic economy.

We care about problems at large banks because of the collateral damage caused by banks shrinking their balance sheet to satisfy capital requirements. As you know, loans are assets for banks. Banks must maintain a reasonable capital-to-assets ratio. In times of stress banks may shrink their balance sheet by tightening terms of credit – which can exacerbate problems that occur during an economic downturn.<sup>5</sup>

As **Figure 3** illustrates, credit to business in the United States has been declining significantly over the past year. While loan demand does tend to fall during economic downturns, loan supply is also likely to decline if banks become capital constrained. And as **Figure 4** illustrates, the shrinkage tends to be larger at institutions with a higher probability of failure, as denoted by their supervisory ratings. As a few financial institutions become large relative to the size of a country's economy, the need to simultaneously shrink balance sheets can have potentially serious consequences for bank-dependent borrowers. Thus, large banks become important because they not only can be too big to fail, but also because of the potential macroeconomic consequences of shrinking. In a sense, they become “too big to allow to become troubled or constrained,” considering the impact on bank-dependent borrowers.

A natural consequence of being concerned about the domestic macroeconomic implications of banking problems might be to encourage globally-active banks to expand domestically but shrink internationally. This is what large Japanese banks did during the 1990s. Japanese banks significantly reduced their lending in the United States and Europe – which had consequences for credit conditions in the host countries.<sup>6</sup>

Thus, global banks pose two significant problems for host countries.

First, should the bank's parent holding company fail, host-country operations could suffer collateral damage. Host country liability holders could be disadvantaged, particularly if assets were

transferred out of the host country prior to failure. Because bankruptcy and bank resolutions are nationally focused, the impact on host country operations could be quite uncertain.

A second issue is the concern that global banks may export a credit crunch to countries that host them. To the extent a global bank decides to reduce operations because of balance sheet problems, this reduction may exacerbate other economic problems in the host country.

In light of these concerns, many countries are considering requiring the domestic operations of global banks that they host to be separately capitalized. This would have several potential benefits to the host country. Should the global operations run into trouble, there would still be capital supporting the host country operations. This would mean the host country operations would be self supporting, and might facilitate a sale of the operations to other owners, if needed. If the domestic regulator was to restrict the ability to repatriate capital to the home country, then there would be little incentive to shrink the host country operations – thus avoiding the potential for importing a credit crunch from the global bank to the host country.

Of course, the cost of such a restriction is that it impedes the free flow of bank capital across national borders. As a result, global banks may be less willing to expand internationally, and capital may be “trapped” in countries that end up having limited economic prospects or lending opportunities. The cost of the inefficient use of bank capital is an area that deserves more research attention.

Whether or not requiring bank operations to be separately capitalized within national borders makes sense will depend, in part, on improving global resolution procedures for failing firms. If countries can coordinate resolution and bankruptcy procedures, some of the costs of global bank failures can be reduced. But in the absence of improved coordination, it seems quite likely that many countries will decide to insulate their banking system and economy by requiring the domestic operations of global banks to be separately capitalized.

Global coordination is also critical if the so-called “living wills” of financial firms are to be drafted and utilized. Living wills, wherein banks must detail how they would be resolved should they become troubled – or “seriously ill”, if you want to continue the living will metaphor – are a potential supervisory tool that I and many others support. However, for the tool to be effective, a global bank’s management team needs to have a clear idea of how regulators will react when a global bank becomes troubled. To truly be effective, a living will for a global bank would not only require a plan developed and kept up to date by management, but *also an agreement among regulators in different countries* that such a plan would be feasible – since supervisory, regulatory, and legal restrictions are country dependent. In essence, in the case of global banks, living wills may serve as a mechanism to encourage greater synchronization of supervisory policies across countries.

I would note, however, that there may be areas that are not easily addressed by such living wills. Financial institutions that are critical market makers – or who engage extensively in complicated financial contracting not involving exchanges or clearing houses – are two possible examples. However, if the living will identifies these areas, the requirement could be made that they be run in separately capitalized subsidiaries, where these subsidiaries hold significantly more capital than other areas of the organization. Alternatively, the requirement could be made that such activities be run in independent companies – as activities that are not seen as appropriate to run out of large global banks.

*Effective* living wills are also likely to identify areas where banks have chosen particularly complicated legal structures – perhaps to avoid taxes, capital charges, or regulation. Complicated structures that make resolution difficult impose externalities that will likely need to be addressed internationally.

The trade-off between the commercial benefits of complicated structures and the potential public costs of resolving complicated organizations is an area that deserves more supervisory and

international study. One potential approach is to add significant Pillar Two capital under the Basel Accord for banks that choose complicated structures. This would essentially impose on institutions that make themselves difficult to resolve a need to hold additional capital. At a minimum, living wills should document the organizational purpose of different legal entities, and supervisors would have the ability to compare those structures with competitors who have chosen simpler structures.

A more draconian solution that has been floated by some observers is to move to narrow the activities of banks. Narrowed banks would be constrained to only engage in very limited activities, and in particular would be banned from activities viewed as especially risky, such as proprietary trading.

Personally I am skeptical that such dramatic action would significantly limit systemic risk, for several reasons.

First, even narrowly defined financial institutions can run into difficulties. One example involves money-market funds in the United States, which are very limited in their activities, and are only allowed to hold highly liquid, highly rated financial instruments. Nonetheless, despite this “narrowness,” there was a run on prime money market funds resulting from a variety of interconnected factors, which ultimately required the creation of an insurance scheme and the establishment of temporary liquidity facilities – and even so, there were significant disruptions to short-term credit markets, which greatly complicated financial problems in the United States last fall.

Second, firms that do not engage in traditional banking activities can run into difficulty and transmit their problems to the broader financial system. In fact, the recent government interventions were not driven by deposit insurance. The interventions were driven by concern over troubles at firms so integrated in financial markets that their failure would result in financial and macroeconomic consequences that would likely be unacceptable.

Lehman Brothers did not have FDIC-insured deposits; rather it was systemically important because it was a significant counterparty to myriad financial transactions. Its failure to meet its obligations created uncertainty about the exposure of counterparties and the ability to complete financial transactions in a variety of markets, causing a financial market “freeze.” The need for the establishment of appropriate resolution powers – and greater appreciation of the systemic risks created by investment banks that might be over-leveraged and possess too little liquidity – should be overall lessons drawn from the crisis.

Moving to a narrow-bank approach is likely to merely *shift* the systemic risk out of banks but not significantly reduce it. Large interconnected firms with extensive lending do not necessarily need to be financed by bank deposits, as was shown by problems at many investment banks. Instead, I would advocate an alternative approach. For systemically important institutions, the risk of insolvency should be reduced by requiring more capital, and requiring the institutions to build up larger reserves during good times. Also, measures should be put in place that would facilitate systemically important institutions obtaining and retaining capital during economic downturns. By having mandatory conversion of debt and mandatory reduction of dividends, banks could retain sufficient capital – so they hopefully would not need to shrink during downturns. In addition, as I have argued in other talks, supervisors of such systemic institutions should have the mandated responsibility and authority to address emerging systemic concerns.

### **Concluding Remarks**

In conclusion, I would just reiterate that the recent turmoil occurred at a time when financial institutions were becoming large relative to the size of their home country economies. The problems highlighted by the financial turmoil illustrate how critical it is to address the problems of “too big to fail.”

As I have noted today, large institutions often are characterized by international expansion. Globalization significantly complicates the ability to resolve large financial institutions. However, I expect that “living wills” may be a mechanism not only to better understand the difficulties with resolving large complicated institutions, but also may serve as a vehicle to enhance greater international coordination, which will be crucial going forward. In addition, moving to establish a clear mandate for systemic regulatory responsibility is critical, as is providing the given regulatory entity the power to enforce that mandate.

I thank you again for inviting me to speak with you today.

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## NOTES

<sup>1</sup> Although, certainly, some such research is being done.

<sup>2</sup> I have considered the topic of systemic regulation in several recent speeches: In a recent talk (“Could a Systemic Regulator Have Seen the Current Crisis?”, available at <http://www.bos.frb.org/news/speeches/rosengren/2009/041509.htm>) I stressed that we need to have organizations with explicit responsibility for financial stability (charged with making sure that “contagious” failures of financial institutions do not occur, and alert to trends emerging across a swath of interconnected institutions and counterparties).

In another talk (“Challenges in Resolving Systemically Important Financial Institutions”, available at <http://www.bos.frb.org/news/speeches/rosengren/2009/050509.htm>), I made some observations related to the powers a systemic regulator would need in order to mitigate problems we have seen.

In another talk (“The Roles and Responsibilities of a Systemic Regulator,” available at <http://www.bos.frb.org/news/speeches/rosengren/2009/062909.htm>), I highlighted differences between a macroprudential supervisor and one focused on traditional bank-solvency oversight, touched on the characteristics that render institutions “systemically important,” and discussed some of the roles and responsibilities a systemic regulator should have in order to prevent contagious failures (in particular, the ability to supervise capital structure, liquidity risk and asset-liability management, and risk management).

And in remarks at a recent panel discussion I shared my belief that the ways that financial institutions and markets, and financial matters such as liquidity and securitization, interact with the real economy must be well understood, and worked into preventive measures and supervisory frameworks (available at <http://www.bos.frb.org/news/speeches/rosengren/2009/060509.htm>).

<sup>3</sup> For example, as measured by share of GDP.

<sup>4</sup> For some countries not shown on Figure 2 – such as Iceland – the share is even higher. As of June 30, 2008, the size of Iceland's three largest banks as a share of GDP approached 1,000 percent (specifically, 985 percent).

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<sup>5</sup> As I have noted in prior talks, the losses of capital and de-leveraging of balance sheets at financial institutions serve as a drag on the economy, as financial institutions focus on restructuring their balance sheets with the consequent tightening of lending standards. Recall that a loan is counted as an asset on a bank's balance sheet. Banks hold capital in part to reserve against the possibility that a loan defaults, and must maintain a reasonable ratio of capital to assets. If a bank experiences a reduction in the value of its capital, it must take steps to shrink the asset side of its balance sheet in order to restore its desired capital-to-assets ratio. The bank becomes more restrictive in its lending – no small matter for the broader economy when you consider that, thanks to leverage, when a bank's capital declines, the bank *must reduce its loans by much more* to maintain its capital-to-assets ratio. In addition to this state of affairs, often referred to as a "credit crunch," a new and unwelcome wrinkle occurred in many short-term credit markets during the recent financial turmoil – something you might call a "liquidity lock." By liquidity lock, I mean extreme risk aversion by many investors and institutions, which makes short-term financing difficult to come by for even the most creditworthy firms – even financing for very short maturities, measured in days.

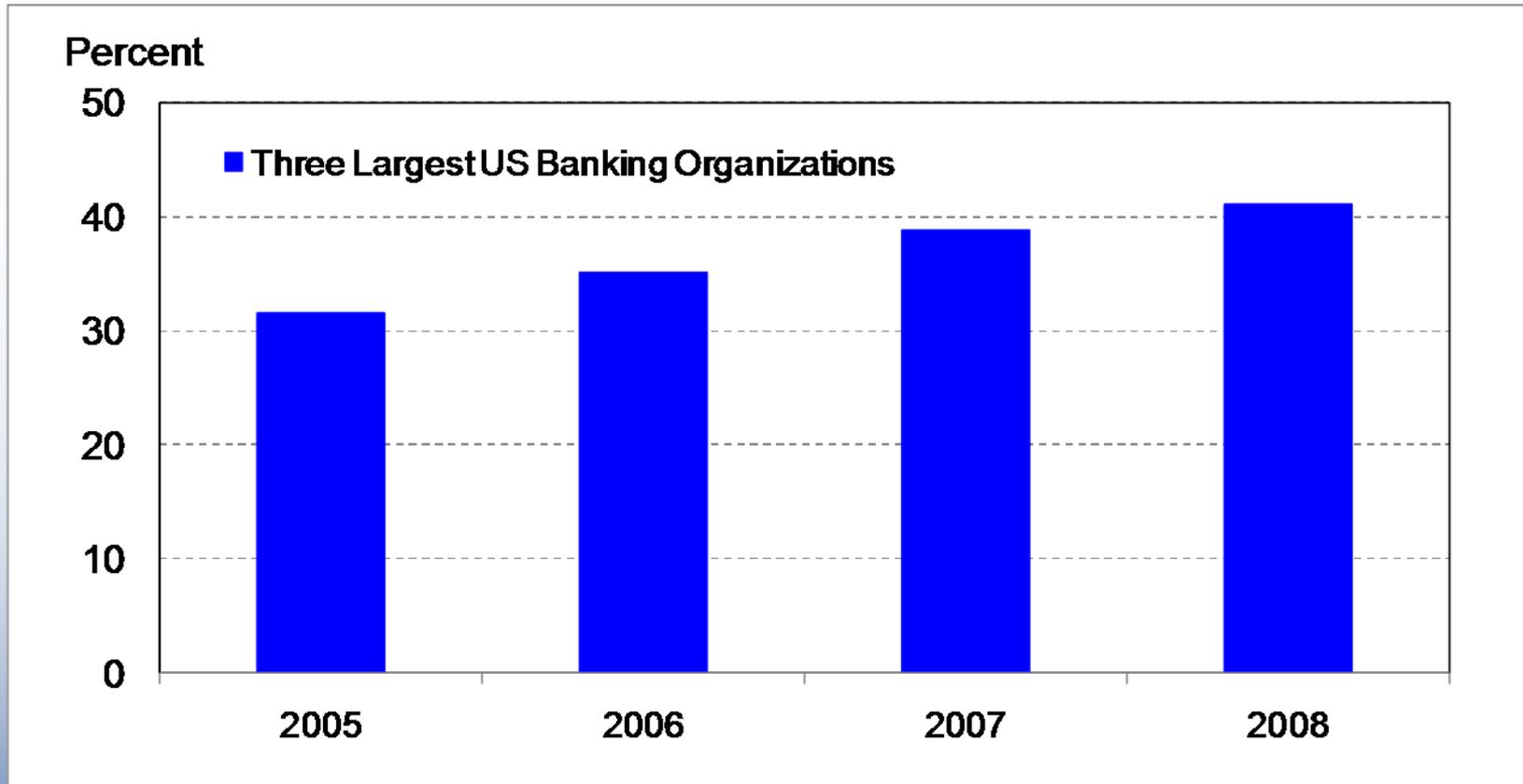
See "*The Impact of Financial Institutions and Financial Markets on the Real Economy: Implications of a 'Liquidity Lock'*", delivered at The University of Wisconsin – Madison in October 2008 (available at <http://www.bos.frb.org/news/speeches/rosengren/2008/100908.htm>).

<sup>6</sup> Japanese banks in the 1990s tended to shrink their assets abroad, in some cases pulling out of markets where their prospects were arguably *better* than their prospects from additional domestic loans. See the article I wrote with Joe Peek, "Collateral Damage: Effects of the Japanese Bank Crisis on Real Activity in the United States," in the *American Economic Review*, vol. 90, no. 1 (March 2000), pages 30-45. Also see my talk on "Addressing the Credit Crisis and Restructuring the Financial Regulatory System: Lessons from Japan," available at <http://www.bos.frb.org/news/speeches/rosengren/2009/030209.htm>.

# Figure 1

## Assets of Three Largest US Banking Organizations as a Share of US GDP

Year End, 2005 - 2008

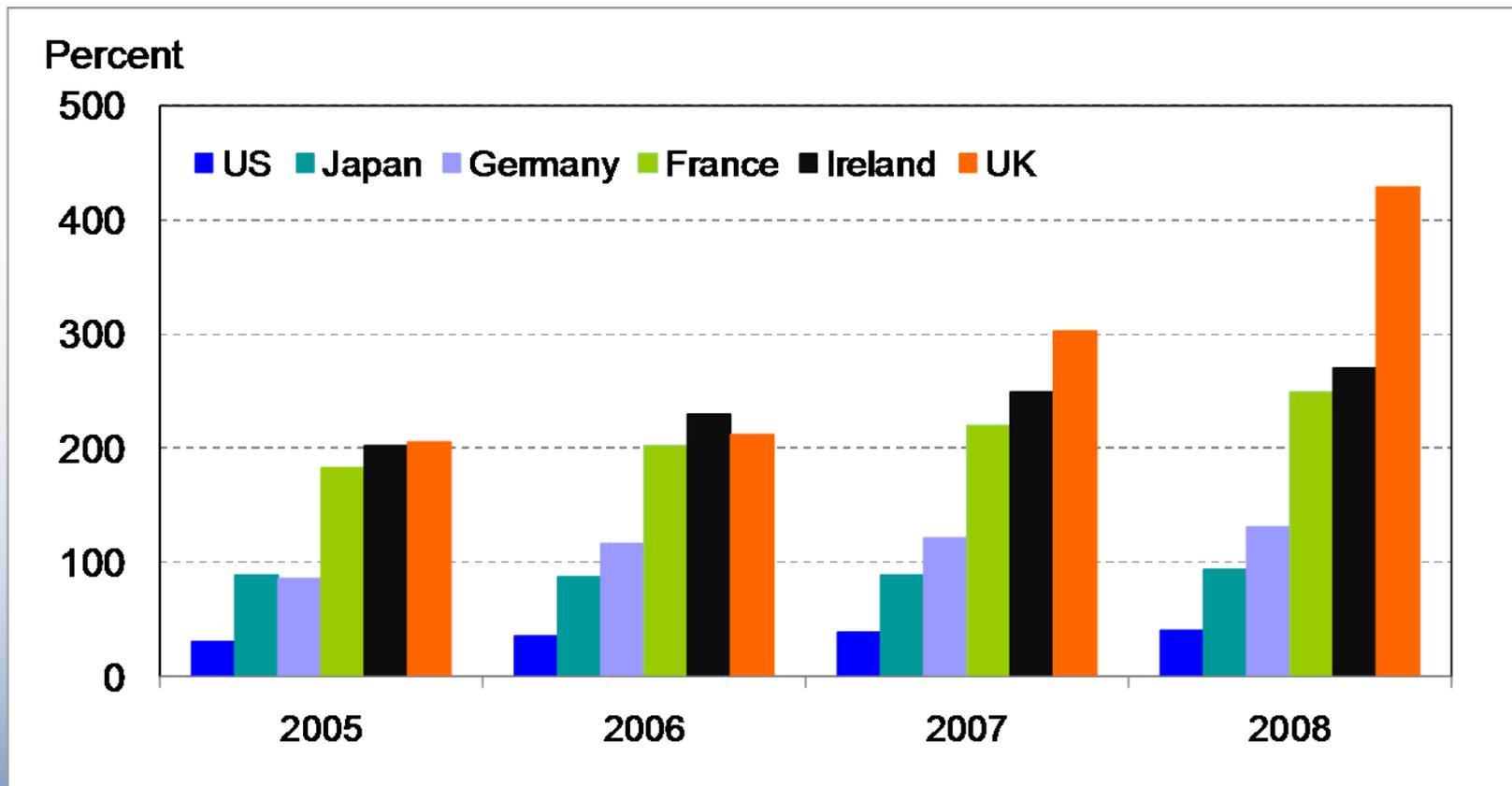


Source: Annual Reports of Banking Organizations, BEA / Haver Analytics

# Figure 2

## Assets of Three Largest Banking Organizations as a Share of GDP

Year End, 2005 - 2008

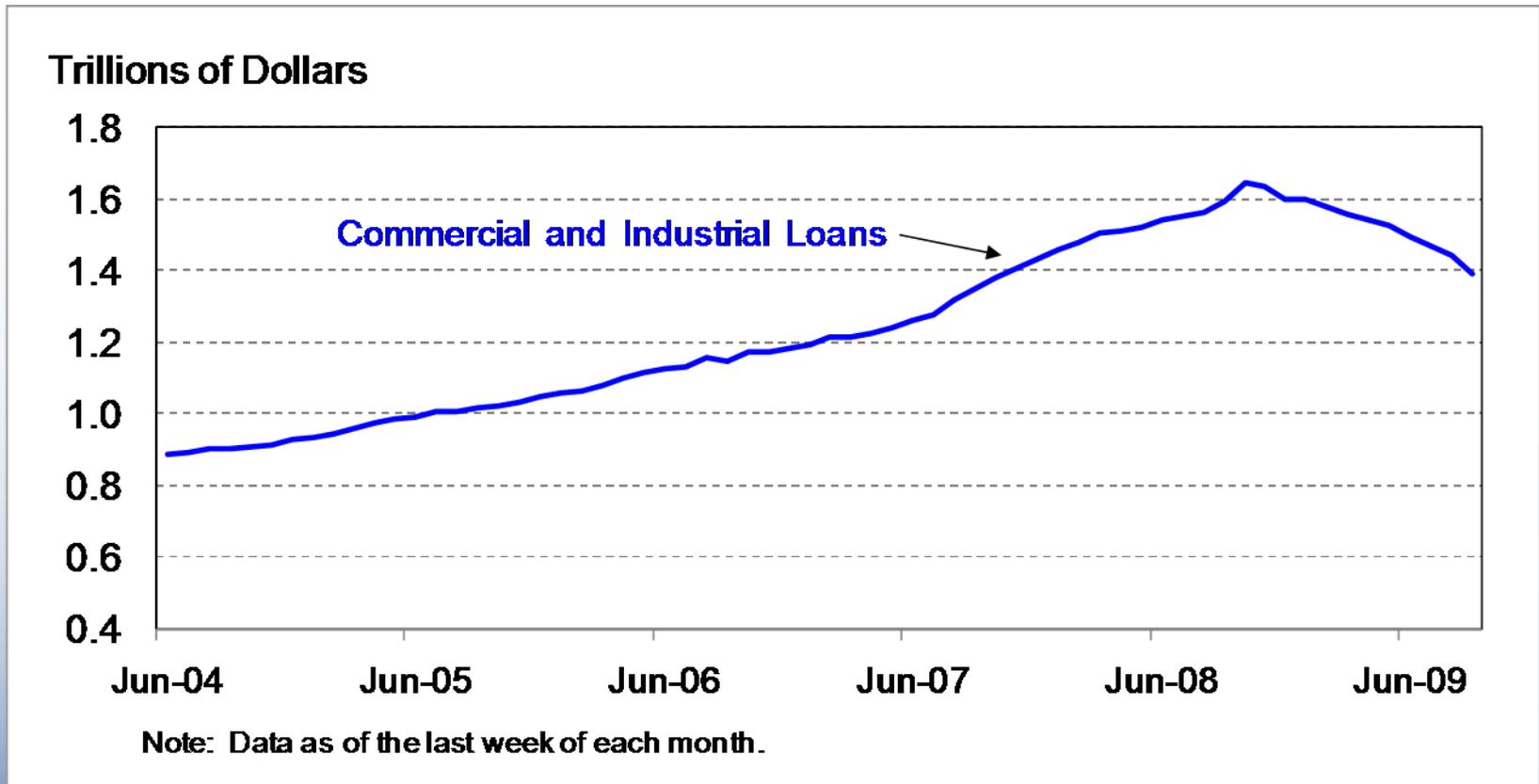


Source: Annual Reports of Banking Organizations, OECD / Haver Analytics

# Figure 3

## Commercial and Industrial Loans Outstanding at US Commercial Banks

End of Month, June 2004 – September 2009

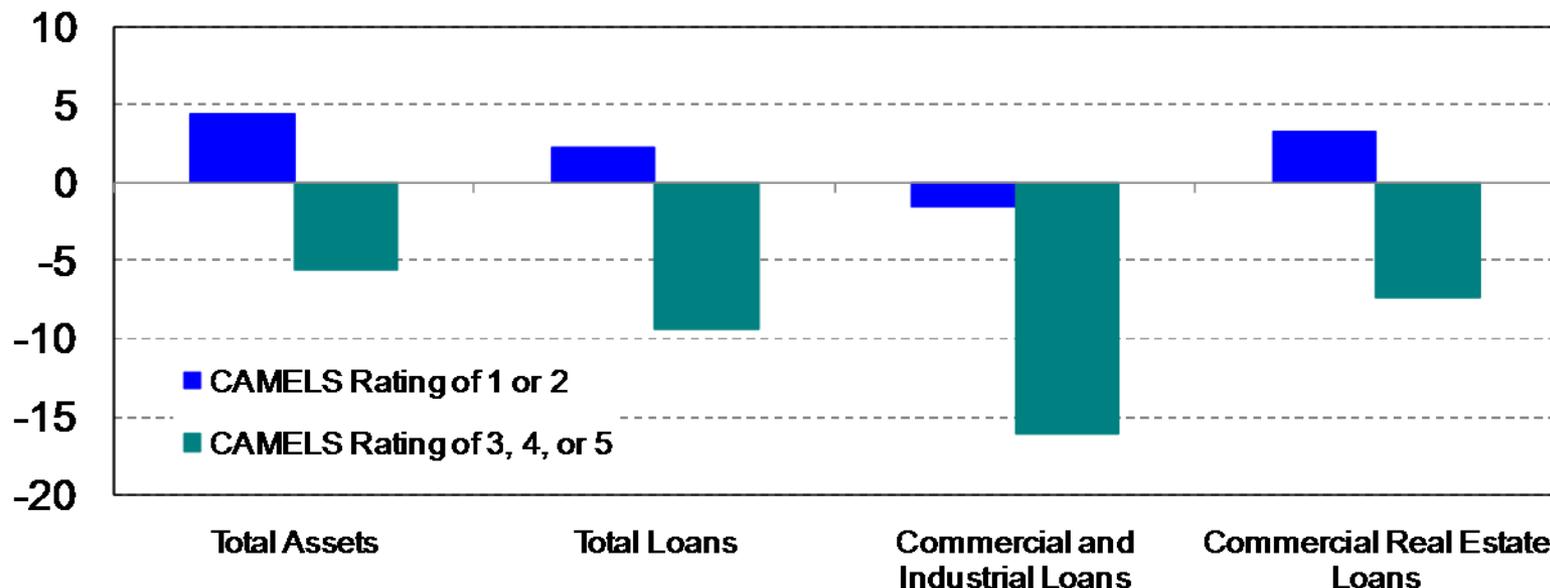


# Figure 4

## Asset Growth at US Commercial and Savings Banks by CAMELS\* Rating

June 30, 2008 – June 30, 2009

Percent Change, June 30, 2008 - June 30, 2009



\*The CAMELS rating is a highly confidential supervisory rating that assesses six components of a bank's condition: capital adequacy (C), asset quality (A), management (M), earnings (E), liquidity (L), and sensitivity to market risk (S). Ratings are assigned for each of the six components in addition to an overall rating. The ratings are assigned on a scale of 1 (strongest) to 5 (weakest).

Source: Commercial and savings bank call reports, supervisory reports and author's calculations.