

Europe and the Financial Crisis

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March 17, 2009

Which banking systems are most affected by the financial crisis?

The financial crash of 2008 began in the United States, but by the autumn of 2008 it had become a global event, and banks were in trouble in most countries of the world. Which banking systems were the most severely damaged? A natural measure of this is the percentage fall in the stock prices of large banks during 2008. Take a weighted average of this percentage fall across the countries in which the banks are headquartered, and you get a summary measure of the value loss to each country's banking system.

So which region was the hardest hit? - The North American banking system has lost more than half of its value – 54% by this measure. But the damage has been significantly greater in Europe – 69% overall. The sixteen countries whose banks lost more than 70% of their value during 2008 are these:¹

Table 1
Which Banking Systems Have Lost Most Value?

Country	Bank Value Loss
Iceland	100.0%
Ireland	91.7%
Belgium	87.6%
Georgia	86.0%
Latvia	85.4%
Lithuania	83.6%
Russia	81.8%
Cyprus	79.4%
Turkey	78.8%
Slovenia	78.5%
Pakistan	76.9%
United Kingdom	75.6%
Denmark	75.0%
Norway	73.9%
Greece	72.7%
Netherlands	71.7%

¹¹ Table 1 summarizes 848 banks or bank holding companies with more than \$1 billion of total assets at December 31, 2007 and available stock prices for year-end 2007 and 2008. The per-share fall in stock price during 2008 is weighted by each bank's total assets and averaged across headquarter countries. Data source: Capital IQ.

What explains this surprising pattern? Why should a crisis that began in an obscure corner of the U.S. mortgage market end by collapsing so many banking systems in Europe? I shall offer a summary view, then review some particular cases, and finally attempt to generalize what went wrong and what Europe needs to do at this time.

A summary view of the crisis

When the financial crisis first broke we referred to it as the “subprime crisis”. Our mental framework was something like this: some crazy people in California originated some extremely bad mortgages and securitized them, creating “toxic assets” which then poisoned our otherwise healthy financial institutions. The U.S. Treasury’s first draft of a rescue program reflected this view by proposing to buy such securities out of the system. But if you examine the list of countries in Table 1, you will find that relatively few of these particular countries absorbed any significant quantity of U.S. mortgage securities. The problem seems much bigger than mortgage securities. Subprime securities may have triggered the avalanche, but the avalanche was waiting to happen anyway. We need a broader mental framework for understanding the crisis.

For the past 25 years most of the world has enjoyed a remarkable period of prosperity. Despite breaks and setbacks in some regions and industries, global economic growth has been robust in both the developed world and the emerging markets. One of the central reasons has been financial liberalization. State ownership and control of banks, which was widespread in Europe and the developing world in the 1970s, gave way to privatization almost everywhere. As country after country discovered the power of private enterprise, banks and other financial institutions became bolder and more innovative. Soon individuals, firms and countries that had attracted little financial support in an earlier era gained access to capital. The result was an economic boom of global proportion.

During this period, debt grew larger. Individual ratios of debt to disposable income climbed steadily not just in the United States but in many other countries as well. Credit cards flooded many countries. Both home mortgage loans and commercial property loans became far more accessible than they had ever been. Banks and bond markets opened to companies and countries that had never had such access to credit. Some governments expanded their borrowing and many banks borrowed abroad to support increased lending to corporations at home. Since much of the debt was provided by banks, bank assets increased in many countries relative to GDP and other measures. This was the world’s grandest experiment with financial deepening.

Individual banking systems periodically got over-extended. In the 1980s many U.S. banks and thrifts became crippled by excessive lending to real estate developers and to Latin America. Mexican banks crashed in 1994 and East Asian banks followed suit in 1997-98. While there have been bank runs and failures for as long as there have been banks, the cost of bank failures rarely exceeded a few percent of GDP until this past 25 years. But the costs of these more recent crises were measured in hundreds of billions of dollars and significant fractions of GDP. Governments absorbed these rising costs as the apparent price of widespread prosperity. And following each crash lending seemed to resume with amazing speed and the party went on.

In retrospect, we did not fully appreciate how much of our prosperity was being fueled by debt. The debt party has now ended in a crash so massively costly that we are all shaken – the IMF is now estimating total losses will be \$2.2 trillion dollars. Even government resources are being pressed to their limits and in some cases beyond by the scale of the bailouts. It seems that an era has ended. The game has become too expensive to continue. And nowhere is the crash greater than in Europe.

Iceland

Although Iceland is a small country, its story is interesting because it is an exaggerated version of one that was played out in many others. Iceland privatized its banks over 1998-2002, and by 2003 three large banks owned by small groups of wealthy individuals had emerged. These banks began to grow at breathtaking rates – 50-70% per year. How can banks grow so fast? Mortgage markets were liberalized and domestic credit expanded so rapidly that Iceland's GDP per capita measured in dollars jumped from \$26,400 at the end of 2002 to \$68,720 at the end of 2007. In just five years it catapulted from one of the poorest countries in Europe to one of the richest in the world as consumption boomed.

Most of the banks' loans were being made to a few dozen Icelandic corporations that transformed themselves into holding companies, buying up companies throughout northern Europe. The owners of these companies and the owners of the banks were interwoven – this was in part a group of individuals lending to themselves, their friends and associates. The banks also bought other banks across northern Europe and used their new lending power to further expand the corporate pyramids. The pyramids had multiple layers of debt and were inherently unstable. But the owners became very rich, very fast.

By 2007 the assets of the three big Icelandic banks totaled 8.7 times Iceland's GDP and the Icelandic holding companies had likewise expanded very rapidly. The banks had literally grown larger than their government, so who would be able to bail them out if they should stumble? In 2008 the worst finally happened. Starting in March they began to have difficulties funding themselves and the Icelandic króna began to fall. By September Icelandic funding dried up altogether and the currency collapsed. The Icelandic holding companies likewise collapsed. The government seized all three banks and attempted to protect the Icelandic depositors while allowing the rest of the funding to default.

The result has been a disaster of epic proportions. The króna fell by more than 50% during 2008. Since Iceland imports almost all consumer goods, the prices of such goods have roughly doubled as measured in local currency, causing a dramatic drop in standard of living. Many bankers have lost their jobs and real GDP has begun to decline rapidly. The country once again feels poor. Iceland has made the full circuit in just six years.

Ireland

Ireland is another Cinderella story of a boom built on debt followed by a bust in 2008. Beginning in the 1990s, Ireland lowered its rate of corporate taxation, opened its economy to foreign investment and adopted a number of pro-development policies. The result was impressive, a rate of economic growth among the highest in Europe and a sense of pride that Ireland had arrived in the club of successful nations.

From 1998 to 2007 Irish bank assets grew rapidly, with the new lending going mainly into real estate development and home mortgages. Housing as a share of GDP went from 5% to 14%, the highest in Europe. Housing prices more than doubled. Household debt rose from 60% of GDP to 160%. Property loans increased to more than 60% of all bank loans, a high concentration of risk. Then in 2008 housing prices fell by 50%, going full circle back to where they had begun in 1998.

The sense that banks were about to be hit with monstrous losses became so strong in September 2008 that the Irish government (together with the Greek government) went further than any other government in the EU to protect its banks: it guaranteed all deposits of its six large banks, up to a total of €400 billion. This is approximately twice the Irish GDP of €200 billion. Total bank assets had grown to more than €800 billion, i.e. four times the GDP. Though not as extreme as Iceland, this is another case in which the banking system seems to have outgrown the capacity of the government to rescue it.

No one knows how much the Irish government will have to pay under this guarantee, but it is safe to say they have made a commitment larger than the government would be able to borrow from any obvious source. Since the Irish government cannot print Euros, it is likely that if things turn out badly they would have to turn to the European community for financial support. But there is no established mechanism to do this and it is not clear what sort of reception they would get.

Emerging Europe

The countries of Central and Eastern Europe, which have been in transition from communism since about 1990, show many characteristics of other emerging markets: they have great economic opportunities but frequently weak institutions. Those with stronger governments, such as Poland and the Czech Republic, have fared the best during the current crisis. But those with more unstable governments such as Hungary, Ukraine and the Baltics have tended toward populism, running large trade deficits funded by large inflows of debt which in turn has stimulated a rapidly growing standard of living.

Banks in Western Europe were attracted to the economic opportunities, and many bought into the banking systems of emerging Europe. The percentage of banking assets controlled by foreign banks ranges from 65% in Poland to 100% in the Czech Republic. This extensive foreign ownership brought modern management and capital resources to the banking systems of emerging Europe, and in most cases prevented the kind of connected lending that proved so fatal in Iceland. Until the current crisis broke it seemed that loan quality in Central and Eastern European banks was good.

But there was a flaw related to currencies. Since local currencies were inflationary and unstable, local interest rates were high. Borrowers throughout the region tended to favor the lower interest rates of foreign currencies, and so in most countries a substantial fraction of local borrowing came to be denominated in Euros, dollars or other external currency. This fraction ranges from about half in Romania, Bulgaria and Hungary up to three-quarters in the Baltic States. But this creates a major risk: borrowers that earn in local currencies but borrow in foreign currencies can be whipsawed when the local currency falls in value. The foreign-denominated debts rise in value and become unmanageable.

This foreign exchange risk serves as a crisis accelerator: when bank losses increase the currency starts to fall, and this increases likely defaults by local borrowers, leading to more bank losses and accelerating economic decline.

Ukraine is an example typical of the region. Ukraine attracted substantial foreign capital during 2000-2007 and grew rapidly. Lending by Ukrainian banks exploded by 75% in 2007. More than half of domestic bank loans were denominated in foreign currency, leaving borrowers exposed to changes in the value of the hryvnia. Ukraine's foreign debt, all in foreign currency, had reached \$54 billion by the beginning of 2007 and its current account deficit expanded from 4% of GDP in 2007 to 9% in 2008.

Ukraine's main export is steel, and the price of steel fell in half between July and October 2008, wiping 20% from the value of Ukraine's exports. Domestic inflation jumped to 25-30% in 2008, and the hryvnia broke its peg to the dollar, falling 43% for the year. Foreign debt jumped to over \$100 billion by October 2008 and Ukraine appealed to the IMF for assistance. Many steel mills faced bankruptcy and began laying off workers. Local banks faced major losses and needed capital from their Western European owners, namely Unicredit, Swedbank, Commerzbank, ProCredit Holding, BNP Paribas and Intesa San Paolo.

Ukraine is thus immersed in a classic "twin crisis", a joint collapse of currencies and banks, such as was experienced by Mexico in 1994 and East Asia in 1997-98. Similar events are likely in various forms elsewhere in Central and Eastern Europe. Such a joint collapse is accompanied by and compounded by capital flight and a large drop in real GDP/capita.

As this is being written the IMF is working with Latvia, trying to forestall such a twin crisis in that country. The cost of crisis avoidance, however is considerable – dollars must be spent to support the falling currency, and this provides an exit for wealthy local business people, i.e. capital flight.

Russia is a somewhat special case. It has also experienced a joint collapse of currency and banks, but in slower motion. Russia did not have the large sovereign debt of the other countries in the region, indeed its oil and gas exports had created a stockpile of sovereign foreign reserves that crested at \$570 billion in September 2008. These reserves were down by about one-quarter at the end of 2008 as the government spent dollars to prevent a free fall in the ruble while not facilitating too much capital flight.

But Russia had high debt at the corporate level, including external debt of about \$460 billion borrowed by corporations and banks. That is, Russia's, private sector external debt was roughly equal to the public sector's foreign exchange reserves. The structure of this corporate debt is somewhat similar to Iceland's, i.e. it is concentrated in large industrial empires controlled by a few dozen oligarchs, often through complex pyramid structures.

Most of these structures have now collapsed under the weight of their excessive debt, and the government bailout consists largely of providing foreign exchange to the corporations in exchange for equity. That is, the impact of the crisis in Russia is to re-nationalize or at least to substantially increase government influence over much of the private economy, including the private banks.

Leverage

As we now move to the core countries of the European Union, it is necessary to understand the concept of *leverage*. High leverage means extensive use of debt. Leverage accelerates growth and prosperity in good times but also increases the risk and pain of a downturn. It makes good times better and bad times worse.

The simplest measure of leverage in a bank is the ratio of the bank's assets to its equity capital. The assets, largely loans and bonds, earn interest and are the bank's main source of revenues. The equity capital is the total investment in the bank by its shareholders, the cushion that first absorbs any losses experienced by the assets. The ratio between these can be expressed as assets/capital (e.g. 20x) or as capital/assets (e.g. 5%). A bank becomes insolvent if its losses exceed its capital. For example, a bank with 20x leverage can absorb losses up to 5% of assets; beyond that it is insolvent.

During 2008 the five major independent U.S. investment banks all failed or would have failed if fresh capital had not been provided. They were operating with too much leverage (25-35x) given the risk of their assets, and in 2008 asset losses wiped out their capital.

At the end of 2007 the fifteen countries with the highest ratio of bank assets to bank capital in the world are listed in the first two columns of Table 2.² It is striking that almost all of these leverage leaders are Western European. The leverage of the United States banking system in contrast was 12.2x. The next two columns of Table 2 show another way to look at bank leverage: which countries have the highest ratio of bank assets to population? And finally, the last two columns of Table 2 show the fifteen global leaders in bank assets compared to GDP at market exchange rates. If you were startled that the three big Icelandic banks had assets equal to 8.7 times GDP, consider Switzerland at 7.8 and Netherlands at 5.8.

² The data for Table 2 cover 1,556 banks with assets more than \$1 billion at December 31, 2007, regardless of whether the banks were publicly traded. Data for the underlying banks were used rather than data for the holding companies wherever both were available. Source: Capital IQ and International Financial Statistics.

Table 2
Which Countries Have the Most Bank Assets?

Country	Bank Assets/Equity (Leverage)	Country	Bank Assets/Capita (€ 000)	Country	Bank Assets/GDP
Germany	42.1	Iceland	599	Iceland	8.7
Luxembourg	36.0	Switzerland	473	Switzerland	7.8
Switzerland	35.9	Luxembourg	352	Bahrain	6.9
France	31.6	Netherlands	293	Netherlands	5.8
Belgium	28.2	Ireland	263	Denmark	5.7
United Kingdom	27.1	Belgium	256	Belgium	5.5
Netherlands	27.1	Denmark	237	United Kingdom	5.0
Ireland	26.3	United Kingdom	228	Hong Kong	4.7
Sweden	25.1	Sweden	194	Cyprus	4.4
Denmark	24.8	France	182	Colombia	4.3
Bermuda	22.5	Bahrain	144	Ireland	4.1
Japan	21.7	Hong Kong	134	France	4.1
Canada	20.8	Austria	123	Sweden	3.7
Norway	20.4	Germany	120	Luxembourg	3.1
Portugal	20.1	Cyprus	119	Germany	2.8

By any measure, Western Europe shows up as the region with relatively more bank assets than any other in the world. One way to summarize this is to say that Western Europe is over-banked. The pattern seems particularly strong for small countries: Iceland, Belgium, Netherlands, Luxembourg, Ireland and Switzerland have found in banking a business that can be grown rapidly and globally to project the national image. The U.K., which takes pride in London's role as a leading financial center, also joins the list of countries with very large bank assets.

In 1988 the bank regulators of major countries met in Basel, Switzerland to negotiate uniform capital requirements for all banks (the "Basel Rules"). These rules incorporated a risk-weighting of assets, i.e. safer assets were permitted more leverage. The rules were recently redrawn ("Basel II") to make the risk weighting more sophisticated but also much more complex. The Basel Rules require equity capital of at least 4% of risk-weighted assets, but almost all banks report much higher levels, often 8-10% equity capital.

Although the rules are well-intentioned they introduce distortions. For example, home mortgage loans get a risk weighting of 50%, meaning they can be leveraged twice as much as normal loans. But are home mortgages really safer than other loans? Mortgage loans are now defaulting all over both Europe and the United States. Furthermore, banks have discovered that securitizing loans, i.e. placing them in special-purpose vehicles that are separately financed with bonds, allow the underlying loans to be much more highly leveraged under the Basel Rules. Is it any wonder, then, that home mortgage lending funded by securitization has exploded in recent years? The Basel Rules contained unintended incentives for this to happen.

Another complexity in controlling leverage is default insurance, the so-called “credit default swaps”³. Purchasing certain types of default insurance allows much higher leverage under the Basel Rules. The largest purveyor of default insurance was the insurance company AIG, which was bailed out by the U.S. government in September 2008 primarily to protect counterparties to its portfolio of \$560 billion of default insurance. It turns out that about 80% of AIG’s default insurance was written with European banks. In fact, it is rumored that AIG had offered carefully-designed “Basel-friendly” default insurance to let banks maximize leverage under the Basel Rules.

In fact, Basel II is so complex that it almost invites gaming. Banks can report lots of of Basel capital while still operating at extremely high leverage overall – this is what many European banks seem to be doing. European banks are also the leading advocates of Basel II, while American banks and regulators remain more skeptical and American regulators maintain separate limitations on overall bank leverage. This regulatory pressure has kept U.S. bank leverage low and thereby protected U.S. banks from some forms of over-extension.

Policy implications

Given the over-banking of Western Europe, the financial crisis is likely to put unprecedented strains on the fabric of the European Union. It has the potential to knit the EU more closely together or to tear it apart, depending on the quality of the policy response. A constructive response requires agreement and clear understanding of the nature of the crisis itself. At present, most Western Europeans think of the crisis as an American problem, imposed on an innocent Europe. This is far from the truth. And a major policy theme at present is to yell at the banks to lend more. This is far from optimal policy. A closer look at the facts will show that most of Europe’s problems do not result from buying American securities but from a deep condition of excessive lending at home.

Why is Western Europe so over-banked? Nothing in standard economic theory seems to offer a reason. Rather, the answer likely lies in a political direction. I suggest the culprit is that ancient enemy of a united Europe: nationalism. Banking is an industry where small countries in particular can project a large image on the world stage. Like national airlines, banks seem to carry the national flag, and the

³ These instruments are not swaps at all – a swap is an exchange of two future streams of cash with equivalent value. “Credit default swaps” are deliberately misnamed to avoid the capital requirements they would otherwise attract under insurance regulation – a startling instance of how capital rules get evaded.

bigger the banks, the larger the impact. Just as the airline industry became overcrowded for this reason, so too the banking industry has grown overly large and is hard to trim back.

When the project of European Monetary Union was moving forward in the 1990s, the EU issued several directives designed to create a common set of banking rules and most observers expected a number of cross-border mergers to ensue, creating true pan-European banks. But with rare exceptions this did not occur. Indeed national governments resisted cross-border bank mergers, sometimes quite overtly and shamelessly. Instead, they promoted bank mergers within their borders to create “national champions”, and encouraged these companies to grow large in order to compete. This appears to be the primary force responsible for the excessive bank assets in Western Europe today.

The financial crisis creates an opportunity to move beyond national flags and focus on economic reality. It is no great honor to have a “national champion” banking system whose total assets are many times the country’s GDP. Indeed it is a serious risk to national solvency – just look at Iceland.

The beginning of wisdom is to see clearly that we are in this crisis because there is too much debt on both sides of the Atlantic. We are witnessing an avalanche on Debt Mountain, which has grown too tall. The only cure is to deleverage: we all need to increase saving and pay down debt. Over-leveraged individuals must consume less, overleveraged companies must spend less and over-leveraged banks must lend less. The effort to do this is of course recessionary, which is why we are having such a massive recession. Deleveraging is as painful as borrowing is pleasant. But it must be allowed and indeed encouraged to happen.

Since bank leverage is the ratio of assets to capital, banks can only delever by reducing their assets or increasing their capital. Governments are everywhere racing to assist this process by pumping fresh capital into banks. But governments are also everywhere demanding that banks *lend more* – senior officials In France, the U.K., the United States and elsewhere have all joined this demand.

But a moment’s reflection shows how fatuous this demand is. Banks have lent too much in the past; the fresh capital does not facilitate new lending but only partially repairs losses on past lending. Banks will not return to safety until they reduce their assets, i.e. *lend less*. The banks in general do not want to lend more and should not lend more. Furthermore most of their customers do not want to borrow more and should not borrow more. The debt party is over, and government should not try to restart it by force.

Governments in both Europe and the United States are now acting in panicky ways, trying to force banks into a dangerous and unnatural path in an effort to forestall a recession that in fact they do not have the power to forestall. It would be far better to say honestly that we have been living too well on both sides of the Atlantic and now need to act more conservatively. Individuals, companies, banks and governments all must grasp that safety will only come from deleveraging. If the essence of this crisis is too much debt, lending more only makes things worse.

What does the future hold? It seems safe to say that the recession is still deepening so bank losses are likely to increase. The banks most stressed by this will be the banks with the highest leverage, i.e.

the banks of Western Europe. This will be compounded in many cases by losses from Central and Eastern Europe. Expect to see major difficulties ahead for the European banks.

The crisis calls for a high level of coordination among European countries and between Europe and the United States. Here are some specific suggestions.

1. Agree on procedures to handle requests from EU member states for financial assistance. Greece is likely to be the first EU member to request such assistance, and Ireland may not be far behind. Iceland would have been the first had it been an EU member. There is no mechanism at present to handle such requests. Planning needs to be done now.
2. Drop all national objections to cross-border bank mergers and encourage consolidation of banks across national boundaries. Mergers and consolidations are the best way to trim down excessive bank assets and reduce counter-productive national competition.
3. Consider whether EU member states should limit the size of their banking systems to some small multiple of GDP, probably no larger than 1-2x, given the unreasonable cost of rescuing systems that have grown larger than this.
4. Agree on an overall leverage limit for European banks. This would supplement the Basel Rules and would be effective. Rethink the Basel Rules from the ground up – even though a lot of effort has gone into constructing Basel II, the Basel Rules have done little or nothing to impede the debt buildup and subsequent collapse, and Basel II is excessively complex.
5. Formalize the transatlantic dialogue that has been happening informally on best practices to deal with the crisis. Governments have been throwing everything they can think of at the problem. The time has come to sort out what is working and what is not, and coordinate the regulatory response.
6. Drop the demand that banks “lend more”. This demand is like throwing gasoline on the fire.

If Europe is not careful about this, it will end by socializing most credit and formally or informally nationalizing many of the large banks. This would be a sad outcome. Experience in many countries over many decades makes it clear that governments are not effective at allocating capital in economically desirable ways. Governments are driven by political factors, not economic ones, and political allocation of capital almost always ends badly. It would be far better to understand that the banks are over-extended almost everywhere and need to pull back while there is still time to save banking as a private industry.