



Monday, June 14, 2010

Via E-mail and FedEx

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Phil Angelides
Chairman

Hon. Bill Thomas
Vice Chairman

Re: Follow-up to the Financial Crisis Inquiry Commission Forum

Dear Dr. Gourinchas:

The Financial Crisis Inquiry Commission thanks you once again for your participation in the "Forum to Explore the Causes of the Financial Crisis" on February 26 and 27, 2010.

Enclosed are follow-up questions which were posed by the Commissioners during the forum, as well as additional questions which have arisen over the course of our investigation which we would like your assistance in answering.

Please respond to the questions by Friday, July 2, 2010. If you have any questions, or would like more information, please contact Scott Ganz at sganz@fcic.gov.

1. What were the mechanisms by which the global and safe asset imbalances affected the home mortgage market in particular? By which they affected the market for other assets?

2. In the 1970s the United States had a period of influx of petrodollars that led to extensive sovereign lending and subsequent loan defaults. Is there a pattern of global inflows and safe asset imbalances that can be seen in various countries at various times in history? Did bubbles often result?

3. Please provide us with any data that you think would be of use to the Commission regarding the quantity and nature of international capital flows, both in gross and net form.

4. You stated that a growing belief in self-regulatory financial markets, which you call the "Greenspan doctrine," has been a casualty of the current financial crisis. Please explain how that belief contributed to the financial crisis and how the belief developed and influenced policy making and market oversight.

Brooksley Born
Commissioner

Byron S. Georgiou
Commissioner

Senator Bob Graham
Commissioner

Keith Hennessey
Commissioner

Douglas Holtz-Eakin
Commissioner

Heather H. Murren, CFA
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5. One topic of great interest to the Commission is the extent to which the crisis was an international crisis. Can you provide the Commission information regarding the differential impact of the crisis on various countries, these countries' responses to the crisis, and the effectiveness of these responses?

Sincerely,

A handwritten signature in black ink, appearing to read 'Wendy Edelberg', with a long horizontal flourish extending to the right.

Wendy Edelberg

U.S. Monetary Policy, 'Imbalances' and the Financial Crisis

Answers to follow-up questions, sent June 14, 2010

Pierre-Olivier Gourinchas

UC Berkeley, NBER and CEPR

1. What are the mechanisms by which the global and safe asset imbalances affected the home mortgage market in particular? By which they affected the market for other assets?

The U.S. mortgage market responded to the growing global demand for safe liquid debt instruments through two main channels. First, as argued in my prepared remarks, a substantial share of the global demand for safe assets was channeled to the U.S. financial markets, seen as offering unparalleled liquidity and security (U.S. government and agency securities, triple-A corporate bonds). This surge in demand pushed down the yields and increased the price of U.S. safe assets. As the price of safe assets rose, financial market participants reallocated their portfolio away from these assets –perceived as too expensive or offering too low returns - and towards riskier assets. In turn, this reallocation of demand towards risky assets increased the price of risky assets and reduced their expected return. Under unchanged market perceptions of risk, the decline in the return on risky assets would be similar in size to the decline in return on safe assets. The risk premium would have remained constant and the entire yield curve would have shifted down.¹

In other words the increased global demand for U.S. safe assets triggered an increase in the demand for risky assets (U.S. or otherwise). The associated decline in broad market rates had a direct and positive impact on the demand for U.S. mortgages. Figure 1 illustrates this effect. It reports the spread between the 30-year fixed rate mortgage and the 10-year Treasuries. Between

¹ This is a good characterization of market developments after 2004, when the demand for U.S. safe assets is partly fuelled by the growing savings of China and oil producers (see my prepared remarks p.20).

2004 and the onset of the financial crisis, the spread remains very stable, around 157 bp. In terms of levels (reported in Figure 3 of my prepared remarks), 30-year fixed rate mortgage rates remained quite low, between 5.8 percent and 6.7 percent, and this, despite the sharp increase in policy interest rates over the same period. This first channel affects all asset classes, including but not limited to mortgage assets.

The second channel comes from the endogenous response of the U.S. financial system to the surge in the global demand for safe assets: it actively sought to increase their supply. How? The main vehicle was the securitization of physical assets (e.g. cash CDOs) as well as the creation of synthetic assets (e.g. synthetic CDOs) with well-defined risk profiles. The triple-A rate tranches of structured credit instruments was considered as safe as U.S. Treasuries. Churning out large quantities of triple-A rated securities was a way to increase the supply of “quasi” safe U.S. assets. But this process initially required large quantities of the underlying physical assets that could be systematically securitized. The demand for the underlying credit instruments surged, especially for mortgage assets given the importance of mortgage-backed-securities in the overall market for structured credit products.² By repackaging risky assets into supposedly “safe” bundles, this process directly increased the demand for the underlying mortgages instrument, pushing further down mortgages rates (i.e. reducing the risk premium) and fueling house price increases. As documented elsewhere, lax regulation, irresponsible underwriting practices, the broad failure of rating agencies, as well as incentive problems, especially on the part of the mortgage servicers and originators, made it possible to manufacture a large quantity of these

² In his presentation to the FCIC roundtable, Chris Mayer reports that the annual issuance of non-agency MBS jumped from 400 billion of USD in 2003 to more than 800 billion in 2005.

“quasi” safe assets in a relatively short period of time.³ This second channel also had an important impact on other markets, as triple-A securitized assets became the dominant form of collateral on the repo market, and playing an important role in the shadow banking system.⁴ As the amount of collateral increased, the overall market became more liquid. With the onset of the crisis, the value of that collateral came into question, forcing a run on the repo market.

The first channel was sufficient to get a housing boom going, as evidenced by the fact that many countries experienced a residential housing boom over that period, irrespective of the degree of securitization of their underlying mortgage market.⁵ The second channel fanned the flames of the U.S. housing boom, spread ‘toxic’ assets through the U.S. and global financial system and created the conditions for a generalized financial crisis to occur.

³ See C. Mayer’s prepared remarks for the FCIC forum.

⁴ See G. Gorton’s prepared remarks to the FCIC forum.

⁵ See C. Mayer’s prepared remarks for the FCIC forum, figure 1.

2. In the 1970s, the United States had a period of influx of petrodollars that led to extensive sovereign lending and subsequent loan defaults. Is there a pattern of global inflows and safe asset imbalances that can be seen in various countries at various times in history? Did bubbles often result?

The short answer is a qualified Yes. The increase in the price of oil following the 1973 and 1979 oil shocks transferred vast resources to oil-producing countries. It was undesirable --and in any case difficult in the short run-- for these countries to let their internal demand adjust to the surge in oil revenues. Instead, they started to run large external (current account) surpluses. The corresponding capital outflows (the so-called “petrodollars”) were invested in the US and other major financial markets. That part of the story is similar to the recent crisis.

However, unlike the recent crisis, monetary instability played a key role in the 1970s. That period was marked by significant inflation in the US and other parts of the world. This high inflation was partly the consequence of the oil shocks themselves, but also reflected the widespread --and largely correct-- perception that most monetary authorities were unwilling to tackle the rise in the cost of living. Inflation and lax monetary policy combined to generate very low --even negative-- global real interest rates during that period. It is this factor --an extended period of low real interest rates-- that accounts for the period of instability that followed. Low real interest rates often lull investors --private and public-- into borrowing excessive amounts and can fuel financial bubbles and instability. The crisis occurred when the U.S. Federal Reserve -- under chairman Volcker-- tightened dramatically monetary policy, increasing real interest rates in the U.S. and elsewhere.

Hence, the root causes of the Latin American sovereign debt crisis of the early 1980s are quite different from the current situation, but some elements are common. In particular, that episode is also characterized by low real interest rates. Other recent episodes marked by low real interest rates include:

-The Greek/euro crisis of 2010, where cheap financing became available in many peripheral euro zone countries (Spain, Portugal, Ireland, Greece) following the adoption of the Euro in 1999-2001.

-The Argentinean crisis of 2001 where cheap financing became available following the adoption of the convertibility law in 1991 fixing the value of the Argentinian peso in terms of the US dollar

-The Mexican crisis of 1994 where cheap financing became available after the adoption of a crawling peg between the Mexican peso and the US dollar, and later the adoption of NAFTA.

Many more examples are documented in the masterful recent work Reinhart and Rogoff (2010).⁶ From a policy perspective, the body of empirical evidence suggests that policymakers should monitor with extreme caution periods of cheap financing. Regardless of their source, these episodes tend to end badly.

⁶ Reinhart and Rogoff, This Time is Different, Princeton University Press, 2010

3. Please provide us with any data that you think would be of use to the Commission regarding the quantity and the nature of international capital flows both in net and gross form

The spreadsheets attached to this document provide publicly available data on net and gross capital flows into the U.S. Below is a short description of each spreadsheet.

File Name	Source	Remarks	Used for figure: (R: prepared remarks; P: presentation; F: follow-up)
ITA_table.xlsx	Bureau of Economic Analysis International Transaction. Tables 1, 8a and 8b.	Gross and Net US capital flows. 1990-2008, annual.	P9, P10
Glob_imbalances.xlsx	World Development Indicators, World Economic Outlook, Statistical Yearbook of the Republic of China, Deutsche Bank, International Financial Statistics and OECD Economic Outlook.	Current account balances by region as a fraction of world GDP. Quarterly, 1980-2009	P1.
Treasury_survey_2010.xlsx	US Treasury Survey.	Foreign Portfolio Holdings of US Securities. Historical data, 1974-2009	

- 4. You stated that a growing belief in self-regulatory financial markets, which you call the “Greenspan doctrine” has been a casualty of the current financial crisis. Please explain how that belief contributed to the financial crisis and how the belief developed and influenced policy making and market oversight.**

This is a complex question and I will not pretend to give it here a comprehensive treatment. What I will do is offer some elements of reflection that illustrate how periods of relative economic prosperity and stability can lead to a weakening of regulatory standards.

The “Greenspan doctrine” is associated with the view –expounded on numerous occasions by former Federal Reserve chairman Alan Greenspan—that markets have a natural tendency to self-correct and regulate and that government regulation is likely to be detrimental. An illustration of these views is contained in remarks delivered on April 12, 1997 at the Annual Conference of the Association of Private Enterprise Education on the evolution of banking in a market economy. There, chairman Greenspan stated:

“It is most important to recognize that no market is ever truly unregulated in that the self-interest of participants generates private market regulation. Counterparties thoroughly scrutinize each other, often requiring collateral and special legal protections; self-regulated clearing houses and exchanges set margins and capital requirements to protect the interests of the members. Thus, the real question is not whether a market should be regulated. Rather, it is whether government intervention strengthens or weakens private regulation, and at what cost.”

Later on in that same speech, Greenspan adds:

“To a significant degree, attitudes toward banking regulation have been shaped by a perception of the history of American banking as plagued by repeated market failures that ended only with the enactment of comprehensive federal regulation. The historical record, however, is currently undergoing a healthy reevaluation. In my remarks this evening I shall

touch on the evolution of the American banking system, focusing especially on the pre-Civil War period, when government regulation was less comprehensive and less intrusive and interfered less with the operation of market forces. A recent growing body of research supports the view that during that period market forces were fairly effective in assuring that individual banks constrained risktaking to prudent endeavors. Nonetheless, the then nascent system as a whole proved quite vulnerable to various macroeconomic shocks essentially unrelated to the degree of banking regulation.”

In a concise form, these two paragraphs delineate the contours of a regulation framework. First, there is a distinction between systemic and non-systemic events: Market forces should tackle idiosyncratic or non-systemic risks; government intervention should deal exclusively with “macroeconomic” or systemic risks. This is largely non-controversial.

Second, and this is much more controversial, is the notion that self-regulation to avoid idiosyncratic failures –e.g. the establishment of self-regulated clearing houses, margins and capital requirements etc...-- can reduce the exposure to systemic risk, by “assuring that individual banks constrained risktaking to prudent endeavors”. Under this view, there is little need for ex-ante regulation of the financial system. On the contrary, all such regulations are likely to reduce the efficiency of the financial system, and lower standards of living. Moreover, such regulation is unlikely to reduce further systemic risk, hence the statement that “the nascent system as a whole proved quite vulnerable to various macroeconomic shocks essentially unrelated to the degree of banking regulation.” If systemic risk is unrelated to the degree of banking regulation, while market forces reduce systemic risk, the solution is to let markets provide as much self-regulation as they want, nothing more. If a systemic crisis nonetheless occurs, the Federal Reserve should provide ex-post assistance. In other words,

the regulatory framework should provide light regulation during the upswing phase of the bubble, followed by a “mopping up” after the collapse.

In light of the crisis, it is this second notion -- that financial innovations directed at reducing idiosyncratic risks will also reduce systemic risk-- that has been seriously damaged. Consider one such innovation: securitization. It is obvious that securitization allowed financial institutions to better control and manage their risk profile, thereby reducing idiosyncratic risks. But it would be more difficult to argue that it also reduced systemic risk. On the contrary, when the crisis came, the complexity and opacity of structured credit instruments vastly exacerbated counterparty risk. As chairman Greenspan himself stated in his remarks to the Economic Club of New York in February 2009,

“But in August 2007, the risk management structure cracked. All of the sophisticated mathematics and computer wizardry essentially rested on one central premise: that enlightened self interest of owners and managers of financial institutions would lead them to maintain a sufficient buffer against insolvency by actively monitoring and managing their firms’ capital and risk positions. When in the summer of 2007 that premise failed, I was deeply dismayed.”

The view that market forces could act in a self-correcting way was reinforced in the years preceding the crisis by two observations. First, there was the perception that the pace of financial innovation rendered many older regulations obsolete. To quote again from Greenspan’s 1997 speech,

“[...] I should like to emphasize that the rapidly changing technology that is rendering much government bank regulation irrelevant also bids fair to undercut regulatory efforts in a much wider segment of our economy. The reason is that such regulation is inherently conservative. [...] With technological change clearly accelerating, existing regulatory structures are being bypassed, freeing market forces to enhance wealth creation and economic growth. In finance, regulatory restraints against interstate banking and combinations of investment and commercial banking are being swept away under the pressures of technological change. [...]

As we move into a new century, the market-stabilizing private regulatory forces should gradually displace many cumbersome, increasingly ineffective government structures. This is a likely outcome since governments, by their nature, cannot adjust sufficiently quickly to a changing environment, which too often veers in unforeseen directions.”

The pace of financial innovation was seen as an argument in favor of less, not more, regulation. We now know that some of the financial innovations were re-creating the financial risks of another age. For instance, G. Gorton’s testimony to the FCIC illustrates how the repo market became a modern version of the unregulated fractional banking system that the US used to have before the establishment of the Federal Reserve Act. If anything, faster financial innovation requires more not less vigilance.

Second, the period between 1990 and 2007 saw the U.S. and the world economy weather successfully a string of “crisis” such as the 1994 Mexican crisis or the 1997-98 Asian financial crisis, or the 1998 collapse of Long Term Capital Management. None perhaps, was as important as the 2001 implosion of the dotcom bubble. The relatively mild impact on economic activity convinced the US monetary authorities that it had the capacity to handle and prevent –through traditional monetary policy-- a systemic crisis.

Accordingly, the benign outlook on financial regulation was reinforced both by the speed of financial innovation –which should have been a source of added vigilance—and the fact that the world and US economies seem to be moving along without major disruptions.

In closing, I would like to re-emphasize that while better financial regulation could have strengthened the US financial sector, it is not clear how/whether the crisis would have been

avoided altogether. The reason is that the excess demand for safe assets and the resulting pressures on world interest rates would have been present even with a better regulated financial system. The conditions for a financial bubble to emerge were ripe. Perhaps the best one could hope for is to insulate the core of the financial system, so as to avoid a complete meltdown.

5. One topic of great interest to the Commission is the extent to which the crisis was an international crisis. Can you provide the Commission information regarding the differential impact of the crisis on various countries, these countries' responses to the crisis and the effectiveness of these responses

One can think of two main channels of transmission of the crisis from the US to the rest of the world: financial and trade channels.⁷ The first channel of financial transmission was exposure to U.S. assets backed by sub-prime mortgages. Foreign financial institutions, especially in Ireland, France, Germany, Switzerland and the United Kingdom, were substantially exposed. When markets became unable to price these assets, these foreign financial institutions suffered great losses that endangered these countries' financial system and required prompt action.

⁷ There is an active empirical literature looking at the transmission of the crisis to the rest of the world. My answers to this question rely on the work of P. Lane and G.M. Milesi-Ferretti "The Cross-Country Incidence of the Global Crisis", forthcoming IMF Economic Review (2010), O. Blanchard, M. Das and H. Faruqee, "The Initial Impact of the Crisis on Emerging Market Countries", Brookings Papers on Economic Activity (2010) and D. Giannone, M. Lenza and L. Reichlin, "Market Freedom and the Global Recession", forthcoming IMF Economic Review (2010).

A second channel of financial transmission is through global deleveraging. As investors around the world pulled back, many foreign financial institutions found themselves unable to obtain funding, especially dollar funding. This dollar shortage was especially acute for European financial institutions with short term exposure to dollar markets. The retrenchment of global investors also had a devastating impact on emerging equity markets.

Finally, as economic activity slowed down markedly in industrial countries, demand for durable and investment goods collapsed. Export-oriented countries (Singapore, China, Japan, Germany....) suffered dramatic collapses in trade. The global downturn also reduced demand for commodities. The associated decline in commodity prices affected the economy of commodity producing countries.

The empirical evidence available so far suggests the following: everything else equal, the crisis had a larger impact on more advanced economies, countries with more liberalized credit markets or more rapid growth of credit prior to the crisis, countries with larger external deficits, and more open economies. There does not seem to be a sizeable effect of having a larger stock of official reserves, or of having a fixed exchange rate.

The policy responses to the crisis fall broadly into three areas: financial policy, monetary policy and fiscal policy. On the financial front, most governments acted quickly to provide liquidity to their financial system and recapitalize or take over insolvent financial institutions. This was coupled with aggressive and often coordinated monetary policy that dramatically lowered policy rates in many countries. With many advanced countries approaching the zero nominal bound (i.e.

the fact that it is policy rates have to remain positive), traditional monetary policy was supplemented by non-traditional policies that often involve making use of the central bank balance sheet. In some countries, these interventions took the form of quantitative easing, whereby the central bank increases the money supply and expands its balance sheet by buying government securities and other assets (e.g. the U.K.). In others such as the U.S., the Federal Reserve acquires certain types of assets (such as MBS) where private markets are impaired in order to reduce spreads and speed up a return to normalcy. In addition, many countries, in coordination with the IMF and the G-20, agreed to implement sizable fiscal stimulus plans to supplement monetary policy. The consensus is that the combination of forceful and coordinated monetary and fiscal policies stabilized the world economy and allowed some return to normalcy to occur. The outcome is far from uniform, however. At one end of the spectrum, countries like China have recovered vigorously and are now trying to slow down their economy. At the other end, the generalized re-pricing of risk in financial markets is still going on, and some Southern European countries (Greece, Spain, Portugal) find themselves in a very difficult financial situation. While this broad assessment is widely shared, it is still too early to assess precisely which policies worked and where.

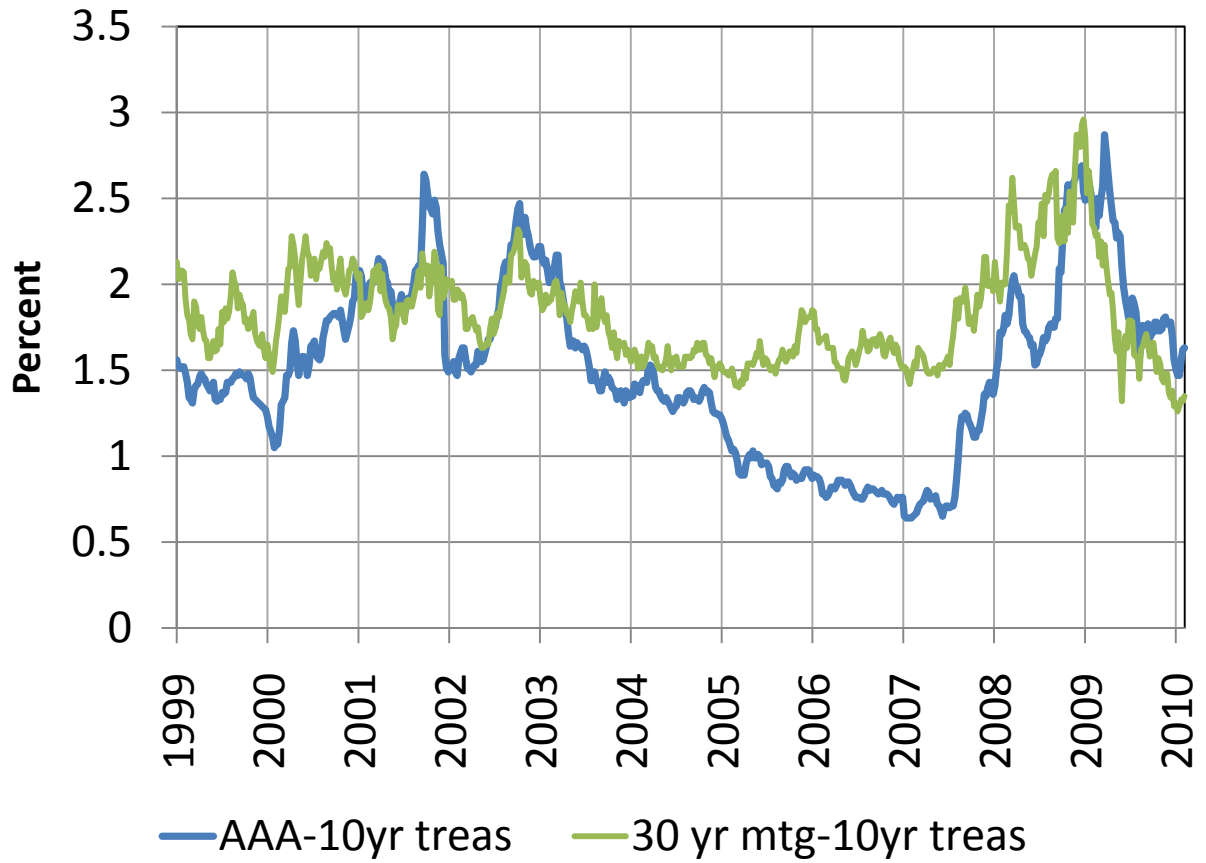


Figure 1 Spread between AAA-corporate bonds and 10-year Treasuries and between 30 year fixed rate mortgage rate and 10 year Treasuries. Source: Federal Reserve, series H.15.