Independent Evaluation Office of the International Monetary Fund

# BACKGROUND PAPER

BP/10/02

# IMF Performance in the Run-Up to the Financial and Economic Crisis: Multilateral Surveillance

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December 9, 2010

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# IMF Performance in the Run-Up to the Financial and Economic Crisis: Multilateral Surveillance

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## Abstract

The IMF's multilateral surveillance did not warn adequately about the risks and vulnerabilities underlying the crisis. Its banner messages were sanguine in both public and confidential settings and focused heavily on a concern that global current account imbalances could bring about a sharp and rapid decline in the dollar, which could trigger a global recession. The IMF's flagship publications, in particular, the *GFSR*, highlighted several relevant vulnerabilities, albeit not emphatically enough and with critical omissions. The evaluation unearthed problems that are long-standing, complex, and not easily solved. Critical among these were a corporate culture and incentive structure that fostered self-censorship and discouraged contrarian views (especially when it came to challenging larger shareholders), inhibited collaboration across organizational 'silos,' and sidelined financial sector analysis. The incentive problem was aggravated by a lack of oversight due, partly, to increased turnover at the top, and a neglect of institutional mechanisms to foster collaboration. Key advanced countries were given the benefit of the doubt, and there were weaknesses in the IMF's macro-financial analysis.



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## Abbreviations

| | |
|---|---|
| ABS | Asset Backed Securities |
| BIS | Bank for International Settlements |
| CDOs | Collateralized Debt Obligations |
| CDS | Credit Default Swap |
| CIS | Commonwealth of Independent States |
| CRT | Credit Risk Transfer |
| DSGE | Dynamic Stochastic General Equilibrium |
| ECB | European Central Bank |
| EMU | European Economic and Monetary Union |
| Flagship documents | *WEO, GFSR* |
| FSB | Financial Stability Board |
| FSF | Financial Stability Forum |
| G–7 | Group of Seven Major Industrial Countries |
| G–20 | Group of Twenty |
| GEM | Global Economy Model |
| *GFSR* | Global Financial Stability Report |
| GDP | Gross Domestic Product |
| GSEs | Government Sponsored Enterprise |
| ICM | International Capital Markets Department, IMF |
| IEO | Independent Evaluation Office |
| IMF | International Monetary Fund |
| IMFC | International Monetary and Financial Committee |
| LBO | Leveraged Buyout |
| LCBGs | Large and Complex Banking Groups |
| LCFIs | Large and Complex Financial Institutions |
| LTV | Loan-to-Value ratio |
| Management | One or more members of the IMF's management team comprising the Managing Director, First Deputy Managing Director and two Deputy Managing Directors |
| MBS | Mortgage-backed Securities |
| MCM | Monetary and Capital Markets Department, IMF |
| MFD | Monetary and Financial Systems Department, IMF |
| NPLs | Non-performing loans |
| *REO* | *Regional Economic Outlook, IMF* |
| RES | Research Department, IMF |
| Senior staff | IMF Department Directors, Deputy Directors and Counselors |
| SIVs | Structured Investment Vehicles |
| UBS | Union Bank of Switzerland |
| VAR | Value-at-Risk |
| WEMD | World Economic and Market Developments, IMF |
| *WEO* | *World Economic Outlook,* IMF |

## Executive Summary

This paper evaluates the performance of the IMF's multilateral surveillance in the run-up to the current global crisis, as embodied mainly in the IMF's flagship documents (*World Economic Outlook* and *Global Financial Stability Report*). It examines whether the IMF could have been more effective in identifying and warning about risks and vulnerabilities and recommending policies that could have mitigated the crisis and prevented its spread. The evaluation focuses on the period 2004–07 when vulnerabilities mounted. It also reviews the IMF's work through Summer 2008 in informing members about the magnitude of the crisis and preventing systemic contagion. The main conclusions are:

The banner messages of the IMF's multilateral surveillance, particularly on the global economic outlook, were sanguine in both public and confidential settings. The *GFSR* grew more cautious starting in late 2006, yet it continued to argue until Spring 2007 that the foundations for financial stability were sound. Moreover, although the *GFSR* raised concerns about some relevant financial market developments, these concerns did not feature prominently in the IMF's banner messages.

The IMF's public warnings focused heavily on a concern that global current account imbalances could unwind in a disorderly manner and lead to a sharp and rapid decline in the dollar. However, the IMF did not see that global imbalances were contributing to the build-up of systemic problems in financial institutions. Although it pointed to some of the relevant vulnerabilities in the economies hardest hit by the crisis, there were important omissions and its warnings were not emphatic enough. In particular, the IMF missed the emerging vulnerabilities in large financial institutions because of its assumption that financial innovation was dispersing risks, and it failed to provide guidance on how to deal with rising asset prices. A sanguine overall message, the lack of a coherent macro-financial assessment to underpin the laundry list of risks in flagship documents, and an overemphasis on the *WEO's* main messages in its public pronouncements, created an impression that the IMF was warning only about global imbalances. Throughout 2004–Summer 2008, some external and internal observers expressed more concern about emerging vulnerabilities in advanced countries than could be seen in the IMF's key publications, but their concerns went unheeded.

The IMF did not warn adequately about the risks and vulnerabilities that led to the crisis because of long-standing problems, many of which had been highlighted for at least a decade. Critical among these were a corporate culture and incentive structure that fostered self censorship and discouraged contrarian views (especially when it came to challenging the policies of larger shareholders), inhibited collaboration across organizational 'silos,' and sidelined financial sector analysis. The incentive problem was aggravated by a lack of oversight due, partly, to increased turnover at the top, distractions from other initiatives and a neglect of institutional mechanisms to foster collaboration. Advanced countries were given the benefit of the doubt, and there were weaknesses in the IMF's macro-financial analysis.

## I. INTRODUCTION[1]

1. **This paper seeks to evaluate the performance of the IMF's multilateral surveillance in highlighting risks and vulnerabilities in the run-up to the current global crisis**. It examines whether the IMF could have done better in identifying these risks, whether there were impediments to its effectiveness, and draws lessons for the future. The evaluation focuses on the 2004−Fall 2007 period when vulnerabilities mounted. This emphasis is because the IMF is tasked to help head off risks to both national and international monetary and financial stability, alert the institution's 187 member countries to potential risks and vulnerabilities, and advise them of needed policy adjustments. The evaluation also looks at the period that followed—Fall 2007−Summer 2008, i.e., before the collapse of Lehman Brothers—because this period too offers important lessons. The analysis is mainly based on the IMF's flagship documents (the *World Economic Outlook* (*WEO*) and the *Global Financial Stability Report* (*GFSR*)). It is informed by interviews with members of the IMF's Executive Board, Management (i.e., the IMF's Managing Directors and Deputy Managing Directors), senior staff (department directors, deputy directors, and counselors), and other IMF staff. (Annex 1 lists other evidentiary sources).[2]

2. **The paper is organized as follows**. Section II examines the main messages that the IMF conveyed to its membership through its multilateral surveillance documents and processes. The analysis focuses on the IMF's overall messages regarding the economic and financial outlook, and the degree to which the IMF highlighted the risks and vulnerabilities most relevant to the crisis. Section III seeks to explain the IMF's performance during this period, assessing, in turn, the manner in which it was influenced by organizational impediments and failures in internal governance, analytical weaknesses and political constraints. Section IV highlights key areas for improvement.

[1] This paper has benefited from comments from participants in several workshops, from IEO colleagues, and from discussants of an earlier draft, including Jack Boorman, Larry Promisel, and Shinji Takagi. I am grateful to Chris Monasterski for research assistance. I would also like to thank Alisa Abrams, Andrew Martinez, and Roxana Pedraglio for general assistance, Rachel Weaving for editorial suggestions, and Sarah Balbin and Arun Bhatnagar for administrative assistance.

[2] The paper relies on the IMF's own analysis of the events that led to the crisis (Annex 2). It does not examine the modalities, quality, or the effectiveness of IMF's multilateral surveillance more generally.

## II. DID THE IMF WARN ABOUT RISKS AND VULNERABILITIES?[3]

3. **The IMF's multilateral surveillance did not warn adequately about the risks and vulnerabilities underlying the crisis**. Its banner messages on the global economic and financial outlook were sanguine in both public and confidential settings and focused heavily on a concern that global current account imbalances would be unwound through a disorderly decline in the dollar. Although the IMF highlighted several relevant risks and vulnerabilities in the global and advanced economies and the emerging markets hit hardest by the crisis, the warnings received little traction in the IMF's banner messages, and there were critical omissions. Throughout 2004–Summer 2008, many observers inside and outside the IMF expressed more concern about emerging vulnerabilities in advanced countries than evident in the IMF's key publications, but their concerns went unheeded.

### A. A Sanguine Overall Message

4. **With a few exceptions, the IMF's banner messages were sanguine, especially regarding the global economic outlook** (Annexes 3 and 4). The headline messages reassured about continued global economic prosperity with a possible disorderly unwinding of global current account imbalances as the principal risk. These are the messages that policymakers reported to have taken from the *WEO*, the *GFSR*, and other vehicles of multilateral surveillance.

5. **The *WEO*, the *GFSR*, and public statements by IMF Management, more often than not, painted a rosy picture**. In 2004, according to the *WEO*, the global economic outlook[4] was "among the rosiest" in a decade (Spring 2004), and the year was expected to be "one of its strongest years of growth" unless events took "an awful turn" (Fall 2004). In 2006, the world economy was said to be in the "midst of an extraordinary purple patch" (Spring 2006), and "strong" (Fall 2006), all the way up to Spring 2007 when the IMF prognosticated that "world growth will continue to be strong" and that "global economic risks [had] **declined** (*emphasis added*) since September 2006." Public statements by senior IMF officials—largely based on the *WEO*—reiterated these messages; as late as August 2007, Management considered the global economic outlook to be "very favorable." The *GFSR* echoed these sentiments, declaring that the global financial outlook was "enjoying a 'sweet spot'" (Spring 2004), and that it was "hard to see where [systemic threats] could come from in the short-term" (Fall 2004), with the global financial system "improved," "strong and

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[3] Technically, the IMF's view comprises what is endorsed by the IMF's Executive Board. In this paper we also include public statements made by IMF Management and senior managers in their official capacity, the flagship documents, and notes that were prepared for the G-20 and G-7 as expressing the IMF's view because these are perceived as such by external audiences and senior policymakers, even though, strictly speaking, they reflect the views of IMF staff.

[4] The *WEO's* global economic outlook, prepared by the Research department (RES), is based on input from bilateral surveillance teams on individual countries, and, thus, reflects consensus views across the institution.

resilient" (various years), and "not bad" (Spring 2006). The overall tone of the *GFSR* became more cautious after Spring 2006, but this change in tone was not reflected in the IMF's other public messages. The Spring 2007 *GFSR* struck a more somber note of warning that "underlying financial risks have shifted" and that the "collective build-up of investment positions in certain markets could result in a disorderly correction when conditions change." This cautious note was an exception, however, and even this was accompanied by an assessment that the foundations for global financial stability were "strong."

6. **The IMF's confidential discussions were largely in sync with its public messages**. The restricted World Economic and Market Developments (WEMD) sessions at the Executive Board largely focused on macroeconomic risks (Figure 1).[5] As late as July 2007, staff considered that "global expansion [would] remain strong" and they revised upwards the outlook for growth, while drawing attention to growing vulnerabilities in some emerging markets. The financial market turbulence in early 2007 was seen as "not warrant[ing] a fundamental reassessment of the global outlook" (March 2007), a view that the IMF also conveyed to the G-20 and G-7 (Annexes 5 and 6).

Figure 1. Key Vulnerabilities Highlighted in World Economic and Market Developments Sessions[1]

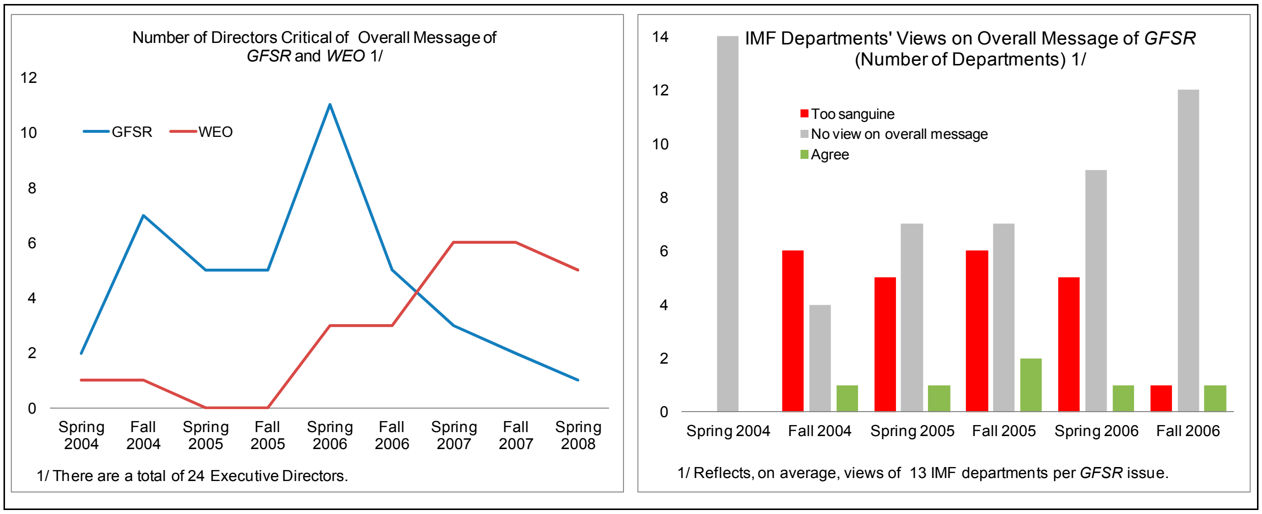

Source: IMF Board documents for the WEMD sessions.

[1] Includes risks specifically highlighted for discussion and issues flagged as cause for concern in the main text.

[5] The WEMD discussions refer to periodic, strictly confidential discussions at the IMF's Executive Board on the key risks to the global economic and financial outlook.

7. **Concerns within the IMF that the overall conclusions of flagship documents were too sanguine were disregarded** (Figure 2). During 2004−Spring 2006, several Executive Board members and departments were concerned that the *GFSR* was too sanguine, although they did not raise similar concerns about the corresponding *WEO*. Over time, these criticisms lessened as the *GFSR* grew more cautious. Concern was then redirected to the *WEO's* overly sanguine outlook.

Figure 2. The Overall Message of the *WEO* and *GFSR* Was Too Sanguine




Source: Interdepartmental memoranda and minutes of Executive Board discussions.

8. **After the crisis started, the IMF's public messages grew more somber, but remained cautiously optimistic, at least initially**. Growth was expected to slow but to remain buoyant due to "generally strong fundamentals" (*WEO*, Fall 2007). Systemically important institutions were judged to be adequately capitalized to cushion losses, which were estimated at US$170–200 billion in the Fall 2007 *GFSR*.

9. **Concerns escalated within IMF staff and, by Spring 2008, the IMF went public with them**. The Spring 2008 *GFSR* warned about "elevated" risks to global financial stability**.** It estimated that bank and nonbank balance sheets could face a combined US$1 trillion in losses, an estimate that some—including senior officials in advanced countries—criticized as being alarmist. The *WEO* noted that the "global expansion is losing speed" in 2008, while forecasting a gradual recovery in 2009. Management called for a coordinated fiscal stimulus to stave off a second Great Depression. In so doing, the IMF raised awareness of the nature and size of the problem, which would require a strong and concerted out-of-the-box response.

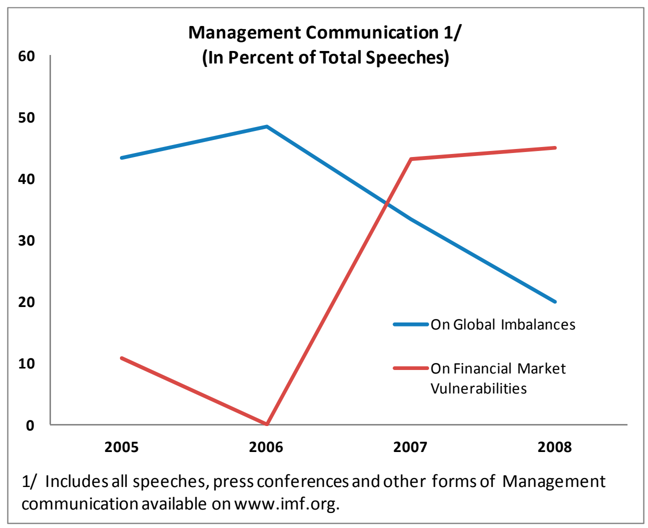
10. **By Summer 2008, the IMF turned sanguine once again, although there were significant disagreements among staff**. As the U.S. Federal Reserve put its balance sheet in play to support the banking sector, IMF Management publicly reassured that "the worst news

are behind us" (May 2008) and that the U.S. economy had "avoided [a] hard landing" (June 2008). During a WEMD discussion in July 2008, staff noted that the "risks of a financial 'tail event' ha[d] eased, while risks arising from oil markets and inflation ha[d] increased." The *WEO* Update of July 2008 indicated that a recovery would gradually gain pace in 2009 and that inflation was the main concern. The IMF delivered similar messages to the G-20 and G-7 during this period, but hedged that the "big risk going ahead is the unpleasant specter of mutually reinforcing deteriorations in financial and economic conditions."[6] Only the *GFSR* Update, also published in July 2008, had a more concerned tone: it viewed the indicators of systemic risk as remaining elevated with an "increased…likelihood of a negative interaction between banking system adjustment and the real economy."[7]

### B. Key Risks and Vulnerabilities: Global Imbalances

11. **Throughout the evaluation period, the overall positive outlook was accompanied by a discussion of some of the relevant risks but these could have been voiced more emphatically**. Warnings about a disorderly decline in the dollar as a result of rising global imbalances featured prominently in the IMF's public messages, but the *GFSR's* concerns about relevant financial market risks did not (Figure 3). The flagship documents listed some five or six different risks in each document, with little overlap between the lists in the corresponding *WEO* and the *GFSR* except for global imbalances and a warning about financial market turbulence in the event of a greater-than-expected monetary tightening (Figure 4 and Figure 5; see Annexes 3 and 4 for further detail). Sanguine overall messages, the lack of a coherent macro-financial assessment to underpin the laundry list of risks, and an emphasis on the *WEO's* main messages in Management's public pronouncements, created an impression that the IMF was warning only about global imbalances. A similar picture arises from the IMF's messages to the G-7 and G-20 (Annexes 5 and 6).

Figure 3. Communication by IMF Management




Source: International Monetary Fund.

[6] The IEO found no evidence that different messages were conveyed in private to senior policymakers.

[7] A draft version of this *GFSR* had an even starker tone, pointing out that the crisis was going to be protracted, requiring painful balance sheet adjustments that would not be easy.

Figure 4. Risks Prominently Highlighted in the *World Economic Outlook* (2004–08)[1]

| | Spr 04 | Fall 04 | Spr 05 | Fall 05 | Spr 06 | Fall 06 | Spr 07 | Fall 07 | Spr 08 |
|---|---|---|---|---|---|---|---|---|---|
| Global imbalances | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Oil price volatility, commodity price, inflation | | ● | ● | ● | ● | ● | ● | ● | ● |
| Interest rate, financial condition tightening | | | ● | ● | ● | ● | | | |
| Financial market vulnerability, volatility | | ● | | | | | ● | ● | ● |
| House prices, housing market | | | ● | | | ● | ● | | ● |
| Medium-term fiscal challenges | ● | ● | ● | | ● | | | | |
| External competition, structural reforms | ● | ● | | ● | | | ● | | |
| Geopolitical | ● | | | ● | | | | | |
| Avian flu | | | | | ● | ● | | | |
| Emerging market credit booms | ● | | | | | | | | |
| Financial institutions balance sheet | | | | | | | | | ● |
| Longer-term issues (ageing population, global warming) | | | | | | | | ● | |
| Income inequality | | | | | | | | ● | |
| Credit crunch | | | | | | | | | ● |

Source: *World Economic Outlook*, 2004–08.

[1] Includes only the key risks highlighted upfront in the documents. Some of these risks are interrelated. Annex 3 gives details.

Figure 5. Risks Prominently Highlighted in the *Global Financial Stability Report* (2004–08)[1]

| | Spr 04 | Fall 04 | Spr 05 | Fall 05 | Spr 06 | Fall 06 | Spr 07 | Fall 07 | Spr 08 |
|---|---|---|---|---|---|---|---|---|---|
| Global imbalances | ● | ● | ● | ● | ● | ● | ● | ● | |
| Cyclical tightening, market turbulence | | ● | ● | | ● | ● | | ● | ● |
| Liquidity risk of structured products | | | ● | ● | ● | ● | | ● | ● |
| Abundant liquidity boosting asset values | ● | | ● | ● | ● | ● | | | |
| Credit risk transfer, structured products, derivatives | ● | | ● | ● | ● | ● | ● | | |
| US mortgage market, credit risk | | | | ● | | ● | ● | ● | ● |
| Complacency, search for yield, risk appetite | ● | ● | ● | | | | | ● | |
| Emerging market financing | | ● | | | | ● | ● | ● | |
| Geopolitical shocks | | ● | | | ● | ● | ● | | |
| Risk management tools | | | ● | ● | | | | | |
| US household balance sheet | | | | ● | | | | | ● |
| Financial institutions balance sheets | | | | | | | | ● | ● |
| Financial sector concentration | | | ● | | | | | | |
| Private equity buyout, leverage | | | | | | | ● | | |
| Credit crunch | | | | | | | | | ● |
| Nonbanks more directly exposed to risks | ● | | | | | | | | |
| Avian flu pandemic | | | | | ● | | | | |

Source: *Global Financial Stability Report*, 2004–08.

[1] Includes only the key risks highlighted upfront in the documents. Some of these risks are interrelated. Annex 4 gives details.

12. **The IMF repeatedly and appropriately highlighted the risks posed by an unsustainable build-up of global current account imbalances, but did not see that these imbalances were contributing to the build-up of systemic problems in financial institutions**.[8] The *WEO* noted that the rapid expansion of cross-border capital inflows was helping to finance these imbalances more easily, but it failed to connect these inflows with the financial market risks discussed in the *GFSR*, including excessive complacency, undervaluation of risk and the search for yield underpinning the rapid growth of complex financial instruments. The IMF's warnings focused on a disorderly unwinding of the global imbalances due to a loss of confidence in dollar assets leading to a large and rapid depreciation of the dollar.

13. **The IMF's policy advice focused on measures to rebalance domestic demand** (*WEO*, 2004–07 and 2006–07 multilateral consultation).[9] It urged fiscal tightening in the United States, structural reforms in the euro area, financial sector reform in Japan, increased domestic spending in Saudi Arabia, and exchange rate flexibility in China. The IMF's views on the role of U.S. monetary policy changed over time. During 2003–05, it noted that the worldwide tightening of lax monetary conditions—at different rates in different countries—would help because it would increase incentives to save in the United States and might "also slow the growth rate of asset prices such as those of housing" (*WEO*, Spring 2005). As the Federal Reserve tightened monetary policy starting in 2004, at an appropriately measured pace according to the IMF, the IMF focused entirely on U.S. fiscal consolidation. By 2006, U.S. monetary policy was judged to have been appropriately tightened, and the IMF agreed with the Federal Reserve that further monetary tightening would have had a limited impact at the long end of the yield curve, given the structural shifts that were taking place in global capital markets. In hindsight, IMF senior staff and Management acknowledged that the issues involved in the global current account imbalances were more complex than rebalancing domestic demand.

## C. Relevant Risks and Vulnerabilities: Hits and Misses

14. Both flagship documents highlighted vulnerabilities that played leading roles in the crisis that eventually unfolded. However, these vulnerabilities were generally flagged less prominently and there were important omissions (see Annexes 3 and 4 for details).

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[8] The discussion of global imbalances is based on various *WEO* editions, starting in 2003. The *GFSR* focused mostly on the implications of a disorderly unwinding of global imbalances on financial markets.

[9] The IMF's multilateral consultations provide a forum for parties to debate a common economic issue. The consultations aim to enable the IMF and its members to agree on policy actions to address vulnerabilities that affect individual members and the global financial system. The first multilateral consultation focused on the issue of global imbalances and involved China, the Euro area, Japan, Saudi Arabia, and the United States (http://www.imf.org/external/np/sec/pr/2006/pr06118.htm).

**Housing market and asset bubbles**

15. **The *GFSR* warned prominently about asset bubbles in 2004–05**. It noted that abundant liquidity was boosting asset values globally beyond levels justified by fundamentals and was instilling complacency in investors searching for yield while underpricing risk. The "longer this persists, the greater the potential for disruptive corrections," it said (*GFSR*, Spring 2004). "Historically the most important risk for financial markets in good times is complacency. Current risk premia leave little or no room for asset valuation errors" (*GFSR*, Spring 2005).

16. **The *WEO* repeatedly worried aloud about various aspects of "richly valued" property markets in advanced countries** that were increasingly unjustified by fundamentals. It was "particularly concerned" about buoyant property prices in Australia, Ireland, Spain, and the United Kingdom, and to a lesser degree in New Zealand and the United States,[10] noting "heightened concerns" about an asset price bubble and a sharp correction thereof. It warned that the cost of asset price shocks could be "very large" since housing busts typically caused cumulative losses of about 8 percent of GDP (*WEO*, Spring 2004). The industrial country housing boom was highly synchronized, due to these countries' synchronized monetary policy and financial liberalization, and the downturn was also likely to be synchronized with significant adverse effects (*WEO,* Fall 2004).

17. **The *WEO* began flagging the risks from a house price correction more prominently by late 2005–06, as house prices kept on rising and the quality of housing finance and household balance sheets deteriorated**. It warned that housing markets could be "increasingly susceptible to a correction," which would hold the greatest risk for households, given that households take longer to restore balance sheets when inflation is low (*WEO*, Fall 2005). It also expressed concern that a growing share of new mortgages was being financed in a riskier fashion, with nontraditional mortgage products comprising some 40 percent of U.S. mortgage loans in 2005 (*WEO*, Spring 2006). Slowing price appreciation in Australia, Ireland, and the United Kingdom had brought house prices closer to their estimated fundamental value, although the United Kingdom remained "richly valued" and house prices in the United States and Spain had moved further away from fundamentals (*WEO*, Spring 2006). There were growing signs that United States housing activity had peaked, and other housing markets, such as those in Ireland, Spain, and the United Kingdom still seemed "overvalued by most conventional measures" (*WEO*, Fall 2006).

18. **By 2007, the cooling of advanced-economy housing markets was seen as a key but "manageable" risk for the global economic outlook** (*WEO*, Spring 2007). Slowing house prices posed risks to residential investment and consumption. Also, the *WEO* pointed

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[10] The Fall 2004 *WEO* estimated that house prices were 10–20 percent higher in Australia, Ireland, Spain, and United Kingdom, and 10 percent higher in the United States, than could be explained by fundamentals.

out the deterioration in credit quality in the subprime mortgage market could spread to other market segments and adversely affect the financial sector and credit availability. The unemployment rate was considered to be a key influence on the size of spillovers from a housing correction.

**Financial markets**

19. **The *GFSR* highlighted several vulnerabilities that eventually materialized**. It prominently and consistently highlighted a structural shift in global financial markets in the form of financial innovations that reallocated credit risk from banks to nonbanks, with potential implications for financial stability. It raised pertinent questions about the transfer of risk from bank balance sheets: "Where has risk gone? Is it dispersed or concentrated? Are risk recipients able to manage it? Is there potential for regulatory arbitrage?" (*GFSR,* Spring 2004). These messages were broadly in line with those expressed in the Financial Stability Forum (FSF) at the time, whose concerns about financial stability were also regularly reported to the IMF's Executive Board (Annex 7).

20. **The *GFSR* observed that the cyclical and structural shift in global financial markets could "become hazardous to financial stability"** (*GFSR*, Spring 2005). The "most immediate risk was complacency," given the smooth adjustment to initial increases in U.S. interest rates (*GFSR*, Fall 2004). A combination of low risk premiums, complacency, and untested risk management systems dealing with complex financial instruments could become hazardous to financial markets. Negative surprises from a single or a combination of events were more likely to occur, given the advanced stage of the cycle, and could include a higher-than-expected interest rate increase as well as negative surprises regarding credit quality. Gaps and inconsistencies in regulation and supervision could create strong incentives to exploit such shortcomings.

21. **The *GFSR* argued that the proliferation of complex, leveraged financial instruments (such as credit derivatives and structured products) made liquidity risk increasingly relevant** (*GFSR*, Spring 2005). Credit derivatives and collateralized debt obligations (CDO) markets were vulnerable to corrections that could be further aggravated by disruptions in liquidity; there had already been relatively material LCFI losses from engaging in complex arbitrage trades with single-tranche CDOs (*GFSR*, Fall 2005). Risk management models were overly similar to one another and relatively untested, and could cause a rush to the exit at the same time, leading to market liquidity shortages, an issue made increasingly relevant by the recent trend of concentration in the financial sector (*GFSR*, Fall 2005). "Liquidity shortage as a potential amplifier for market price shocks was a major 'blind spot' and will need to be at the forefront of all future effort to further improve the global financial architecture" (*GFSR*, Spring 2005).

22. **Other relevant risks were also mentioned**. The *GFSR* warned about the vulnerability of nonbank and household balance sheets to risks being off-loaded from banks

(*GFSR*, Spring 2004). It noted that ratings agencies should not be relied on as substitutes for appropriate supervision of reinsurance companies and monoline credit issuers, and that over-reliance on rating agencies to set disclosure, capital and other standards should be addressed with improved supervision (*GFSR*, Spring 2004). It urged greater differentiation in ratings for structured products to minimize disruptions resulting from rapid downgrades (*GFSR*, Spring 2007). It pointed out that mark-to-market valuations introduced undesirable pro-cyclicality into markets (*GFSR*, Fall 2005). It urged regulators and supervisors to upgrade their skills to be effective, given the complexity of financial transactions and instruments (*GFSR*, Spring 2006).

**Emerging markets**

23. **The *WEO* and the *GFSR* warned about the vulnerabilities in many of the emerging market countries that were hit hardest by the crisis**.[11] Both publications consistently and with increasing urgency warned about the risks arising from overheating, unsustainable current account deficits, excessive leverage, credit booms, and currency mismatches. The IMF expressed "particular concern" about "emerging market risks," given "numerous examples of boom-busts" (*WEO*, Spring 2007). Despite improving policy management in many countries, the IMF appropriately believed that the asset price increases and compressed risk spreads being witnessed in these countries were not fully justified by improving fundamentals.

24. **The IMF warned about macroeconomic, financial sector, and balance sheet weaknesses**. Emerging Europe, the IMF stated, was vulnerable to a marked deceleration in Western Europe and to deteriorating global financial conditions that could reduce the financing with which to cover large current account deficits (*WEO*, 2004−07). Although ostensibly in good health, banks were exposed to risk from rapid credit growth especially in the retail sector; exchange-rate-induced credit risk; and exposure to real estate lending (*WEO*, 2004−07; *GFSR*, Spring 2005). The drive for market share by foreign banks in emerging Europe was fueling rapid credit growth, underscoring the need for closer supervisory oversight of two trends that exposed banks to a sudden withdrawal of funding: rapidly increasing un-hedged foreign currency lending, and growth of credit funded by short-term bank borrowing abroad (*GFSR*, Fall 2005). Furthermore, the potential for intraregional contagion had increased because foreign banks were pursuing common credit expansion strategies, with common risk factors, in several countries in the same region (*GFSR*, Spring 2006). The IMF advocated measures to reduce credit growth and called for strong macroeconomic policies to rein in current account and fiscal deficits and debt, to avoid increased market scrutiny and pressure in a more testing external financial environment (*GFSR*, Spring 2006).

[11] These views differed from another strand of thought within the institution which considered the widening current account deficits in emerging Europe to be largely a reflection of its convergence with Western Europe.

**Role of monetary policy**

25. **The IMF offered little policy guidance on how to deal with rising house prices in advanced countries**. Typically, the *WEO* endorsed the stance of U.S. monetary policy during the evaluation period: accommodative policies to stall deflation in 2003; measured tightening, starting in 2004, to curb domestic demand and current account imbalances; and, a pause, in 2006, as structural shifts in global capital markets implied that a further tightening would no longer influence long-term interest rates. Although the *WEO* referred occasionally to the impact of monetary policy on asset prices, it generally did not take a view on the appropriate stance of monetary policy in mitigating asset bubbles, noting that "monetary policy is not well suited to address asset bubbles, but there is no consensus on what can or should be done instead" (*WEO*, April 2004). Nor did it advocate macro-prudential policies in line with its recommendations to emerging markets with asset bubbles. It did not engage U.S. policymakers in a debate as to whether monetary policy could play a role in leaning against asset price increases. In hindsight, one senior staff noted, it was a "fair criticism" that the IMF could have pushed for a greater tightening of U.S. monetary policy, but stressed that the real issue was probably the 'Greenspan Put' rather than the pace of monetary tightening (a policy that the IMF did not criticize).[12]

26. **The *WEO*'s implicit endorsement of the U.S. monetary policy stance stood in contrast to the views of other observers**. The Bank for International Settlements (BIS) and the European Central Bank (ECB) were notable critics. The IMF's Financial Counselor also warned that "prolonged negative real short-term rates" and rising liquidity were fuelling asset price appreciation to "an excessive level which might make the subsequent adjustment disruptive" (WEMD, April 2004). The *WEO's* implicit endorsement of the U.S. policy stance also contradicted its conclusions (reached in 2000) about the circumstances under which monetary policy might intervene to stop an asset price bubble:[13] "the main error of macroeconomic policies in several industrialized countries in the 1980s and early 1990s was … the failure of making full and more prompt use of the information content of asset prices and overlooking their impact on private sector balance sheets."

27. **As early as 2004, several IMF staff and Executive Board members had begun to question the policy implications of house price booms** (Annex 8). Commenting on the draft *WEOs* for 2004, one IMF department asked, "Is there a case for a monetary policy response?," suggesting the *WEO* could "usefully discuss countercyclical provisioning ratios" for financial sector supervision. Another department "continue[d] to be skeptical about whether the financial system could really absorb that easily a crash in house prices [in the

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[12] The 'Greenspan Put' refers to the markets' belief that the Federal Reserve would lower interest rates and provide liquidity in reaction to large market disturbances.

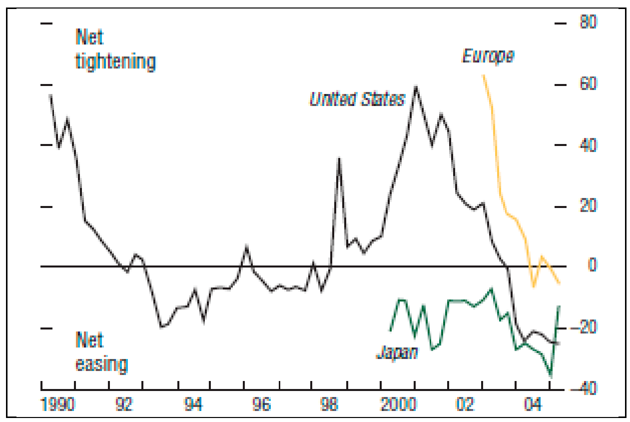
[13] "Asset Prices and the Business Cycle," World Economic Outlook, Spring 2000.

United Kingdom]," suggesting that it would be useful to provide examples of how previous housing market bubbles were pricked by interest rate increases, and that "the U.K. in the late 1980s comes to mind as a nice example." A senior staff member noted, "The whitewash (praise for expansionary U.S. fiscal and monetary policy) will be hard for European readers to swallow. The *WEO* needs to strike better balance between the policy objective of optimizing short-term growth and preservation of financial stability. If U.S. policymakers score high points on the former, they seem to be taking huge risks on jeopardizing the latter through highly pro-cyclical policies. Rather than fostering financial stability, U.S. policies are mortgaging the future by fuelling a new bubble in the stock market. The apparent endorsement of some central bankers that monetary policy is not well suited to address asset bubbles is a retreat from the position taken by staff in the past. Monetary policy may indeed be a blunt instrument but undoubtedly has a key role to play in asset price inflation and credit booms."

**Financial institutions**

28. **The IMF failed to highlight the emerging vulnerabilities in large financial institutions**. By Spring 2005, the *GFSR* had already noted that growing consolidation had produced large and operationally complex financial institutions that were increasingly difficult to manage and monitor, and whose size and global reach could significantly affect financial stability. It also noted that "lending standards had eased over the past few years across mature markets" due to competition from other sources of business credit (Figure 6, *GFSR*, Fall 2005).

Figure 6. Surveys of Bank Lending Standards
(In percent)




Sources: Bank of Japan; European Central Bank; Board of Governors of the Federal Reserve System; and IMF staff estimates. (Reproduced from *GFSR*, September 2005.)

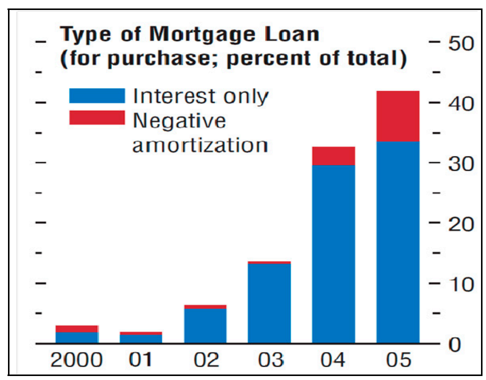
29. **Nevertheless, the *GFSR* gave financial institutions a clean bill of health until Spring 2008, after the crisis had erupted**. For years it judged their balance sheets as "strengthening," "resilient," "stable" and in "strong financial health." Even in 2007, the *GFSR* stated—on the basis of stress tests by investment banks—that the credit deterioration in the United States was confined to segments of the subprime and Alt-A mortgage markets, and unlikely to pose a serious systemic threat (*GFSR,* Spring 2007), and that banks could weather the severest stress (*GFSR,* Fall 2007). The *GFSR* did not analyze the emergence, size, and leverage of the shadow banking system within the United States in sufficient depth, despite being aware that "the off-balance-sheet nature" of credit derivatives reduced

transparency and potentially masked risks to investors (*GFSR,* Spring 2005).[14] These views were in line with assessments by the FSF, the BIS, and key central banks, which also stressed that financial institutions were fundamentally sound and resilient.

30. **Several IMF staff and Board members expressed concerns about the *GFSRs'* conclusions**. Commenting on the draft *GFSRs*, one department noted that the overall conclusions were "too sanguine" in light of "unsustainable imbalances building up," pointing out that the "bust" part of a housing cycle takes much less time than the build-up and that the U.S. banks would feel it, and thus, a re-examination of U.S. bank assets was warranted (Fall 2005). "The truly damaging financial bubbles have been those that persisted long enough for almost all institutions to start believing in a 'new paradigm,'" warned another department (Fall 2005). Several Executive Board members were also not persuaded; one noted that the favorable assessment "merely describes the calm before the storm and urgent action is needed to avert a crash" (*GFSR,* Spring 2005).

31. **The *WEO's* discussion of the impact of property price adjustments focused almost exclusively on the real economy.** As late as Spring 2006, shortly before house prices peaked, the *WEO* relied on the *GFSR's* analysis to explain away the rising share of nontraditional mortgages in the United States (Figure 7): "Default rates on residential mortgage loans have been low historically. Together with securitization of the mortgage market, this suggests that the impact of a slowing housing market on the financial sector is likely to be limited." This sanguine assessment should have warranted a deeper analysis, especially given the lessons that had emerged from earlier *WEO* analysis that house price booms are followed by busts about 40 percent of the time and have been associated with financial instability and large budgetary costs of recapitalizing banking systems.[15]

Figure 7. United States: The Housing Market and Growth




Source: Reproduced from the World Economic Outlook, April 2006, p.18. Haver Analytics; CEIC Non-Asia Database; Greenspan and Kennedy (2005); Loan Performance MBS/ABS database (Period: 2004, December 2005); and IMF staff calculations

32. **It is remarkable that these sanguine financial sector assessments came shortly after the IMF Economic Counselor's Jackson Hole address at a conference organized by the Federal Reserve** (August 2005). In contrast to prevailing wisdom, the Economic

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[14] The so-called shadow banking system is defined in this context as the largely unregulated part of the financial markets comprising investment banks, hedge funds, money market funds, the affiliates and conduits of commercial banks including off-balance sheet structured investment vehicles, and other nonbank financial entities not subject to the tighter regulation associated with depository institutions.

[15] "When Bubbles Burst," *World Economic Outlook,* April, 2003.

Counselor noted that although the financial sector's ability to spread risks had expanded, under some conditions, economies might be more exposed to financial-sector-induced-turmoil than in the past.[16] He noted the need for "greater supervisory vigilance … to contain asset price bubbles", that "large institutions at the core of the financial sector will have to be supervised," and that central banks would need "to be vigilant for any possible shortfalls in aggregate liquidity." He concluded that "we should be prepared for the low probability but highly costly downturn." The reaction from the Jackson Hole conference participants reportedly made the Economic Counselor feel "like an early Christian who had wandered into a convention of half-starved lions" (Rajan, 2010). Nevertheless, undeterred, the Counselor went on to publicize these views; his speech was posted on the IMF's external website and he presented these views in other well known publications and fora.[17] Despite the importance of the Economic Counselor's position, there was no follow up of this analysis or concerns within the Fund. The evaluation team was given several alternative explanations for this lack of traction. The most common explanation was that the Counselor and Management considered financial sector risks to be low probability events and that global imbalances posed greater risks. Other explanations included the view that some aspects of the analysis (e.g., compensation) typically fell outside the IMF's purview, that some IMF financial experts disagreed with the specifics of the analysis and the conclusions, and that turf issues played a role. In any case, the fact that concerns raised repeatedly by the IMF's Economic Counselor failed to influence the IMF's work program and flagship documents indicate a lack of clarity regarding whose responsibility it was to follow up on these issues.

33. **A June 2006 internal paper describing financial vulnerabilities that could lead to a systemic financial crisis was also disregarded**. In a background paper prepared for the first multilateral consultation, a team of financial experts from the IMF's Monetary and Financial Systems Department (MFD) examined the impact of a disorderly adjustment in global imbalances on financial sectors. It concluded that the financial sectors in the United States and the Euro area would be resilient under the scenarios and assumptions envisaged by the multilateral consultation team. However, it cautioned that this conclusion was heavily dependent on the "crude and partial" information that they had, and that additional information would be needed to reach a more robust assessment.[18] They called for a close dialogue with the appropriate regulatory agencies to gather the necessary information. The

[16] Rajan (2005d).

[17] Rajan (2005c, d).

[18] The exercise was based on aggregated data for the 20 U.S. large and complex banking groups (LCBGs) (holding roughly two-thirds of system assets) and focused only on credit risk in three loan categories representing roughly 70 percent of the gross retained loan portfolios of the sampled institutions at end-2005: personal loans (including credit cards), mortgage loans to households, and commercial real-estate loans. Due to data unavailability, the estimates did not account for the effects of changing terms on loans and higher cost of funds under a disruptive scenario; credit risk on other loan categories such as commercial and industrial loans; and the effects of the widespread credit risk transfer activity; and potential losses due to market risk.

following quotes from the paper illustrate the risks that the authors were concerned about, most of which were realized as the crisis took hold:

> "Notwithstanding the general improvement in the conditions of the banking systems, the adjustment of the global imbalances poses financial sector risks. Global imbalances have counterparts in the sectoral balance sheets and the portfolios and risk exposures of financial institutions. A disorderly adjustment would likely impact on the sectors where the banks are most heavily exposed. Assessing the behavior of capital markets under a disruptive scenario is challenging as it entails financial products and markets that have yet to be tested under global systemic distress. These effects have not been factored into the subsequent analysis of risks to the banking systems, but merit attention during the multilateral consultations.
>
> There are concerns about the increased use of nontraditional mortgage products for which default histories are limited. While the historical loss experience on mortgages has generally been low, the growth of innovative mortgage instruments has increased potential risks. A significant correction in house prices combined with a slowing economy could result in a significant increase in delinquencies on loans to households as well as commercial real-estate loans. To the extent that nontraditional mortgage products may not be completely understood by borrowers, an environment of higher interest rates may trigger reputation and litigation risks to banks.
>
> In several countries, banks and other financial institutions are heavily exposed to the housing market, including to the U.S. mortgage market through investments in mortgage-backed securities. Since the ultimate effects of risk transfer across institutions and sectors are largely unknown, it is also possible that counterparty risk and unwarranted risk concentrations could lead to financial contagion, amplifying the costs of a disruptive scenario.
>
> The foreign subsidiaries of international banks account for a large share of banking system assets in some emerging and developing countries and could become a potential channel of international contagion under a disruptive scenario. The capacity of cross-border supervisory/crisis management arrangements to handle substantial failures with cross-border implications have not been tested."

The main conclusions of the paper were initially reflected in the briefing paper for the multilateral consultation,[19] but not followed up thereafter. The background paper simply "disappeared into hyperspace," noted one staff member. In interviews, senior staff attributed

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[19] A briefing paper is an internal IMF document which spells out the policies to be discussed during a policy consultation. The briefing paper for the first multilateral consultation contained the gist of the financial sector analysis in the background paper, but the overall message focused on the benign conclusion that the financial sectors in the United States and euro area would be able to withstand a disorderly decline in the dollar.

the lack of follow-up to the more benign assessment supplied by U.S. bilateral surveillance and some IMF financial experts, and to the fact that financial sector assessments fell under the purview not of the multilateral consultation, but the *GFSR*. The *GFSR* did not address these concerns because of the distractions of the ICM-MFD merger shortly after this background paper was produced and the exit of key senior staff closely involved with this work following the merger.

34. **Several IMF departments and Executive Board members raised concerns about possible problems inherent in arms-length financial systems in the context of the Fall 2006 *WEO* discussions** (Annex 9).[20] The *WEO's* analysis, while carefully hedged, was perceived as championing arms-length financial systems such as in the United States and the United Kingdom. One Board member noted that because a shift to arms-length systems increases the economy's dependence on asset prices, one should analyze how, and to what extent, the emergence of a bubble is caused by the financial system. He provided the "well-known example" of "the Japanese real estate bubble in the run-up to the banking problem during the 1990s," noting that an arms-length system might reduce the effectiveness of financial sector supervision and regulation given the involvement of numerous players and the complicated nature of transactions.

35. **Several external experts flagged their concerns directly to senior staff at IMF-sponsored high-level events, but these concerns, too, were ignored**. For instance, in early 2004, one expert pointed to two important areas for improving the IMF's surveillance: data provision (on credit default swaps, exposures, and leverage) and risk analysis (looking at who holds credit risk and at global reinsurance links and regulatory gaps).[21] In April 2005, seminar participants noted that even in advanced countries like the United States, supervisors had encountered problems associated with structured products. They stated that in some cases banks had been substantially weakened because securitizations gone bad had to be brought back on to balance sheets, and that in other cases banks had hidden losses and/or suffered because internal models had been too optimistic.[22] In September 2006, Nouriel Roubini warned about the prospect of "a hard landing" in which "the bursting of the housing bubble [would] lead to broader systemic banking problems," because the banking system [was] "directly or indirectly holding the housing mortgage risk," and that one "could not rule out some systemic risks" if one of the big highly leveraged institutions went belly up.[23]

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[20] "How Do Financial Systems Affect Economic Cycles" (*WEO*, Fall 2006).

[21] David Folkerts-Landau (Managing Director, Global Head of Research at Deutsche Bank, and a former IMF senior staff responsible for capital market surveillance) at a Workshop on The Future Role of the IMF, April 2004.

[22] IMF High-Level Seminar on Asset Securitization and Structured Finance, April 2005.

[23] IMF Book Forums and International Seminars Lecture and Discussion with Nouriel Roubini, September 2006.

36. **The IMF was sanguine about financial institutions because it overemphasized the benefits of financial innovation**. Though without hard evidence, it believed that credit risk was indeed being transferred off bank balance sheets. While citing many analytical and methodological caveats and a lack of data,[24] the *GFSR* concluded in Spring 2006 that "credit risk dispersion by banks [has] helped make banking and the overall financial system more resilient" as evident in "fewer bank failures and more consistent credit provision." In this respect, the *GFSR's* approach was similar to the FSF and the 2005 Joint Forum Review of Credit Risk Transfer (see Annex 7). The Joint Forum concluded that credit derivatives had "achieved a relatively good record to date" on accomplishing a "clean transfer of risk," while at the same time acknowledging that it was "extremely difficult to assess" risk concentration as "notional amounts do not fully measure the extent of risk transferred."

37. **At the same time, a majority of commentators within the IMF considered the conclusions about the benefits of financial innovation to be too sanguine** (Annex 10). Many departments urged the *GFSR* to take a more balanced view. Management comments were also skeptical. While reviewing the draft chapter, Management suggested that the analysis be acknowledged as "tentative" and that "conclusions will need further testing," and asked "shouldn't the IMF be vigilant on the systemic (i.e., global) consequences of the development of these markets?" (*GFSR*, Chapter 2, Spring 2006). Most Executive Directors considered the *GFSR's* conclusions too sanguine. One Board member presciently noted that credit risk transfers may transfer less risk away from banks than imagined, because the originating bank may face reputational risk and an obligation to absorb losses, and may have counterparty exposures.[25] The Executive Board Summing Up noted the concerns of a number of Directors that absent robust data, the *GFSR's* conclusions should be considered tentative, and added that some Directors questioned whether credit derivatives could be magnifying risks. IMF staff was encouraged to conduct further research on how financial innovations may influence credit cycles and the provision of credit and affect monetary policy transmission. Regardless of these concerns, it became accepted wisdom within the institution that credit risk dispersion was making financial systems more resilient.

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[24] The analysis noted the following caveats: (i) A lack of detailed data on structured products, particularly on net exposures within and across sectors; (ii) Few studies on the financial stability implications of credit transfers; (iii) Insufficient experience of emerging and advanced economy regulators with these instruments; (iv) The views of many market participants that financial engineering skills had become more important for ratings agencies than fundamental credit analysis, and that this increased focus on structuring skills relative to credit analysis may pose concern; (v) Methodological challenges to assessing the dispersion of credit risk because the actual amounts of risk transferred did not necessarily equal the reported notional amounts; (vi) A lack of clarity regarding whether investors fully understood the risk involved in these instruments; (vii) The concentration of positions with many surveys showing that the top eight–ten global dealers held about 70 percent of total gross positions; (viii) Secondary market liquidity risks and related contagion that might constitute significant stability risk; (ix) Academic research questioning whether the ability to transfer risk creates incentive to overextend credit and assume excessive risks, and reduces incentives for banks to screen and monitor borrowers.

[25] Ten out of a total of 24 Executive Directors, comprising 37 percent of the total voting power, considered the *GFSR's* conclusions too sanguine. Another 5 (18 percent of total voting power) agreed, but with reservations.

**Systemic nature of the crisis**

38. **Once the crisis started in the summer of 2007, it took the IMF some time to realize the possible systemic implications**. Initially, the IMF believed that the crisis would have limited impact, reflecting the views of U.S. bilateral surveillance that the problems would be confined to Alt-A and subprime mortgages and that as long as people had jobs there would be no spillovers (both *WEO* and *GFSR* in Fall 2007). However, concern was growing among staff that the crisis could become systemic and that policies needed to be geared toward stopping contagion and forestalling systemic failures:

- Internal staff analysis, indicating that the problems in European banks were larger than believed at that time, initially received strong push back from within the IMF (October 2007). But views changed as it became evident that markets were reacting as predicted by this analysis. This approach was subsequently incorporated in the Spring 2008 *GFSR*. In late 2007–early 2008, some staff suggested that more interventionist policy alternatives than had been proposed in the *GFSR* might be needed to stop contagion and forestall a deeper crisis that could threaten the global financial system.

- Some senior staff started questioning whether there were growing underlying vulnerabilities that could result in significant tail events, noting that this was the sort of "'what if' question we should have been asking more pointedly a year or two ago, but we must ask now—and in the future—if the Fund is not to be charged with being 'asleep at the wheel'" (memorandum to Management, February 2008).

- Days before Bear Stearns collapsed, Management warned the global community to "think the unthinkable" (March 12, 2008),[26] noting rising risks that the crisis could further escalate, and that decisive action was needed to put the global financial system on a firmer footing and reverse the spreading strains in global financial markets. This warning reflected ongoing internal assessments regarding the possibility of a global hard landing due to a deleveraging of bank balance sheets and asset price deflation, and involving a number of interrelated events.

- Immediately after the collapse of Bear Stearns in March 2008, the IMF's financial experts concluded in an unpublished analysis that the chances of simultaneous defaults had increased by even more than the default risks of individual institutions. They noted that Lehman Brothers would be the most negatively affected by the troubles at Bear Stearns, and that its default would have much more negative spillovers. They indicated that under certain conditions, the probability that the entire system would default was "more than 20 percent" (March 17, 2008).

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[26] Available at http://www.imf.org/external/pubs/ft/survey/so/2008/new031208a.htm.

39. **Policymakers in advanced countries resisted the IMF's efforts to start discussions on policies to stem a systemic crisis**. The IMFC Deputies considered the staff's analysis of tail risks and the possibility of a global hard landing "too alarmist" in Spring 2008. In early 2008, the IMF proposed a second multilateral consultation to concerned member countries as "a forum for a frank discussion of how public money could be used to deal with market turmoil," including "arrangements to address financial spillovers," but this was gently rebuffed and the second multilateral consultation never got underway.[27]

## III. Why Did the IMF Not Give Warning?

40. **The IMF did not warn about the risks and vulnerabilities underlying the crisis because of a complex interaction of long-standing problems, many of which had been highlighted for at least a decade** (Annex 11). These problems can be grouped into three interrelated and overlapping categories: organizational impediments and failures in internal governance, analytical weaknesses, and political constraints. Part of the reason why the IMF did not warn about the impending crisis was that prevailing incentives fostered self censorship and did not encourage alternative views and collaboration across the organizational 'silos.' This incentive problem was aggravated by turf issues, personality clashes, and a neglect of institutional mechanisms to foster collaboration. The IMF also gave advanced countries the benefit of the doubt, supporting its message-driven surveillance with overly-technical, macro-focused analysis. Political pressures did not play a direct role, although the perception of political constraints fostered self censorship.

### A. Organizational Impediments and Failures in Internal Governance

#### Organizational 'silos'

41. **In interviews for this evaluation, the IMF's operation in 'silos' was widely blamed for its failure to 'connect the dots.'** The silos, a well known problem, are widespread: among departments, within departments, and within Management. This *modus operandi* has remained unchanged for a long time, with its attendant problems mitigated when individuals took the initiative to connect across silos. The silos proved detrimental to the IMF's assessment of vulnerabilities in the evaluation period in the following ways:

- **Review process in silos**: For example, although many commentators were skeptical of the *GFSR's* sanguine outlook, few asked how the risks that were noted in the *GFSR* would affect the outlook described in the *WEO*.

[27] A second multilateral consultation on financial sector issues had been initially conceived in Fall 2006 but the proposal got lost in the debate about what the consultation should be about and whether it would be politically feasible to engage some countries in a second round of enhanced surveillance following the first consultation.

- **Intra-departmental silos**: For instance, in reviewing the *GFSR*, one area department emphasized the risks raised by the report relative to the overly sanguine conclusions. However, it did not assess these financial sector risks in the course of the bilateral surveillance of the department's systemically important countries. Similarly, RES urged the *GFSR* to look at the impact of the housing price decline on U.S. bank assets, but failed to sound a similar alarm in the *WEO*.

- **Weak learning across silos**: There was a lack of awareness of work done elsewhere in the institution. Survey and interview data indicate that most staff are too busy to read the *GFSR* or the *WEO* in detail.[28] Staff also noted that they had little incentive to provide comments on these documents as their views were often disregarded. *WEO* and *GFSR* teams seemed unaware of pertinent analyses reported in earlier issues of these publications or of concerns raised during the review process or in Board discussion of the other flagship document. The lack of awareness may also reflect the fact that only a small percentage of staff in RES and MCM considered the other department's flagship document to be "very good" (19 percent and 39 percent, respectively of respondents of a recent survey; as reported in IEO, 2011b).

42. **The modalities of Board discussions are not conducive to the connecting of dots**. The Board's views focused almost entirely on the document that was being discussed at the moment. A former Executive Board member explained that "the Board tends to react to crises and when it has to make a decision, when it has its feet to the fire. It is not at its best as a sounding board for surveillance issues." Another Director explained that "the culture of the Board is such that there is not much discussion on areas of disagreement."

43. **A lack of clarity about the modalities and scope of the various multilateral surveillance products led to gaps in analysis**. While the *GFSR* has a clearly specified task, the *WEO's* mandate is linked to the tasks of the *WEO* division in RES. There is an implicit division of labor, whereby the *GFSR* looks at financial market issues and the *WEO* looks at the real sector. This raises questions about how macro-financial linkages and other topics in no-man's-land should be dealt with; which document should take a view on the stance of monetary policy (traditionally within the *WEO's* purview although highly relevant for financial markets); and which document should discuss the overall outlook.

**Misaligned incentives**

44. **Staff reported few incentives to collaborate across silos**. The hierarchical structure and the IMF's "operate[ion] as little Fiefdoms" (according to several senior staff) implies that performance rewards are almost exclusively determined by senior staff for performance

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[28] In a recent survey, about half of staff respondents indicated that they used the *WEO* to obtain an overview picture of the global economy contained in the first chapter (IEO, 2011b).

within the department. Even Management noted that the silo structure, with its functioning determined largely by its senior staff, makes collaboration difficult. In a recent survey, a majority of IMF staff respondents (64 percent) said they had little incentive to share information, knowledge and data about specific countries (IEO, 2011b). MCM staff were the most critical about the lack of collaboration—a view also corroborated in interviews for this evaluation.

45. **Staff noted few incentives for expressing contrarian views**. Many staff believed that the short tenure of senior staff encourages conformity and self censorship. To express contrarian views, [one has] "to be prepared to go head to head with Management and run the risk of ruining one's career" noted staff at all levels. Others noted that Management did not push staff to be contrarian. This is why views "gravitate towards the middle and our advice becomes pro-cyclical." Initial drafts of flagship documents were progressively toned down on country issues during the review process by area departments, senior staff, and Management who were sensitive to how the documents could be read in the national capitals of large shareholders.

46. **Some staff spoke of self censure, which is arguably a function of internal incentives, corporate culture, and the political nature of the institution**. Some senior staff explained that because they knew the authorities' views beforehand, they wrote the documents in a way that would preclude complaints to Management, believing that "they [would] not be backed by Management." They noted that the pressures on staff from Management are greater than pressures from authorities. For Management, the issue was one of setting priorities: "if you cannot impact the outcome [in the United States], why go against the Fed or the Treasury?" adding that a decision "to tackle a country like the U.S." had "staff and resource management implications as well" which were important in a resource-constrained institution.

47. **The incentive structure led to multilateral surveillance being overly influenced by the bottom-up bilateral surveillance view on advanced countries** (IEO, 2006). For emerging market countries, multilateral surveillance helped to shape the institution's views, sometimes over the objection of bilateral surveillance teams. However, for advanced countries, the *WEO* did not push back sufficiently against the bilateral surveillance view. A senior staff explained, "[the *WEO's*] role was to aggregate [these numbers], not to shoot them down. Pointing out risks was our way of worrying." Thus, although the *WEO* teams were more pessimistic about the U.S. housing market than U.S. bilateral surveillance, they expressed their pessimism in drafting nuances in the *WEO*, because "reasonable people can differ" on asset prices. One reason for their deference to bilateral surveillance was the supremacy of area departments insofar as country relations are concerned, even though the incentives make area departments predisposed to conform to the views of advanced-country authorities.

**Weak oversight and follow through**

48. **Collaboration across silos was also affected by insufficient oversight**. Turf battles were allowed to fester, and the schisms within the institution were not sufficiently managed.

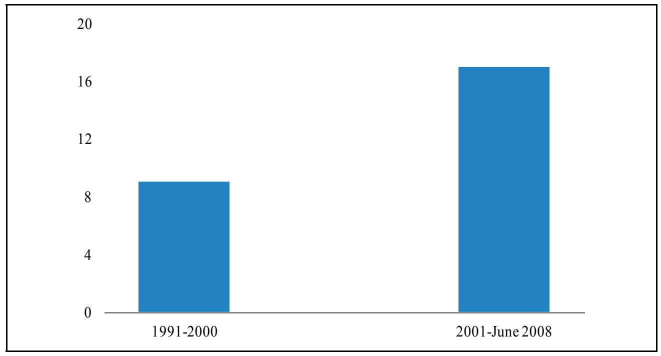
49. **Turf issues affected collaboration between the *WEO* and the *GFSR***. The Financial Counselor's views in 2004 on the impact of U.S. monetary policy on asset markets were considered to have encroached on the *WEO's* turf. Likewise, the Economic Counselor's views in 2005 on financial sector risk were considered to be on the *GFSR's* turf. Turf issues also impeded macrofinancial analysis. Thus, the *GFSR* did not challenge the *WEO's* central economic scenario when it concluded that "financial systems [are resilient] largely due to the strong macroeconomic environment" (*GFSR*, Spring 2007: 47). At the same time, the *WEO* noted, in a circular argument, that "the downside risks to the outlook seem less threatening as … benign global financial conditions have helped limit spillovers from the correction in the U.S. housing market" (*WEO*, Spring 2007: 1). Similarly, the *WEO*'s message—that overall risk had diminished but financial risk had increased (*WEO*, Spring 2007)—was a reflection of this unhappy truce regarding turfs.

50. **Alternative views received little follow-up**. This occurred partly because the time frame for producing *WEOs* and *GFSRs* does not encourage discussions and debates. For the *WEO*, the production cycle for the next publication is usually well underway before the previous cycle has concluded. Consultations take place at the tail end of the document production process, when points of views have already crystallized and there is only time to correct fatal flaws. Indeed, one senior staff noted that "you learn…what you need to do to maintain the content of your paper with minimal damage, how to get past the naysayers. It's a routine exercise." Another staff pointed to an "unhealthy" environment "which led to a situation where comments [on the *GFSR*] would simply be rejected. Personal chemistry and individual styles and interests of key senior staff and management during this period aggravated these problems. Departments' ability to get their point of view heard and accepted also depended on their ability to build alliances within Management.

51. **In particular, Management attributed the failure of bilateral surveillance to follow up on the risks highlighted in the *GFSR* to "the tense relationship" between area departments and financial experts**. Functional departments considered area departments as too focused on maintaining good country relationships, "beating back" other departments by preferring to use their own team of specialists. Financial experts could not assess financial stability issues in systemically important countries without the permission of the respective area departments and this could imply "five days of negotiation on who will sign the memo [to Management]," said one senior staff. Informal consultations did not help, noted another staff member, "because of senior staff politics; when things got formal, they fell apart."

52. **Increased turnover at the top and distractions from other initiatives complicated matters** (Figure 8).[29] The high turnover resulted in frequent shifts in priorities and reduced oversight. Departments that had greater continuity in their senior staff were better able to push their agendas and views within the institution. Moreover, during 2004–08, the Board, Management and senior staff were increasingly preoccupied with initiatives related to the future of the IMF. The 2007−08 downsizing absorbed much of Management's attention at a critical time. When questioned why the IMF was not fully engaged in the brewing crisis in the Fall of 2007, Management noted, "We are now concentrate [ing] on what we are doing inside and we have less [focus] outside than we should have." (Management address to IMF staff, December 2007).

Figure 8. Turnover in Management and Senior Staff[1]




[1] Includes Managing Directors, Deputy Managing Directors, Economic Counselors and Financial Counselors. The average tenure per person went down from 6½ years per individual in 1990-2000 to about 2 years in 2001–June 2008.

53. **Institutional structures for coordination and the airing of alternative views were allowed to lapse, aggravating the lack of oversight**. The Surveillance Committee met infrequently until early 2008. WEMD discussions, traditionally an avenue for expressing alternative views to generate discussions at the Executive Board and provide early warning, became previews of the main messages of the flagship documents, and did not receive much attention from senior staff. The lapse in the coordinating role of the Economic Counselor, following the shift in capital market surveillance to another department in 2001, was not replaced by an alternative framework for cooperation between the Economic and Financial Counselors.

**Lack of even-handedness**

54. **The IMF gave advanced countries the benefit of the doubt more easily than emerging markets even when they had similar vulnerabilities**. Indeed, "Are Credit Booms in Emerging Markets a Concern?" (*WEO*, April 2004) noted that its analysis focused only on emerging markets because "credit booms are less frequent and—if they occur—less costly in industrial countries, largely reflecting stronger institutional frameworks." Similarly, the Fall 2006 *GFSR* focused on household credit in emerging markets despite the fact that household debt—by its own admission—was as large in advanced countries. With hindsight, these were important missed opportunities.

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[29] In this period, the IMF had three Managing Directors, and an Acting Managing Director for a period of three months. According to a member of Management, it takes one to two years to "learn the [Management] job" even for individuals with prior knowledge about how the IMF operates.

55. **Criticisms of advanced countries required a higher threshold of proof than for emerging markets**. However, asymmetrically, a lack of information did not stop the IMF from offering praise for the financial systems in the United States and the United Kingdom.[30] The *GFSR* did not sufficiently challenge the sanguine assessments of stability that were provided by advanced-country supervisors and regulators at the FSF. There was a "sense of complacency" about the "sophistication and strength of the U.S. financial system" across the organization, a belief that "the G-7 capital markets were beyond mistakes," noted some in Management. One senior staff observed: "If you look at the IMF prognostications, they rarely, if ever, contradict the Fed."

56. **There was a perception that the IMF's role was to focus on emerging markets.** Senior financial sector experts reported being urged by large shareholders to focus the *GFSR* more on emerging markets than on advanced countries since the IMF had "nothing to add to advanced countries." Similarly, the IMF's role in the FSF was seen as being to inform about vulnerabilities in emerging markets (senior staff memorandum to Management, 2004). In internal discussions about the future role of the Fund, senior staff concluded "that the future of the Fund lies in the emerging market and low-income countries."

## B. Analytical Weaknesses

### Macro-financial integration

57. **The IMF's predominantly macroeconomic culture, especially in area departments, was an obstacle to effective macro-financial integration**. Senior staff and members of Management said in interviews that they believed the attitude of macroeconomists toward financial experts was part of the problem. Some believed that the cultural divide also reflected a difference of views about the appropriate balance between "proof" and "judgment," or "models versus empirics." For example, the early *GFSRs* ran into resistance for not being able to produce "sophisticated models;" an inability that suggested to macroeconomists that their "analyses were not rigorous enough and therefore the conclusions were not to be trusted." Some construed this attitude as a problem in the macroeconomic profession more generally, whereby economists do not think of financial intermediation as important to economic fluctuations. There is a "fundamental divide between macroeconomists and the finance specialists," noted one senior staff, "the macroeconomists tended to overlook the impact of low interest rates on encouraging enormous risk taking." The IMF's former Economic Counselor noted, in a similar vein, "The fault of the

[30] For example, "strong financial industry and large numbers of skilled specialists at the cutting edge of financial innovations to meet the asset-allocation and portfolio needs of global savers" (Fall 2006, *GFSR*).

macroeconomics profession has been … that it "ignore[s] the plumbing. Economists could afford to do that for a long time because the plumbing didn't back up."[31]

58. **The IMF's financial sector skills were nascent, although steadily improving, during the evaluation period**. In interviews, MCM staff emphasized the role played by many of the issues raised by the McDonough Report already in 2005 (Annex 11),[32] in particular, the lack of effective triangulation among experts in financial markets, financial institutions and macroeconomists. Three restructuring exercises over 2001–08 also took their toll on the morale of financial sector experts. In interviews for this evaluation, financial sector experts complained about the lack of resources, the wrong skill mix and expertise,[33] the debilitating effect of intra- and interdepartmental turf battles, and the lack of sufficient "financial sector credentials" and "experience" among senior staff in the department. Some senior staff in MCM noted that the IMF's personnel policies are not amenable to attracting and retaining qualified financial experts.

59. **Despite improvements, the analysis of macro-financial linkages remained weak, especially for advanced economies**. A review of IMF research on macro-financial linkages concludes that though what was done was generally of good quality, there was not much of it during the evaluation period, and the research suffered from limited diversity of conceptual approaches (IEO, 2011a). Interviewees acknowledged that the IMF could not incorporate the information in the *GFSR* into its economic analysis due to the lack of a suitable analytical framework, the operation of the review process in silos, the IMF's macroeconomic bent, and turf issues noted earlier.

**The infallibility of markets**

60. **There was a perception in key segments of the IMF that concerns about financial markets were unwarranted because markets would reliably and safely correct themselves**. This trust stemmed from the resilience of global financial systems even after a series of market failures in the 1990s and 2000s. Some in Management were reputed to hold the view that "people whose models tell you that they see a non-continuous adjustment in the market should check their models, because this is not how markets work … one does not see discontinuity in markets." Management and key financial experts were "believer[s] in markets, [therefore] anything that implied market imperfections (and possibly government

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[31] Raghuram Rajan, "Rational Irrationality," The New Yorker, April 2010.

[32] McDonough Report, "Report of the Review Group on the Organization of Financial Sector and Capital Markets Work at the Fund," 2005.

[33] One senior staff estimated that out of 200 people in MCM, fewer than a quarter had the necessary financial sector expertise (defined as approximately 10 years of working on these issues). One financial expert also noted that the Spring 2008 *GFSR's* estimates of loss could not be made earlier due to a shortage of staff with the necessary financial market expertise to detect and quantify these risks.

intervention) was a problem." The IMF's research was also seen as championing the unfettered functioning of markets (see Annexes 8–10). These views also formed the subtext of the IMF's policy advice, for instance "to let the self-correcting forces of the market work out price dislocations by adhering to a strict no-bailout policy" to contain complacency and ultimately moral hazard (April 2006, *GFSR*). This belief persisted even as late as Fall 2007 when in internal meetings, staff "saw markets going crazy and stress starting to build up and markets swinging into excess," yet "many people, … even those who were market skeptics believed that markets were going to solve [the problem]."

61. **Still, when markets did signal trouble, the IMF may have misread the warnings**. When an inverted U.S. yield curve in 2006 pointed to the possibility of a recession, the IMF argued that this was "unlikely to be signaling a recession because most economic indicators signal sustained expansion, real interest rates are low, and a number of structural reasons—especially demand for long-term bonds by institutional investors—help explain low long-term interest rate levels" (The IMF's Note to the G-20, March 2006). In hindsight, Management noted, this was a crucial signal missed by the IMF.

**Message-driven analysis and policy conclusions**

62. **Multilateral surveillance was not sufficiently informed by historical experience or alternative views.** As discussed above, alternative points of view provided by external observers, IMF staff, Board members, and earlier research were not reflected in the *WEO* and *GFSR* (Annexes 8–10). In a recent survey, a majority of staff and a sizeable proportion of member country authorities indicated that IMF research was not open to alternative perspectives and was driven by predetermined and highly predictable policy prescriptions aligned with the IMF's views (IEO, 2011b).

**Balance sheet analysis**

63. **Balance sheet analysis was often done improperly**. To the extent that advanced countries' balance sheets were examined, the assessments were static, backward looking, and too sanguine in a period when excessive asset valuation was a concern. At the time, some reviewers and Board members criticized the *GFSR's* balance sheet analyses as conceptually wrong, remarking that the discussion would typically focus on the rise/fall in the net worth of individuals or institutions when the asset side was priced at market value and could decline in a downturn, while the liability side was priced at book value. For instance, the 2004 *GFSR*, while noting that assets may be overvalued, also concluded that "rising asset values have strengthened net worth across a wide range of sectors" (corporates, households, banks, and insurance companies), provoking a response from reviewers that "the reference to strong household balance sheets may create a false impression that [they] do not face any risks ... abrupt movements in house prices could rapidly erode financial cushion as … net worth is highly vulnerable to asset price movements … forward-looking measures may provide a less benign view … [of] their resilience to shocks."

**Lack of information**

64. **The lack of data and information, while a problem, was not a core reason for the IMF's performance**. Some staff noted that the IMF lacked the information to precisely estimate some vulnerabilities; "the specifics were crucial," said senior staff, for the IMF to be specific about its warnings."[34] However, the lack of analysis of credit growth and household balance sheets in advanced countries cannot be attributed to a lack of data. Also, the IMF could have made better use of such data as were available. For example, it could have better analyzed publicly available bank balance sheets, as it eventually did when it published its estimates of bank losses in Spring 2008, or earlier in 2006 when it assessed the impact of a disorderly dollar decline on the financial sector in the context of the first multilateral consultation. At a minimum, given the absence of data, its definitive and sanguine conclusions could have been more nuanced, for example, regarding the risk dispersion from banks (*GFSR*, Spring 2006). The IMF could also have been more proactive earlier on about filling information gaps, as was urged by its financial experts in June 2006, given that it was already known by 2005 that the off-balance sheet nature of credit derivatives was reducing transparency and masking risks (*GFSR*, Spring 2005). Some senior staff also noted that there were biases in how the available data were analyzed within the IMF, reflecting a lack of diversity in staff training and backgrounds.

**Inadequate analytical tools**

65. **The limitations of existing analytical and stress-testing tools were not insurmountable**. Interviewees noted that the lack of a proper analytical framework to combine high-frequency, volatile financial market data with macroeconomic data to produce reliable assessments of vulnerability posed a problem.[35] So did stress testing models that did not capture the nonlinear effects of shocks such as liquidity shocks. However, more robust empirical approaches could have been tried, as they began to be once the crisis started. Moreover, the limitations of the models could have been transparently disclosed, and the need for caution in interpreting the analyses, policy conclusions, and the results of financial sector stress-tests could have been spelled out.

66. **Many observers within and outside the institution questioned the Fund's attitude toward analytical tools**. A common complaint was that staff were excessively enamored of models and techniques, and insufficiently critical of their limitations. Others blamed an excessive focus on technical analyses at the expense of a more thorough

[34] Detailed data on structured investment vehicles, risk exposures, and the interconnectedness of balance sheets were not available to IMF staff.

[35] The state-of-the-art macroeconomic forecasting models used by the IMF—e.g., general equilibrium models and dynamic stochastic general equilibrium (DSGE) models—envisage only limited scope for the amplification of real shocks by the financial sector.

understanding of the underlying data, perhaps symptomatic of the state of the economics profession more generally, in which "the mainstream of academic research in macroeconomics puts theoretical coherence and elegance first, and investigating the data second" (the IMF's former Economic Counselor, Kenneth Rogoff, *New York Times*, July 2010). Indeed, one Executive Director interviewed for this evaluation noted that staff analysis is "superficially dressed up and forced, as if staff wants to make a certain point and they run some econometrics to make it" and that the analytical chapters of the *WEO* sometimes seem to focus more "on deploying models than answering the relevant questions through a mix of appropriate tools."

## C. Political Constraints

67. **There is no evidence that there was direct political pressure to influence the IMF's multilateral analysis as relevant for the crisis**. On the contrary, as noted earlier, the Executive Board was often critical of the sanguine overall views in the flagship documents. In interviews, Management ruled out political pressure as an explanation for the IMF's performance: "We missed what we missed because we missed it, not because someone told us not to say it. What we saw, we said." Senior staff did not recollect any changes being forced upon them by the U.S. authorities, despite disagreement with these authorities on the substance. Instead, some U.S. supervisors reportedly urged the *GFSR* team to probe the topic of structured products further—a suggestion that received no support from the IMF's area department. Staff reported that Executive Directors tended to be sensitive about references to their own countries but accepted the conclusions when faced with incontrovertible evidence (e.g., the assessment of bank losses in Spring 2008). In any event, it is not clear why political pressure would have arisen in the first place, since the IMF implictly endorsed most advanced countries' policies.

68. **Nevertheless, some staff perceived implicit political constraints**. These staff believed that there were limits to how critical one could be regarding the policies of the largest shareholders, that "you cannot speak truth to authorities" since "you're owned by these governments." One senior staff member stressed that this makes it difficult or impossible to have truly effective multilateral surveillance.

69. **Some political constraints hardened once the crisis started.** Relevant member countries rejected the proposal for a second multilateral consultation on financial sector issues because they were not "convinced that it is the right moment to start a new round of multilateral consultations on this subject" (October 2007). During the 2008 Spring Meetings, the IMFC deputies considered the IMF's analysis of tail risks too "alarmist" and "difficult to table." In addition, the timing of the downsizing was a distraction at a critical time (2007–08).

## IV. Emerging Messages and Recommendations

70. **There are no magic bullets**. The evaluation unearthed problems that are long-standing, complicated, and not easily solved. The IMF has the intellectual capacity, expertise, and experience to identify vulnerabilities and provide intellectual leadership. However, the procedures and incentives embedded in the organization continue to deter its effective functioning. Unless these procedures and incentives are changed, a failure to warn about future crises is likely to recur. It is incumbent on Management to change the culture of the IMF and remove impediments to its effective functioning.

71. **The following recommendations focus on changes in institutional structures to foster internal collaboration, candor, and the ability to speak truth to power**. The recommendations should be considered as a starting point for reform. They do not take into account recent initiatives as assessments of their effectiveness lie outside the scope of this evaluation.

### A. Foster Alternative Views and Dare to Disagree

72. **The IMF's medium-term strategy has long emphasized the need to speak truth to power, but in practice this appears to have been difficult**. Management should signal to staff that they should not pull their punches by leading the way. The IMF's leadership should not be afraid to think outside the box and to commit Type 2 errors. It must be empowered to run the institution in a way that will be effective in the long run rather than focusing on the short-term day-to-day popularity of the institution. The leadership should be held accountable for meeting certain objectives. To this end:

- The IMF should resist praising the policies of member countries without undertaking the necessary due diligence.

- The IMF should be more candid about the 'known unknowns' and frankly disclose the limitations of the data and technical tools underlying its analysis. Its policy conclusions should be nuanced accordingly. A more systematic effort to highlight alternative views and discuss why the IMF does not subscribe to those views would foster intellectual rigor.

- Greater clarity in the roles and responsibilities of Management and senior staff is needed to foster accountability. The IMF could also review whether its professional code of conduct needs to be clarified and strengthened as this could help protect senior staff and staff from pressures to conform to the views of advanced-country authorities.

## B. Comprehensive, Cohesive Analysis

73. **Despite improvements, the IMF did not incorporate its financial expertise into its macroeconomic analysis**. This limited the IMF's ability to provide a comprehensive and cohesive message to the global community on key challenges. Data availability and technical difficulties involved in combining macro-economic and financial perspectives were important challenges, but the views of many economists that financial sector issues are not central to their analysis were also an impediment. Bridging this gap is still work in progress.

74. **Should the *WEO* and the *GFSR* be merged?** An integrated macro-financial view of the world is key to the Fund's ability to carry out its mandate for effective surveillance. But there is more than one way to achieve this goal, all of them with advantages and disadvantages. Several senior staff, Management, and Board members who were interviewed for this evaluation believed that merging the *WEO* and *GFSR* is a logical next step. This would enable the IMF to take, and communicate, a comprehensive and cohesive view of the global economic and financial outlook. More importantly, it would force a cultural change within the IMF by bridging the macro-financial divide, especially in area departments. Others interviewed feared that in a predominantly macroeconomic environment, the result would be a more comprehensive *WEO*, while financial sector analysis would become secondary, its messages lost or diluted, and the IMF would lose its hard-earned profile and ability to provide clear messages on financial stability. They warned against forcing an integration, absent a conceptual framework integrating financial and real economy issues. Nevertheless, the need remains to drive the awareness of financial sector issues into the Fund's operational departments to allow better macro-financial connections.

75. **One option would be to produce on a trial basis a common, comprehensive overview of the global economic and financial outlook.** Such an overview could be supported by the traditional analytical chapters of the *WEO* and *GFSR*, but also with joint analysis on topics that straddle both areas (e.g., capital controls, monetary policy). The common overview would need to be jointly agreed and jointly presented by the two counselors, thereby ensuring that the *GFSR's* message is not lost in the shuffle. This approach would help resolve questions of overlap, and efficiency, and produce an integrated view of global macro-economic and financial developments (as urged by the McDonough report in 2005). It would force internal debate, provide more traction to the views of the financial experts, and bring festering turf battles to light for effective resolution. Perhaps most importantly, it would help disseminate the messages of the *GFSR* more widely within and outside the Fund, and ensure that they significantly influence the IMF's country work. It would also help spread financial sector expertise more widely in the institution as area department staff learn-by-doing.

76. **Management and senior staff should make more effort to foster diversity of views and collaboration**. They should act as filters and coordinators and ensure that dots are connected and messages followed through. Wider consultations during the preparation of

flagship documents, use of multi-departmental teams to work on issues of common interest, and greater diversity in the composition and training of staff should all help to prevent groupthink.

77. **Management needs to clarify the intended goals and audiences of the different instruments of multilateral surveillance.** During the run-up to the crisis the flagship documents performed multiple tasks with mixed success. Messages about risks simply did not get through to policymakers. A broader review of the multilateral surveillance process would be desirable. Such a review could usefully consider a range of issues such as the need for greater clarity about the role, scope, and objectives of the multilateral surveillance documents; how best to identify risks and effectively communicate them in a clear and strong manner; the range of analytical tools to deploy; and how to effectively incorporate alternative views.

## C. Financial Sector Surveillance

78. **The IMF should continue to strengthen its ability to monitor, assess, and warn about stability in global and systemic financial markets and institutions,** a major weakness in the run-up to the crisis. It should continue to improve its ability to assess risks inherent in the balance sheets and risk management procedures of large and complex financial institutions, so as to be better able to challenge, if necessary, and follow up on financial stability assessments. The IMF should also strengthen its role and improve collaboration with the FSB and other bodies, particularly on information necessary to more effectively monitor and assess financial stability.

79. **MCM's authority to pronounce on financial sector issues should be enhanced**. In particular, allowing the department greater independence from area departments would be desirable. Financial stability is now well understood to be crucial to macroeconomic stability. The views of the Financial Counselor should be accorded equal weight to those of the Economic Counselor, so that the two counselors can jointly have the last word on macro-financial vulnerabilities.

80. **The IMF should continue to build its financial sector skills and enhance its understanding of financial stability**. Significant progress has been made but area department macroeconomists still need to become more knowledgeable about the financial sector issues and to incorporate analysis of this sector more effectively into their work.

- Several recommendations of the McDonough Report remain relevant and should be implemented. In particular, it is important that senior staff in MCM have the necessary financial sector credentials. Expertise in financial market intelligence needs to be balanced with knowledge of financial institutions.

- The IMF needs to continue its efforts to enhance its understanding of markets, including by attracting market participants into its staff, whether on a part-time or temporary basis or as advisors.

- Human resource policies should encourage the building of financial sector expertise by providing incentives that will attract technically proficient staff, introduce a career track for non-economists, and encourage IMF economists to develop financial sector expertise.

### D. Collaboration Across Silos

81. **Ongoing initiatives to foster collaboration are welcome,** e.g., knowledge exchanges**.** The IMF should continue to explore the use of new media to foster learning and link pockets of expertise across the organization. Collaboration in the preparation of the *WEO* and the *GFSR* could be improved by complementing the review process with informal seminars earlier in the production process

82. **The IMF should consider a review of its internal governance**. The internal structures and processes of the IMF have remained broadly unchanged even as the scope, complexity, and diversity of its workload have changed significantly. A review should examine the existing systems, processes, and division of labor within the institution and among senior staff and Management. It should ask whether internal incentives promote or detract from the needed candor, effective collaboration, cross-fertilization of ideas, and out-of-the-box thinking and whether the internal governance of the IMF is amenable to the full integration of diverse staff skills, expertise, and backgrounds, and resilient to increasing turnover at senior levels.

## ANNEX 1. SOURCES FOR THE EVALUATION

This paper is based on the following sources:

**A review of the following documents:**

- Public statements and speeches made by IMF Management (Managing Directors and Deputy Managing Directors) and senior staff (department directors, deputy directors and Counselors)

- Flagship documents (Spring 2004–Spring 2008, and Fall 2008 drafts):

  - *World Economic Outlook* (*WEO*)

  - *Global Financial and Stability Report* (*GFSR*)

  - *Regional Economic Outlook*s (*REOs*): *REOs* receive little coverage in this evaluation as the two most relevant *REOs* either did not exist before the crisis (the European Department *REO* was initiated in the Fall of 2007) or did not cover the countries most relevant for the crisis (the Western Hemisphere Department *REO* did not focus heavily on the United States).

- Multilateral consultations:

  - The first multilateral consultation on policy actions to mitigate global imbalances (2006–07)

  - Plans for a second multilateral consultation, possibly on financial sector issues (Fall 2006–Spring 2008)

- IMF notes for the G-20 (2004–Summer 2008) and G-7

- Reports prepared for the World Economic and Market Developments (WEMD) discussions at the IMF's Executive Board (2004–Summer 2008)

- Issues raised by IMF staff, Management, and Executive Board during the internal review process and Board discussions

- Reports of various internal and external working groups

**Interviews with current and former members of the IMF staff and Management and Executive Board members, and national authorities and key policymakers**

## ANNEX 2. CAUSES OF THE CRISIS

*This annex lays out the key factors behind the crisis, drawing from the IMF's own ex-post analysis. According to IMF staff, the following factors led to the crisis.*[36]

**Macroeconomic forces:** Policies did not take into account the build-up of systemic risks in financial systems and housing markets due to optimism bred by a long period of high growth, low real interest rates and volatility.

- **Monetary policy:** Increasing popularity of inflation targeting led central banks to focus excessively on stabilizing inflation, with insufficient account of risks from asset price increases and leverage.

- **Global imbalances:** The large current account deficits and surpluses contributed to low interest rates and creation of riskier assets, but manifested in a different way than foreseen.

**Global Architecture:** A fragmented surveillance system compounded the inability to see growing vulnerabilities/risks and heed concerns raised by many analysts and policymakers. Coordination among national supervisors was imperfect. International bodies were ineffective in generating the appropriate response.

**Financial system:** New structures and new instruments were more risky than they appeared. A presumption that these instruments dispersed bank risk ignored the larger fact that risk remained concentrated in entities linked to the core banking system. Market discipline failed as optimism prevailed, due diligence was outsourced to credit rating agencies, and a financial sector compensation system based on short-term profits reinforced risk-taking.

- **Regulatory perimeter:** A lightly regulated and generally not prudentially supervised shadow banking system in the United States had grown as large as the formal banking system. Banks evaded capital requirements by pushing risk to affiliated entities in the shadow system. Regulation was not equipped to see risk concentration and flawed incentives behind financial innovation boom. There were shortcomings in consolidated supervision and underwriting standards.

- **Market discipline:** Insufficient due diligence in assessing counterparties and collateral. Supervisory and regulatory incentives led to too much reliance on credit ratings whose methodologies were inadequate and inappropriate when applied to complex structured products, and thereby failed to capture the risks. Growing conflict of interest in ratings agencies. Market discipline was also eroded by "too big to fail" nature of the largest most interconnected institutions. Complexity and opacity of structured credit instruments undermined market discipline. Risk management practices of many financial institutions were deficient, reflecting shortcomings in judgment and governance: the users of risk management models used poor business judgment and warnings by risk managers were sometimes ignored or underestimated by senior management. Risk models underestimated volatility and contributed to lower capital buffers.

- **Procyclicality:** Constellation of regulatory practices, (fair value) accounting treatment of structured products, ratings, and incentives magnified credit boom and exacerbated market turbulence. Weaknesses in the application of accounting standards and gaps in valuation and financial reporting of structured products.

- **Information gaps:** Financial reporting was inadequate, understating the risk of reporting entities. Extensive gaps in data and understanding of underlying risks by regulators and markets including on risks embedded in complex structured products, degree of leverage and risk concentration in systemically important financial institutions, difficulty of assessing liquidity and counterparty risk, on-balance sheet risks and links with off-balance sheet risks. Shortcomings in valuation models and practices played a role.

- **Crisis management:** Cross-border differences in emergency liquidity frameworks, inadequacies in crisis management frameworks, including deposit insurance, played a role in propagating the crisis.

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[36] Source: International Monetary Fund, "Initial Lessons of the Crisis" (2009; SM/09/37) and "The Recent Financial Turmoil—Initial Assessment, Policy Lessons, and Implications for Fund Surveillance" (2008; SM/08/82).

## ANNEX 3. *WORLD ECONOMIC OUTLOOK* AT A GLANCE (2004–08)

| | Spring 2004 | Fall 2004 | Spring 2005 | Fall 2005 | Spring 2006 |
|---|---|---|---|---|---|
| World Economic Outlook | "Among the rosiest" in a decade. | Unless events take "an awful turn", the world economy will enjoy "one of its strongest years of growth." | The "robust growth" of the world economy to continue, albeit at "more moderate pace." | World economy proved tremendously resilient over the last few years. The expansion remains broadly on track, with global growth forecasts largely unchanged. Short-term outlook solid. | The world economy is in the midst of an extraordinary purple patch, with what looks like a third year of significantly above-trend growth…due to globalization. |
| Risks | **Overall:** "the balance of risks has significantly improved." | **Overall:** "the balance of risks has shifted to the downside." | **Overall**: "Risks should be weighted to the downside." | **Overall:** "Risks still slanted to the downside." | **Overall:** "Risks are weighted to the downside." |
| | ***Specific Risks and Challenges (Presented In Order of Mention In Text)*** | | | | |
| | Geopolitical | Further oil price volatility a particular concern | Higher oil prices and its persistence | Global current account imbalances have increased again | Rising global imbalances |
| | External competition | Medium-term fiscal position | Widening global imbalances, disorderly dollar decline | Geopolitical risk | High and volatile oil prices |
| | Emerging markets credit booms | Growth-restraining structural weaknesses | Financial market conditions could tighten significantly | High, volatile oil prices present significant global risk | Tightening financial market conditions |
| | Orderly resolution of global imbalances | Financial, corporate vulnerabilities | Higher interest rates, risk of synchronized house price decline, especially where household balance sheets most exposed. | Protectionist sentiment driven by global imbalances and competition | An Avian flu pandemic |
| | Medium-term fiscal challenges | Global current account imbalances | Fiscal position threat to medium-term macroeconomic stability | Financial market conditions could tighten significantly | Sustainable medium-term fiscal positions |
| Housing Markets | Buoyant property markets of particular concern in U.K., Australia, Ireland, Spain, and (to lesser degree) U.S. and New Zealand. Heightened concerns of asset price bubble and sharp price correction. Cost of asset price shocks in modern economies very large, equity price busts typically caused cumulative loss of about 4 percent of GDP, with housing busts twice as severe. Monetary policy not well suited to address asset bubbles, but no consensus on alternatives. | Industrial countries housing boom highly synchronized due to synchronized monetary policy, financial liberalization. Downturn to be synchronized with significant adverse effect. Prices higher than explicable by fundamentals (10-20 percent in U.K., Ireland, Spain, Australia; 10 percent in U.S.). Risk of abrupt adjustment in housing market (especially Ireland and Spain). Given predominance of adjustable rate mortgages, impact of higher interest rate must be monitored but impact manageable (especially in U.K.). U.S. real house price decline unlikely except at regional levels. | Rising housing prices in the U.S. | Richly valued housing markets around the world could prove an uncomfortable legacy since it takes longer for households to restore balance sheets in a low-inflation environment. Since the late 1990s, house prices in the U.S. have risen rapidly. Rising share of new mortgages being financed in a riskier fashion, (including negative amortization and floating rate instruments). House price booms do not necessarily end in busts, but recent house price increases have raised concerns that the market could be increasingly susceptible to a correction. | Greatest risks in household sector where housing markets elevated. Recent house price slowdowns noticeably slowed private consumption and residential investment. Buyers increasingly resorting to interest-only and negative amortization loans (nontraditional mortgage products over 40 percent of mortgage loans for purchase in 2005). Slowing price appreciation in Australia, Ireland, and the U.K. brought house prices closer to fundamental value, but U.K. still richly valued. House prices in U.S. and Spain have moved further away from estimated fundamentals. Growing signs that U.S. housing activity has peaked. |
| Household Balance Sheet | "Solid" in industrial countries. In U.S., "in relatively good shape" with fixed-rate mortgages mitigating impact of rate rises. | Impact of house prices on household spending could be exacerbated by the high levels of household debt and debt service as shares of disposable income, though much of this debt is at fixed interest rates | Improving household balance sheets; but segments of household sector may be forced to increase savings rapidly if long-term rates rise abruptly, especially if housing prices slowed significantly. | … | Greatest risks in household sector, particularly where housing markets elevated. In U.S., given low household saving and high energy prices, weaker housing market could trigger more abrupt withdrawal of consumer demand than anticipated. |
| Financial Markets | Shift to riskier assets due to improving fundamentals, easy monetary policy, abundant liquidity. | Market adjustment to interest rate increase orderly. No threat to financial stability or the health of financial institutions (*GFSR*). Biggest impact on emerging market bond spreads and issuance. Markets may be unduly complacent. | Financial market conditions favorable due to improved fundamentals (strengthening corporate balance sheets, lower external vulnerabilities in emerging markets) and accommodative monetary conditions with search for yield. Impact of interest rate rise difficult to assess, but long period of low rates and risk taking may have created pockets of exposure highly vulnerable to unexpected interest rate increases. Market intermediaries and regulators should be vigilant to signs of emerging stresses. | Financial market conditions benign. Long run interest rates continue to be unusually low; global equity markets resilient, supported by strong corporate profits and increasingly solid balance sheets; credit spreads moderate. Emerging market financing conditions very favorable reflecting improved fundamentals, presence of long-term investors and search for yield. | "Benign financial market conditions" due to stronger fundamentals and temporary factors (easy monetary conditions and search for yield). If implications of the transition to more normal financial conditions are fully anticipated, its impact is likely to be moderate; if not, the effect could be considerably greater. |
| Financial Sector Balance Sheets | Rising U.S. interest rates would raise risk premiums for indebted emerging markets due to weak balance sheets and concerns about domestic policies, through the "financial accelerator". Banks are healthy (high capital, low NPLs, profitable) in countries with housing booms but face interest rate and credit risk. Supervisors must be vigilant. | Strong fundamentals. Financial system well prepared for interest rate increases. Corporate governance reforms have increased investor confidence in market integrity. Fannie Mae and Freddie Mac's holdings of mortgage-backed securities have concentrated interest rate risk. | … | Financial institutions' balance sheets relatively solid. Supervisor guidance to improve risk management practices for home equity lending, and sound financial sector balance sheets and the broader distribution of real estate-related risks through asset securitization and other financial innovations have reduced financial market risks. | As discussed in the April 2006 *GFSR*, financial institutions and markets seem relatively well placed to manage these changes, especially given the marked strengthening in their balance sheets in recent years. Default rates on residential mortgage loans have been low historically. Together with securitization of the mortgage market, this suggests that the impact of a slowing housing market on the financial sector is likely to be limited (April 2006 *GFSR*). |
| Emerging Markets in Europe | External imbalances need to be addressed. Current account imbalances not sustainable and increase the risks of financial market volatility. | Risks to outlook broadly balanced. Twin deficits vulnerability in Hungary. Baltics on track for smooth transition to EMU, but current account deficits and capital inflows/overheating should be addressed through larger public savings and improved bank supervision. Rapid credit growth and large current account deficits in Bulgaria, Romania should be addressed with fiscal consolidation, wage restraint, better banking supervision. External vulnerabilities serious concern in Balkans requiring fiscal consolidation. | Rapid credit growth presents a risk to banks in a number of countries, particularly if credit quality were to weaken in the face of an unexpected slowdown in growth or large exchange rate movements. This poses a challenge for banking supervision. High and widening current account deficits remain a key vulnerability. The underlying sources of these deficits vary across countries suggesting differing policy priorities. | Concerns about possible overheating in some countries. Strong credit growth, especially in Baltics, Bulgaria, Hungary, and Romania due to "financial deepening" or credit boom. Emerging markets experience shows credit booms can be costly, typically causing sharp downturns and financial crises. A particular concern is that credit is largely financed by bank borrowing abroad, with foreign currency lending a large share of outstanding credit. Banks exposed to defaults, but prudential indicators suggest that banking systems are generally well shielded from adverse shocks. | Overheating pressures are a concern in parts of southern Europe and the Baltics, key risks remain the strength of the recovery in euro area; the large regional current account deficits; and rapid credit growth—especially for real estate lending—in a number of countries in the region, much of which is denominated in foreign currencies. Share of debt financing (particularly short-term) has been gradually rising and is particularly significant in Turkey, Hungary, and the Baltics. The nature of and risks associated with these deficits vary widely. |

## ANNEX 3. *WORLD ECONOMIC OUTLOOK* AT A GLANCE (2004–08) (CONCLUDED)

| | Fall 2006 | Spring 2007 | Fall 2007 | Spring 2008 |
|---|---|---|---|---|
| World Economic Outlook | The world economy continues to be strong, with a third year of significantly-above-trend growth. Baseline is that world growth will continue to be strong. | Global economic risks declined since September 2006. Continued strong global growth most likely scenario. Spillovers from U.S. to global economy to be manageable given low import content of housing sector and the U.S.-specific shock. | Financial turmoil threatens to derail excellent half-decade of growth. No actual major negative impact on macroeconomic aggregates at present. 2008 global growth to slow but remain buoyant due to generally sound fundamentals and strong momentum in emerging markets. | "Global expansion is losing speed"; global growth in 2008 revised down to 3.7 percent, 2009 forecast "broadly unchanged." |
| Risks | **Overall:** Balance of risks to global outlook slanted to the downside. | **Overall:** Risks less threatening than six months ago but tilted down with concerns increasing about financial risks. Risks around "soft landing" more evenly balanced but tilted down (one in five chance of growth falling below 4 percent in 2008). | **Overall:** Global risks mostly "firmly downside" for growth. | **Overall:** "Risks remain tilted to the downside." |
| ***Specific Risks and Challenges (Presented In Order of Mention In Text)*** | | | | |
| | Inflationary pressures, requiring greater monetary tightening | Potential sharper slowdown in U.S. if housing sector continues to deteriorate | Deteriorating financial conditions and uncertain prospects for domestic demand in U.S. and Europe | Impact of "still unfolding events" in financial markets on financial system balance sheets |
| | Oil price increases via supply side shocks | Risk of retrenchment from risky assets if financial market volatility rises | Implications for global imbalances remain uncertain | House prices may adjust downward significantly in many other advanced countries |
| | Sharper cooling of U.S. housing markets, triggering abrupt slowdown in U.S. | Rising inflation pressures output gaps continue to close, particularly if another oil price spike | Potential inflation pressures, volatile oil markets, impact on emerging markets of strong foreign exchange inflows | Current credit squeeze could mutate into a full-blown credit crunch |
| | Disorderly unwinding of global imbalances | Low probability but high cost risk of a disorderly unwinding of large global imbalances | Longer-term issues like population aging, growing resistance to globalization, and global warming | Commodity prices and inflation in emerging economies |
| | Avian flu pandemic | Time to further advance structural reforms in advanced countries | Growing income inequality | Global imbalances |
| Housing Markets | Key risk on the demand side is that the continued cooling of advanced-economy housing markets will weaken household balance sheets and undercut aggregate demand. Concerns center on the United States, although other markets, such as those in Ireland, Spain, and the United Kingdom, also still seem overvalued by most conventional measures. | Sharper-than expected slowing in house prices would pose risks to both residential investment and, through the impact on wealth and employment, consumption. Also, the deterioration in credit quality in the subprime mortgage market could spread to other market segments in a weaker housing environment, adversely affecting the financial sector and credit availability. The unemployment rate is a key factor affecting the size of spillovers from a housing correction. | U.S. housing problems more intense than expected. Ongoing mortgage market difficulties likely to affect residential investment. Higher energy prices, sluggish job growth, weaker house prices to dampen consumption spending. Housing markets also boomed in Ireland, Spain, and the U.K. with prices rising more than in the U.S. Increase in policy rates and recent developments will have a dampening impact if credit availability is tightened. | In U.S. mutually reinforcing housing and financial market cycles with only a gradual recovery. Continuing housing market correction in U.S. will remain drag on demand and source of uncertainty for financial markets. House prices may adjust downward significantly in many other advanced countries. Housing markets also source of drag in some European countries. |
| Household Balance Sheet | … | U.S. house prices decelerating nationally but household finances look solid. Equity gains increased household net worth to previous peaks and household cash flows sustained by employment and income growth. | Consumption to slow but remain resilient, provided low unemployment and high household wealth remain in place. Sharper house price drop would further weaken household balance sheets. Deterioration in labor market or sustained stock market drop would make it more difficult for households to absorb housing-related difficulties. | Pressures on U.S. household finances augmented by equity price correction, deteriorating labor conditions. Net assets still high, but gross indebtedness relative to income much higher than in West Europe. |
| Financial Markets | … | Markets more volatile. Recent episode more of a modest correction after a period of rising asset prices and not a fundamental change in market sentiment (*GFSR*). Financial market turbulence is contained but reminder of underlying risks. Recent low real interest rates and volatility increased risk taking in less-well-understood markets/instruments. Price setbacks, rising volatility, and emerging losses could lead to a reappraisal of investment strategies and a pullback from overextended positions, with serious macroeconomic repercussions (*GFSR*). | Financial markets more volatile. Tighter credit conditions due to U.S. subprime mortgage market strains. Liquidity problems due to uncertainty about losses, counterparty risk. Equity markets declined as financial institution valuations fell. Long-term government bond yields declined as investors looked for safe havens. Financial developments inevitable return to greater market discipline after period of low spreads and lax credit conditions; should ultimately strengthen foundations of global growth (*GFSR*). Most likely outcome is gradual return to normal market conditions after repricing of credit risk and tightening of credit standards, with some financial market segments likely to shrink substantially. | "Bottom line": The pervasive impact of financial market turbulence on banks and securities markets, on top of the continuing housing correction clearly represents a broad credit squeeze. Financial market conditions likely to remain extremely difficult unless greater clarity on losses and until core financial institutions rebuild balance sheets. On balance adverse financial conditions likely to have a continuing negative impact on activity in the U.S.. In U.S. mutually reinforcing housing and financial market cycles with only a gradual recovery. Financial spillovers in Europe and West Europe affected by bank losses due to U.S. exposures. |
| Financial Sector Balance Sheets | … | Housing problems to have no major spillovers if employment and income growth are resilient. Impact of housing correction could be amplified if tighter lending standards in subprime sector lead to a broader reappraisal of credit availability or if household cash flows weaken. Deteriorating credit quality in subprime market could spread adversely affecting financial sector and credit availability. Financial institutions with exposure to U.S. subprime market are experiencing adverse effects. Similar trends may emerge in other market segments (prime mortgages, consumer credit, high-yield corporate paper, and other new collateralized products). General tightening of U.S. lending standards and credit conditions would have more pervasive effects. | Rising uncertainty about amount/distribution of losses and off-balance-sheet exposures of financial institutions have increased market strains. Sharp drops in corporate bond issues, commercial paper market, interbank liquidity, and stress on institutions funded through short-term money markets. Serious disruptions in interbank liquidity and difficulties experienced by some European banks. Initial strong capital and profitability of core financial institutions and dispersion of losses across investors should limit systemic risks. Number of Western European banks affected by involvement in housing sector, including off-balance-sheet vehicles supported by backup lines of credit and difficulties in funding markets. | Total potential losses of $945 billion for U.S. banking system (*GFSR*). Western Europe is also being affected by losses incurred by banks with U.S. exposures, spillover effects on interbank and securities market, and upward pressure on euro. Financial market conditions likely to remain extremely difficult unless greater clarity on losses and until core financial institutions rebuild balance sheets. |
| Emerging Markets in Europe | … | Emerging market risks of concern given numerous examples of boom-busts. Despite improving policy management, asset price increases and compressed risk spreads may not be fully justified by improving fundamentals. Potential vulnerabilities include still-high public debt ratios in some countries, rapid increase in bank lending and private debt in emerging Europe and CIS countries. Countries relying heavily on capital inflows, with vulnerable balance sheets or less credible macroeconomic management could be pressured in more testing external financial environment. Emerging Europe vulnerable to marked deceleration in Western Europe and deteriorating global financial conditions that reduce financing for large current account deficits. | Emerging Europe and CIS region with large current account deficits and substantial external financing inflows would be adversely affected if capital inflows weakened. Number of countries dependent on large external financing inflows. In these countries, promising growth prospects have generated large foreign direct investment inflows, but also bank flows and international bond issuance often denominated in foreign currencies, which have been used to finance credit booms and rapid growth in consumption. These flows could be jeopardized by a fuller repricing of risk and tightening of lending standards, and a general increase in risk aversion in the context of continued turbulent conditions. | Emerging economies not insulated from serious downturn in advanced economies, but direct spillovers contained so far. Many emerging economies still face challenge of avoiding overheating and build up in vulnerabilities. Concerns remain: domestic credit booms could weaken financial institutions, and some countries, especially in emerging Europe have large current account deficits financed partly by short-term and debt flows. Baseline scenario assumes capital flows to emerging Europe moderate in orderly manner. Critical issue: impact of financial turbulence in mature markets (and West Europe bank losses) on external bank flows. Sudden capital flow reversal could trigger credit crunch and asset price deflation. |

# ANNEX 4. *GLOBAL FINANCIAL STABILITY REPORT* AT A GLANCE (2004–08)

| | Spring 2004 | Fall 2004 | Spring 2005 | Fall 2005 | Spring 2006 |
|---|---|---|---|---|---|
| Global Financial Outlook | Global financial vulnerabilities have subsided further since September 2003. Financial markets seem to be enjoying a “sweet spot". | Global financial system further strengthened. Banks and nonbanks balance sheets can absorb considerable shocks. Hard to see where systemic threats could come from in short term. | Resilience of global financial system further improved due to solid global growth, buoyant financial markets, continued improvements in corporate, financial, household balance sheets. | Global financial system strong and resilient. Record profits improved corporate and financial sector balance sheets, enabling them to absorb significant shocks before coming under systemic stress. With continued global growth, low inflation, benign financial markets, expect global financial system to become even more resilient. | Cyclical challenges gathering on horizon, requiring nuanced view of financial outlook. In baseline scenario of continued growth and contained inflation, financial systems should be able to cope with cyclical risks well. Most likely cyclical setting for financial markets in 2006: “not bad, but not as good as the stellar year 2005.” |
| Risks and Vulnerabilities | Global imbalances. Sustainability of capital flows into the U.S. | Most immediate risk: complacency, given smooth adjustment to initial rate rises. Unanticipated increase in inflation could change pace of tightening, potentially causing market turbulence. | Most important risk for financial markets in good times is complacency. Current risk premiums have little or no room for asset valuation errors. Low risk premia, complacency, untested elements of risk management systems dealing with complex financial instruments could become hazardous to financial markets. | Larger global imbalances and build up of higher levels of debt, particularly by the household sector. Consequently, the potential for a substantial adjustment of investor preferences for asset classes and currencies in the medium term has grown. | "Brave new world" of modern capital markets creates own risks/challenges: less information about risk distribution to/among nonbanks implies potential unpleasant surprises in less regulated markets; operation predicated on liquidity availability without which market corrections would be amplified; operational risks. |
| | Abundant liquidity boosting asset values beyond levels justified by fundamentals. Complacency, search for yield while neglecting risk. Longer this persists, greater the potential for disruptive corrections. | Global current account imbalances and sustainability of capital flows to the U.S. Disorderly decline of dollar would cause significant losses to many international institutions. | Negative surprises (single or combination of events) more likely to occur given advanced stage in cycle. Could include: larger-than-expected interest rate rise instead of gradual/moderate tightening already priced in, negative surprises for credit quality. | Corrections in credit derivatives and CDO markets more likely to occur. Complex, leveraged instruments--used in relative value trades with many investors adopting similar strategies and depending on relatively untested models and default correlation assumptions for pricing--are vulnerable to corrections further aggravated by liquidity disruptions. | Cyclical risks in financial markets are that current favorable conditions not permanent. As policy interest rates are raised, credit quality is expected to deteriorate somewhat. A number of questions arise: To what extent, and how fast, will cyclical conditions change? How will that affect asset reallocations and price corrections? |
| | Ongoing broad reallocation of credit risk through credit risk transfers from banks to nonbanks could have implications for financial stability. Several concerns: Where has risk gone? Is it dispersed or concentrated? Are risk recipients able to manage it? Is there potential for regulatory arbitrage? Gaps and inconsistencies in regulation and supervision could create strong incentives to exploit such shortcomings. | Global geopolitical risks continue to be elevated. | Proliferation of complex, leveraged financial instruments (credit derivatives, structured products like CDOs) makes liquidity risk increasingly relevant. Quantitative models used to assess risk are overly similar causing a rush to exit at the same time, leading to market liquidity shortages. Risk management models dealing with new, complex instruments have not been tested, an issue increasingly relevant given recent trend of financial sector concentration. Liquidity shortage—a potential amplifier of market shocks—is a major "blind spot" and needs to be at forefront of efforts to improve the global financial architecture. | Households, especially U.S., have accumulated record levels of debt but net worth has also risen due to asset price increases, mainly housing. Households increasingly exposed to asset market performance. Signs of credit cycle peaking, personal delinquency rate rising in U.K., some U.K. banks reportedly raising provisions. Marginal U.S. homebuyers attracted by mortgages designed to push debt service into the future and by relaxation of credit standards. U.S. regulators rightly concerned about these trends and it is important to monitor them in the foreseeable future. | Broad agreement that a "disorderly" unwinding of global imbalances could have negative consequences for financial stability. Sudden negative developments (e.g. military confrontation, major terrorist attacks, sharp fall in oil supply, and significant rise in protectionism) could trigger disorderly unwinding of global imbalances but are difficult to quantify. |
| | Nonbanks transferring risks to households, corporate, and public sector entities who are increasingly and more directly exposed to risks. | Rising interest rates could produce less hospitable financing environment for emerging markets where debt structures and balance sheet mismatches could pose risks. | Global imbalances and continued investor appetite for dollar assets. | … | Avian flu pandemic could have a serious disruptive effect on international financial systems—especially the payment clearing and settlement system—and the global economy. |
| Financial Markets | International financial markets continued to improve, strengthening balance sheets of financial institutions. Many market indicators suggest that current benign financial conditions will continue for the time being. Consequently, while expecting interest rates to rise eventually, markets are sanguine about its potential impact. | International financial markets calm despite transition to higher interest rates due to strengthened risk management and effective communication strategy by the Fed. Market characterized by relatively low level of volatility or perceived risk. Nonetheless increasing correlation between financial institutions' market prices suggesting that volatility may be amplified and prove disruptive. | Financial market conditions remain benign. Market volatility, bond yields, credit spreads low--perhaps too low. Low rates and volatility encouraging search for yield and greater risk-taking; use of leverage to boost returns. Little cushion for bad news about asset valuations if expectations about favorable fundamentals change. Important to be vigilant about concentrated exposures or leveraged positions. | Short-term global financial stability outlook benign due to solid growth, favorable conditions, traditional countervailing forces, recent trends, fast growth of pension fund/life insurance assets. Specific credit events may occur, but judging from recent events, would not be generalized. Important for financial stability that policymakers identify, track, understand production process of investment products; how risks are managed/transferred by regulated/unregulated entities; how capital flows affected by reallocations within/between funds. Complex strategies of investment funds providing new challenges to supervisors/regulators. | Significant, sustained inflation would create financial market headwinds through: higher interest rates and slowdown to hurt earnings and credit quality; valuation losses on bond portfolios; mark-to-market losses; equity market pressures. Financial intermediaries would be stressed by combined losses; currently strong balance sheets would be tested. Market participants expect this is remote risk, but bears watching as consequences for financial markets can be serious. Realistic economic developments unlikely to seriously affect global financial system systemically. In nonsystemic cases, self-correcting market forces (strict no bailout policy) should work out price dislocations. |
| Financial Sector Balance Sheets | Balance sheets of financial institutions strengthening. Transfer of risk—especially credit risk—from banks to nonbanks and beyond has strengthened resilience to severe shocks. Rising asset values strengthened net worth. | Bank balance sheets in the U.S., Europe have continued to strengthen. Supportive financial markets, improvements in asset quality, the ongoing dynamism of household loan demand, continued cost-cutting and restructuring have sustained this process. Trend toward risk diversification away from banks and increasingly away from financial sector as a whole. Sharply increased profitability in financial sector enhanced financial stability. Strong corporate profits and low corporate default rates and nonperforming loans due to economic recovery are providing comfort for the financial sector. | Financial institutions strengthened profits, balance sheets, capital and risk management, liquid assets to debt ratios, and were better prepared to handle shocks. Institutions and supervisors should ensure risk management is robustly implemented and prudential counterparty standards not relaxed due to competition. Supervisors/regulators should be vigilant about liquidity risks and countervailing measures, risk profile of intermediaries (particularly concentration risk). Consolidation has produced large and complex financial institutions (LCFIs): diversified activities provides hedge against risks but operational complexity increase difficulty in managing, monitoring and size and global reach could significantly affect financial stability. | Financial stability has improved due to proactive risk management, dispersion of risks from banks to nonbanks with longer-term liability structures. Systemically important banks more financially stable/resilient, leaders in risk management practices. If growth decelerates significantly, balance sheets will weaken but financial cushions would provide support and lessen resilience gradually. Current indicators of credit quality excellent: low default and loan delinquency rates, low loan loss provisioning. But credit cycle may be peaking. Given household indebtedness supervisors should ensure lenders not relaxing credit standards. Fundamental financial stability concerns not indicated but volatility in April–May CDO activity merits careful attention as it highlighted the concentration of participants and related potential liquidity concerns. | Emergence of very large, institutional investors and rapid growth of credit risk transfer instruments have enabled banks to manage credit risk more actively and outsource it to diverse investors. This has "derisked" the banking sector and increased its ability to absorb potential shocks. Who holds which risk and how much is less transparent outside the banking system because of less stringent reporting requirements but risk diversification and dispersion matters more than the precise details of who is the ultimate risk bearer. Banks in many countries, especially large internationally active institutions, have benefitted from this and currently enjoy strong financial health: strong capital bases, good profitability, and good asset quality as reflected in their low nonperforming loan ratios. |

## ANNEX 4. *GLOBAL FINANCIAL STABILITY REPORT* AT A GLANCE (2004–08) (CONTINUED)

| | Spring 2004 | Fall 2004 | Spring 2005 | Fall 2005 | Spring 2006 |
|---|---|---|---|---|---|
| Other Sectors (Including Households) | Rising asset values (housing, equity) strengthened net worth in corporate, household sectors, institutional investors like insurance companies in U.S. and most European countries. High debt in many sectors implies vulnerability to interest rates rise. Household debt in Europe rising. Household balance sheets sensitive to drop in house prices due to larger-than-expected interest rate increase or disappointing income or employment growth. Given reallocation of credit risk to insurance sector, many large insurers raised capital, increased exposures to credit instruments relative to equities, strengthened risk management, thereby reducing balance sheet pressures. Relative reallocation of credit risk between insurance and banking sectors enhanced financial stability. | Household balance sheets improved due to rising equity prices and low interest rates but household debt (particularly mortgage) kept rising in U.S. and Europe (notably U.K.). Many U.S. households locked in low mortgage rates, lowering interest costs and partially shielding them from future rate increases, making household balance sheets less sensitive to interest rates. House price declines may reduce net worth in U.S., but a real house prices decline is not in the offing. Despite improved balance sheets, households could face financial problems going forward, as from a systemic point of view, they are the ultimate shock absorber. Global recovery in equity markets and credit quality improvements have improved insurance balance sheets and solvency levels. Insurers enhanced risk management, adopting advanced techniques from banks. | Banks have to shed many market/credit risks to other market participants. Life insurance companies and pension funds have begun to de-risk their portfolios by offering products that share or return market risk to customers. Insurance sectors in many countries have improved its solvency ratio. Household sector increasingly and more directly the “shock absorber of last resort” and therefore increasingly relevant in assessing financial stability. Household balance sheet data incomplete and fragmented and should be improved and disseminated. Growing consensus on the importance of financial education for households. Widespread failure of households to manage complex risks or severe losses retirement investments due to sustained market downturns could generate demands for government support as an “insurer of last resort” and demand for the re-regulation of the financial industry. | Households, especially in U.S., have become net borrower, accumulating record debt levels. But net worth also rose with asset price increases, mainly housing. On balance, this increasingly exposes households to asset market performance. Signs of credit cycle peaking. Personal delinquencies rising in U.K. with some banks raising provisions. In the U.S., marginal homebuyers buying mortgages with delayed debt service and credit standards relaxed. U.S. regulators are concerned and must monitor these trends. Corporate credit standards eased across markets, given low defaults and solid credit worthiness and growing competition. Rising corporate leverage, increasing mergers and acquisitions increase deterioration in creditworthiness with potential spillover into credit derivative markets. But sound and liquid corporate balance sheets imply credit deterioration has long fuse. | Strong financial, corporate, household balance sheets created financial cushions in almost all major financial systems. Household balance sheets in major countries improved due to house price and equity markets rises but face risks affecting net worth (e.g. abrupt movements in asset/house prices), rising debt service as rates rise. Favorable cyclical conditions will not be permanent as interest rates rise, credit quality deteriorates. U.S.: main vulnerability in subprime mortgage market where rate rises, cooling market, and regulatory tightening may trap many in original reset terms of these mortgages. Concerns about whether investors can fully understand and manage risks. Prospects of “soft landing” based on experience in U.K. and Australia where main impact is weaker consumption, and only a mild impact on financial institutions and markets. Insurance company indicators seem to indicate that property and casualty insurers, and reinsurers, are sufficiently capitalized and diversified to absorb the 2005 hurricane-related losses. |
| Credit Derivatives | Supervisors must monitor credit derivative activity closely. Reporting of exposures often not sufficiently disaggregated in financial or regulatory reports. Supervisors comment that a lack of information impedes monitoring of these activities. Ongoing work by the Joint Forum is eagerly awaited | … | Rapid growth of structured products (credit derivatives) provide liquid, convenient vehicle for trading, hedging credit risk and information on creditworthiness. But also provide means of leveraged credit exposure. Off-balance-sheet nature and complexity reduce transparency, mask risks. Rapid growth raises concerns: are risks well understood, greater possibility of leveraged losses, unclear how well credit derivatives markets will operate under stress, amount of protection bought/sold may exceed value of underlying assets. | Potential risks in derivative markets surfaced in May 2005 and are likely to surface again unless complacency moderated and counterparty risk management strengthened. Given the complexity of financial transactions and instruments related to credit derivatives and CDOs, regulators should upgrade skill sets to be effective. Report of the Counterparty Risk Management Policy Group II highlights counterparty and other risks and urges action to deal with these risks. | Credit derivatives allow risk diversification and efficient, timely, transparent price discovery for credit risk in real time, making financial markets flexible, resilient. "Brave new world" creates own risks/challenges: less information about risk distribution to/among nonbanks implies potential unpleasant surprises in less regulated markets; operation predicated on liquidity availability without which market corrections would be amplified; operational risks. Supervisors should narrow gap between themselves and increasingly complex financial markets; improve market infrastructures. |
| Emerging Europe Markets | Banks in emerging Europe benefitting from improved economic prospects. Fast credit growth in some countries should be closely monitored. | Banks performing well with adequate capital although rapid credit expansion is a source of risk in some countries. Low interest rates allowed stronger balance sheets through capital gains. Higher interest rates could have the opposite effect on balance sheets and squeeze profits by compressing interest margins. | Banks in emerging Europe improved according to market-based indicators: falling default likelihood, higher profits, stronger asset quality and capital adequacy, strong bank. Banks poised for continued strong performance. But, rapid credit growth, especially retail sector, poses risks. Banks also exposed to exchange-rate induced credit risk and exposure to real estate. | In emerging Europe, drive for market share by foreign banks fueling rapid credit growth, underscoring need for closer supervisory oversight. Solid growth increased profits, lowered NPLs; macro policies mostly supportive of stability. Rapid credit growth could hurt credit quality, unhedged foreign currency lending could be a problem, credit funded by short-term borrowing abroad exposes banks to risk of sudden withdrawal of such funding. | Main risk: rapid credit growth in many emerging Europe countries driven by large foreign banks competing for market share. Intraregional contagion risk has increased as banks pursue common credit expansion strategies and are exposed to same risk factors. Measures to slow credit implemented (e.g. higher reserve requirements, tighter prudential limits), with mixed effects. Current account and fiscal deficits and debt should be reduced to avoid increased market scrutiny when environment turns less friendly. |
| Other Issues | Should not rely on rating agencies as substitute for supervision of reinsurance companies, monoline insurers. Rating agencies criticized for quality of analysis, overdependence on quantitative models, frequent analyst turnover. Overreliance on rating agencies to set disclosure, capital, and other standards should be addressed with improved supervision. | … | … | Accounting, financial reporting influence behavior. Fair value accounting requires active, liquid markets for assets and liabilities. Many markets do not exhibit depth/liquidity assumed in "perfect" markets, "correctly" reflect fundamental values only in long term, and lack reasonably transparent, observable market price. Desire to increase “accuracy” of financial reports has promoted broader use of mark-to market valuations but studies suggest that this shortens decision horizons and may reinforce incentives to engage in short-term, procyclical activities. | Is the market underpricing risk? Widely held view that risk appetite has increased in recent few years but analysis suggests overall attitude toward risk has not changed much and no solid evidence of systemic underpricing of risk due to change in risk preferences. Flat yield curve: Inverted yield curve in the U.S. was a reasonably good forward indicator of recessions in past, but number of factors suggest that it does not now necessarily herald recession. Low real interest rates and well anchored inflation expectations lessen need for aggressive monetary tightening. |

## ANNEX 4. *GLOBAL FINANCIAL STABILITY REPORT* AT A GLANCE (2004–08) (CONTINUED)

| | Fall 2006 | Spring 2007 | Fall 2007 | Spring 2008 |
|---|---|---|---|---|
| Global Financial Outlook | May-June 2006 turbulence modest, reflecting uncertainty about outlook, policy response. Financial markets could deteriorate if risks to *WEO* baseline (higher inflation and interest rate, larger U.S. slowdown) or other risks materialize. Turbulence probably not harbinger of protracted downturn but normalization of volatility as cycle moves into later stages. | Favorable economic prospects strong foundation for global financial stability but underlying financial risks have shifted. With continued global growth, individual risks by themselves do not threaten financial stability. But collective buildup of investment positions in certain markets could result in disorderly correction when conditions change. | Too early for definitive conclusions about ongoing turbulence. Adjustment to be protracted. Global economy entered this period exhibiting solid growth, and systemically important financial institutions with adequate capital to manage credit losses. Despite significant financial correction, global growth remains solid, though some slowdown expected. Downside risks increased sharply; even if risks fail to materialize, turbulence to have significant implications. | Despite unprecedented central bank intervention, financial markets under considerable strain, compounded by a worrisome macroeconomy, weakly capitalized institutions, deleveraging. Global financial system under increasing strain, financial stability risks elevated. Systemic concerns exacerbated by falling credit quality, lower valuations of structured products, lack of market liquidity due to deleveraging. |
| Risks and Vulnerabilities | Risks from intensification of inflation pressures eliciting more monetary policy tightening than currently anticipated and a more pronounced economic slowdown in the U.S. perhaps accompanied by a rapid weakening of the U.S. housing market. | U.S. subprime housing market showing credit quality deterioration. Scope for fallout to deepen, spread to other markets, possibly to structured mortgage credit products held by global investors. Impact of housing market slowdown limited, some market indicators have begun to stabilize, suggesting that financial effects may also be contained. | Some emerging markets vulnerable to pullback in availability of capital which could continue even after the mature market funding difficulties subside. Emerging market risks are overall balanced, although rising risks in economies with rapid credit growth, increasing reliance on international capital inflow. | Significant increase in financial stability risks from increase in macroeconomic risks. Low capital buffers, uncertainty about losses likely to weigh heavily on household borrowing, business investment, asset prices, affecting employment, growth, balance sheets. Deep-seated balance sheet fragilities, weak capital implies broader, deeper, and more protracted impact. |
| | Concerns about potential for illiquidity in response to unexpected stress in markets for new and complex financial instruments, such as structured credit products. | Increase in private equity buyouts has led to substantial rise in leverage in acquired firms increasing vulnerability to economic shocks, posing risks to intermediaries providing bridge financing to leveraged-buyout transactions. Situation bears monitoring: difficulties in large high-profile deals could trigger wider reappraisal of risks. | Credit risks increased significantly. Uncertainty regarding overall losses and exposure has raised market and liquidity risks, with potentially broader implications for financial institutions. | Deeper, wider deterioration in credit beyond subprime mortgages, weakening capital and funding positions of systemically important financial institutions. Credit deterioration has widened beyond subprime mortgages, and mark-to-market losses have mounted as markets anticipate a more difficult economic and financial environment. |
| | Some emerging market economies with large current account deficits are reliant on portfolio capital inflows from international investors; these could diminish sharply in a more volatile market environment. | Capital flows into some emerging markets have risen rapidly, reflecting improved economic fundamentals, but also search for yield. Shift to private sector debt flows, especially bank-based flows into emerging Europe, shows that foreign investors are taking more risk and an abrupt reversal cannot be ruled out. | Risk appetite generally declined, albeit from a high level. Although recent turbulence has been associated with increased market volatility and an unwinding of positions predicated on a low volatility environment, some broad global indicators still signal a willingness to establish or extend positions in risky assets. We expect continued prospects for global expansion to underpin investor attitudes toward risk. | Higher market and liquidity risks underscore uncertainty about economic and systemic spillovers, exposure of systemically important financial institutions to credit markets and potential rise in market losses. Strains in interbank money markets have intensified. Funding and market liquidity risk indicators show pressures exceeded levels observed during market turbulence in 1998, leaving financial institutions—most recently hedge funds—vulnerable to mutually enforcing funding and market liquidity spirals. |
| | Financing of global imbalances and disorderly decline of dollar. | The downside risk from a possible disorderly unwinding of global imbalances has receded somewhat, but it remains a concern. | Financial and monetary conditions have tightened posing potential downside risks to the macro economy. | Monetary easing offset by tighter financial conditions (sharp repricing in credit, funding markets). Together with wider spreads, raises credit crunch risk. |
| | Supply shocks, increased geopolitical tensions could lead to retrenchment in risk appetite, increasing volatility and risk premiums, eroding business and consumer confidence, testing resilience of global financial system. | … | Disorderly unwinding of global imbalances still a risk, particularly if foreign investors' preferences for U.S. assets diminished due to financial turmoil. | … |
| Financial Markets | Under risk scenarios, financial markets could undergo more severe corrections, especially since markets appear to be pricing in the baseline scenario with little provision for risk. Markets concerned about possibility of illiquid market conditions for some new and complex financial instruments, e.g. structured credit products, which have distributed credit risk more broadly; these market features could amplify a downturn. Emerging markets with large current account deficits and heavily reliant on international portfolio capital flows would be vulnerable to volatile market conditions. | With continued global growth, individual risks do not threaten financial stability but market risks higher as investors giving insufficient weight to downside risks and assuming low risk premia are permanent, e.g. growth of carry trades. Competition, risk models perpetuating risk-taking that collectively could raise systemic risks. Market correction could be amplified by leveraged positions, uncertainties about risk concentrations stemming from rapid growth in innovative/complex products with illiquid secondary markets. Feb–Mar 2007 market correction due to unwinding of positions. Markets generally believe base case scenario of soft landing for U.S. still likely, but correction brought downside risks into sharper focus. | Financial risks increased, underlying conditions worsened. Period ahead may be difficult; bouts of turbulence likely to recur, adjustment will take time. Uncertainty about the size, location, timing of losses will keep market conditions unsettled in near term. Credit, market risks, volatility have risen. Credit conditions may not normalize soon. Threat to financial stability increased due to uncertainty in money markets providing short-term financing (especially commercial paper markets). | The U.S. is the epicenter of global financial instability, having originated weak credit standards and experiencing complications from associated structured products. Financial institutions elsewhere also affected, reflecting the same weaknesses in risk management, supervision. Industrialized countries with inflated house prices relative to fundamentals or stretched corporate/household balance sheets also at risk. Emerging markets broadly resilient so far but some are vulnerable to credit pullback, especially where domestic credit growth were financed by external funding and where large current account deficits need to be financed. |
| Financial Sector Balance Sheets | Financial institutions in many mature and emerging markets quite profitable, their balance sheets significantly strengthened, many accumulating substantial liquid assets. Major financial institutions in mature and emerging markets are also healthy, having remained profitable and well capitalized. Also, global default rates remain near record low levels. These facts suggest that the financial sectors in many countries are in a strong position to cope with any cyclical challenges and further market corrections to come. Finally, the housing markets in key countries are showing signs of only gradual slowing. While house price growth in some of the markets that had seen the largest increases over recent years—Australia, the United Kingdom, and the United States—has declined, house price deceleration has been limited and, hence, the negative growth impact of this development has been moderate so far. | Globalization may reduce individual bank risk but not necessarily resilience of financial systems as a whole. Cross-border diversification positively associated with stability of individual institutions, but financial systems may not be more stable as linkages among markets, activities increase, especially in countries with heavy foreign bank penetration across correlated economies. Supervisors should collaborate in oversight of cross-border institutions and improve crisis management procedures with counterparts sharing greatest overlapping interests. U.S. credit deterioration contained to segments of subprime and Alt-A market, and not likely to pose serious systemic threat. Stress tests by investment banks (Lehman) show: even under historically unprecedented nationwide house price declines, most investors with exposure through securitized structures will not face losses. | Widening interest/credit default swaps indicate market concerns of deeper stress for financial institutions. Potential losses (some $170-200 billion) manageable, but large uncertainty about magnitude/distribution of losses. Banks well capitalized to weather severe stress; largest institutions (core commercial, investment banking groups) viewed by IMF staff, private sector analysts as sufficiently capitalized, diversified, profitable to absorb direct losses. Analysts expect losses to be manageable for industry as a whole; smaller, less diversified institutions more vulnerable. Hedge funds have greatest risk exposure; some financial guarantors (monocline insurers) also exposed. European banks with larger exposures to asset-backed commercial paper than U.S. banks. Some institutions already in difficulties or closed due to exposure to U.S. mortgage markets, withdrawal of short-term funding. Emerging market bank default risk indicators generally benign, reflecting market perceptions of healthy capitalization, profitability, diverse earnings sources and sound asset quality. | Collective failure to appreciate extent of leverage taken on by institutions (banks, monoline insurers, government-sponsored entities, hedge funds) and risks of disorderly unwinding. Private sector risk management, disclosure, financial sector supervision, and regulation all lagged behind rapid innovation and shifts in business models, allowing excessive risk-taking, weak underwriting, maturity mismatches, and asset price inflation. Transfer of risks off bank balance sheets overestimated; as risks materialized, it has placed enormous pressures back on bank balance sheets. Loss estimates of US$945 billion (based on imprecise information about exposures and valuation) putting pressure on bank and nonbank balance sheets. |

## ANNEX 4. *GLOBAL FINANCIAL STABILITY REPORT* AT A GLANCE (2004–08) (CONCLUDED)

| | Fall 2006 | Spring 2007 | Fall 2007 | Spring 2008 |
|---|---|---|---|---|
| Other Sectors (Including Households) | Corporations in many mature and emerging markets quite profitable, balance sheets significantly strengthened, many accumulating substantial liquid assets. In baseline scenario, corporate earnings growth would remain healthy and default rates low. Corporate fundamentals are still solid. Most companies are still expecting respectable growth in earnings over the next year or so. Higher interest rates and a faster deceleration of house price growth still have the potential to increase the financial burden of highly indebted households in many countries, leading to a more pronounced slowdown in personal consumption. | Corporate profits robust, balance sheets strong, credit spreads lower, default rates low. But corporate leverage rising from low levels with the boom in leveraged buyout activity, with size of deals larger than in 1980s-90s. Credit risk has risen as easy financing and rising risk appetite have raised prices, reduced due diligence, weakened loan covenants and possibly credit discipline. LBO-acquired firms are heavily indebted, may be more fragile in an economic downturn. Households: as long as incomes grow, the spillover to other forms of household debt should be limited. In U.S., U.K. key policy challenge: need to safeguard financial stability by ensuring that hedge fund failure(s) do not jeopardize safety and soundness of systemically important regulated counterparties (i.e., banks and broker-dealers). Insurance: Reinsurance, primary insurers are less exposed to insolvency risk due to catastrophes or unanticipated insurance losses. | Aggregate corporate leverage low but recent increase has increased vulnerabilities, especially as financial, economic conditions turn less benign. Parallel weakening of credit discipline in corporate segment exposing banks to increased underwriting, marketing, and syndication risks. At higher leverage and price multiples, LBO targets subject to greater business economic risks.<br>Household: Mortgage finance to U.S. nonprime segment have slowed, tighter lending standards will restrain housing activity. Rating agencies estimate home prices will fall more than expected implying lower recovery, higher losses from foreclosures. But strong household income growth, high ratio of net worth to disposable income, low unemployment should help households absorb some of the impact of house price declines. | Low capital buffers, uncertainty about losses likely to weigh heavily on household borrowing, business investment, asset prices, affecting employment, growth, balance sheets. The apparent piecemeal public release of evaluations, each of increasing gravity, contributed to growing concerns about the integrity of corporate balance sheets, thus compounding uncertainty about counterparties and market illiquidity. Insurance companies affected on asset side as investors in structured products, via holdings in hedge funds which invest in riskier tranches of structured products and SIVs, and increased market volatility and stress. Insurance companies that are part of financial conglomerates might have to provide liquidity lines, support asset purchases for stressed entities. Spread of risk across financial system is particularly relevant for monoline insurers. |
| Credit Derivatives | Markets concerned about possible illiquid market conditions for some new and complex financial instruments, e.g. structured credit products, which have distributed credit risk more broadly but have market features which could amplify a downturn. Risk management widely uses value-at-risk (VAR) approaches that rely on recent volatilities, an increase in volatility could boost VAR measures, trigger reduction in trading positions, and amplify price corrections. Evolving risk management practices should be closely monitored. | Subprime mortgages can create dislocations in asset markets: higher-quality mortgages may have underwriting weaknesses; wider market for structured products (e.g., ABS, CDOs) may deteriorate; losses in consumer credit markets; anecdotal evidence of overseas investors significantly exposed to riskier CDO capital structures, with complex market structure masking risk allocation and hedging. Improvements in market infrastructure for credit derivatives trading, but little progress in more differentiated rating and data collection/rationalization. | Some practices in the structured credit markets will have to change. While potentially protecting financial system from credit risk concentration in banks, dispersal of structured credit products increased uncertainty about size of risks and where they are held. While securitization, financial innovation made markets more efficient, need to reconsider incentive structure, rethink checks and balances throughout the supply chain of structured products. Valuation of complex products when liquidity is insufficient to provide reliable market prices requires more consideration. | Recent growth and prosperity amply illustrate benefits of financial innovation, but there are also costs. Credit risk transfer products meant to disperse risk broadly were not always used to move risk to those best able to bear it. In fact, a surprising amount of risk has returned to banking system from where it was allegedly dispersed. Despite warnings about higher leverage embedded in structured products and higher risk-taking, banks appear far more leveraged than anticipated. As well, regulation and supervision of these new instruments and techniques did not keep pace. |
| Emerging Europe Markets | Households exposed to large interest, exchange rate risks, declining house prices. Countries with large current account deficits rely heavily on international capital flows, are vulnerable to volatile markets. Financial institutions profitable, asset quality generally strong, modest NPL ratios. But rapid credit growth (initially reducing NPL ratios) continue to be of concern. Unhedged foreign currency lending rising rapidly in some countries. Potential contagion from foreign banks active in several countries in same region and buildup of exposures to common risk factors in region. | Private inflows into emerging Europe rising sharply. Banks heavy issuers of foreign exchange debt abroad. Generally strong external position of government masks growing vulnerabilities in corporations/banks. Banks quite sound, adequately capitalized, solid profitability, good asset quality, low NPL ratio (also reflects lending growth). Risks have grown: growing bank exposure to indirect foreign currency risk in Baltics, Bulgaria, and Croatia, real estate price bust, disruption of external financing. | Rising risks in economies with rapid credit growth, growing reliance on international capital inflows. Reflecting weaker credit discipline, private sector borrowers adopting risky strategies to raise financing, increasing exposure to volatility. In some Eastern Europe and Central Asian countries, banks increasingly using capital market financing to help finance credit growth. Authorities in some emerging markets need to ensure that vulnerabilities do not build to more systemic levels. | Banks in countries with rapid externally-funded credit growth should develop contingency plans to address funding decline. Where house prices have increased, supervisors could reexamine foreclosure procedures and legal setting to smoothly unwind excesses. Emerging markets should review reliability, depth of financial institutions' public disclosures and robustness of accounting framework. Supervisors, central banks should review contingency plans, particularly for managing liquidity disruptions. Home supervisors of foreign banks should coordinate plans and ongoing supervision. |
| Other Issues | … | Spillover risks among world's largest banking groups: Spillovers within domestic banking systems more likely, but possibility of cross border spillovers rising in some cases. Potential for extreme events to spill over from U.S. to U.K. and U.K./U.S. to continental Europe increased. Systems not yet tested by full-blown crisis in significant/several cross border LCFI failures. While unlikely, need effective coordinated arrangements, otherwise costs may be very large indeed. Data: Statistics on international capital flows and positions are not comprehensive. | Accurate, timely information about underlying risks critical. More transparency needed on links between LCFI and off-balance sheet vehicles. But given cost and complexity of providing information, should carefully consider appropriate amount, type of disclosure. Relevant perimeter of risk consolidation for banks larger than usual accounting/legal perimeters. Should examine risk analysis of structured products and role of ratings agencies (rating methodology of complex products, connectedness of ratings of complex structured products to facilitating origination). | Private sector should: report on exposures and valuation methods in timely, consistent manner; repair balance sheets through write downs and fresh capital; disclose revisions in risk management strategies; correct incentives through changes in managerial compensation structures. Official sector should: encourage transparency and ensure consistent approach to valuation; improve supervision; prepare special stability reports to reduce uncertainty; proactively resolve troubled institutions; prepare contingency public plans for impaired assets. |

## ANNEX 5. THE IMF'S MESSAGE TO THE G-20[37]

**November 2004:** Global recovery is relatively solidly established and embraces all regions. Underlying vulnerabilities/challenges: unsustainable fiscal positions and aging population pressures; structural weaknesses; financial and corporate vulnerabilities in Asia. Global financial conditions generally favorable but risk that continued low interest rates and market volatility is breeding complacency and encouraging excessive use of leverage to boost returns especially in mature corporate and emerging bond markets.

**March 2005:** Global expansion broadly on track, underpinned by strong corporate balance sheets, still-accommodative macroeconomic policies, and favorable financial markets, including exceptionally low interest rates. However, global imbalances have worsened. Medium-term risks: global imbalances, fiscal positions in many countries are very difficult and could worsen; structural weaknesses. Financial conditions exceptionally good reflecting solid growth, strengthened corporate balance sheets, and accommodative monetary policy, but the calm could be broken by unanticipated inflation or signs of disorderly resolution of global imbalances.

**October 2005:** Global expansion solid, supported by accommodative fiscal and monetary policies, improved corporate balance sheets and exceptionally favorable financial environment. Risks: high and volatile oil prices are a short-run concern. Medium-term vulnerabilities: global imbalances, fiscal consolidation to deal with aging populations, structural reforms. Financial conditions remain exceptionally favorable with low long-run interest rates, credit premiums, and volatility, reflecting financial and corporate sector balance sheet improvements in most industrial countries and abundant liquidity. Households accumulating record levels of debt and, with growing interest-only mortgages in the United States, are exposed to housing market corrections and rising interest rates.

**March 2006:** Inflation subdued despite rising oil prices and relatively rapid growth. Key uncertainties: impact of rising input prices, labor market pressures as capacity constraints bite, rising external surpluses in emerging markets, impact of globalization on inflation. Global financial system resilient to a variety of recent shocks due to structural changes rendering financial intermediaries stronger, and favorable cyclical conditions (especially low policy interest rates). Financial innovation has allowed banks to disperse credit risk, although risk dispersion is less transparent. Insufficient liquidity in secondary markets for these instruments could amplify market corrections. Overall risk is not greatly mispriced given stable global environment, volatility and credit risk premiums could increase as cyclical conditions become less favorable. Main risks: higher inflation and/or interest rates; turning credit cycle; softening in U.S. housing markets; unwinding of global imbalances; avian flu. The recent inversion of the U.S. yield curve is unlikely to be signaling a recession because most economic indicators signal sustained expansion; real policy rates are low; and a number of structural reasons—especially demand for long-term bonds by institutional investors—help explain low long-term interest rate levels.

**November 2006:** Global economy continued to perform strongly. Recent developments consistent with soft landing. Risks: sharper U.S. slowdown if sustained home price decline; oil market risks. Reduced inflation concerns have contributed to buoyant financial markets, including rising equity markets, declining credit spreads, and low volatilities raising the possibility that risks may be mispriced. Increasing equity prices and tight emerging market spreads could come under pressure if bad news undercuts expectations of a soft landing. Monetary policy challenging, given slowing growth and inflation in the United States and ample global liquidity encouraging search for yield and extension of portfolios to riskier assets. Exchange rates must be flexible for monetary policy to be effective in promoting stability. Fiscal policy in most advanced countries needs to tighten to prepare for aging populations. Structural policies should also help raise sustainable growth.

**March 2007:** Global economy poised for another strong year. Global growth more balanced. Global financial conditions broadly favorable. Recent turbulence reflects market correction rather than a fundamental shift in direction, but underscores concerns that buoyancy would not be sustained if market volatility reverts to more normal levels. Downside risks (energy prices, inflation, U.S. housing markets) less threatening. Financial

[37] Drawn from various issues of "Group of Twenty—Note by the Staff of the International Monetary Fund" that were issued to the IMF's Executive Board for information.

concerns are higher reflecting concerns that market volatility may be sustained and prompt a retrenchment from risky assets; or that global imbalances might unwind in a disorderly manner. Limited impact of U.S. housing markets beyond a contraction in residential investment. The U.S. financial system in better condition today to absorb housing-related losses than previously because securitizations have dispersed risks and balance sheets and profits are robust. Housing-related risks are still an issue: continued contraction could put pressure on household cash flow and balance sheets. Limited impact on banks so far from subprime market distress, but needs to be monitored closely--direct exposure limited but there may be indirect effects. Going forward, concerns may increase if rising subprime delinquencies are perceived as foreshadowing a similar trend in other segments of mortgage market. Lax standards may be prevalent in other areas of financial markets, and credit spreads could widen more broadly. Despite broadly favorable global financial conditions, financial risks need to be carefully monitored. Disappointing economic developments and/or heightened market volatility could lead to further retrenchment from riskier assets. In emerging markets, recent asset price increases and compression in risk spreads may not be fully justified by fundamentals. Eastern European and Central Asian countries with rapid credit growth and large current account deficits could be vulnerable to a testing environment. Investors are increasingly venturing into markets previously considered excessively risky and deterioration in economic environment could result in a sharp reduction in capital flows to these countries.

**November 2007:** Pressing issues: emerging market credit booms; impact of Doha Round, climate change. Global economy to slow moderately. Financial turmoil has cast a shadow on growth prospects, although baseline growth would remain solid. Liquidity problems are generally receding but wider credit spreads likely to persist, reflecting a repricing of risk following a period of unusual spread compression. Lending standards are likely to tighten. Overall a combination of solid fundamentals in advanced, emerging, and developing countries and appropriate actions by central banks and other authorities should help calm rough financial waters and support global expansion. The financial market turmoil came at a time when risk spreads and volatility were near historic lows, although observers, including the IMF, have been warning about the latent threat to financial stability associated with the low pricing of risk for some time. Main risk to the global economy: deteriorating financial conditions and weaker prospects for United States and European domestic demand. Rapid repricing of risk and lack of transparency regarding exposures of financial institutions to distressed assets have raised uncertainty and could lead to a broader credit crunch with much more significant macroeconomic impact. Inflation and oil market risks remain of concern. Persistent large global imbalances remain a worrying downside risk.

**March 2008:** The spreading financial crisis is slowing the global economy. Inflation is a concern in all countries, boosted by buoyant commodity prices. Direct spillovers to emerging economies less pronounced than in past crises. Banks in major advanced economies have tightened lending standards sharply to reduce leverage and replenish capital in the face of heavy losses and balance sheets that have been expanded to meet underwriting commitments. IMF estimates bank losses of $280 billion, with losses in European banks ($121 billion) comparable to U.S. banks ($144 billion). Exchange rate movements have been orderly but out of sync with pattern of global imbalances in some cases. Global growth projections marked down: in the baseline scenario, financial markets would stabilize during 2008, and the outlook is for a sluggish rather than a rapid V-shaped bounce back. There is a risk that credit squeeze on bank lending and on global markets for structured finance could spread and transform into a broader crunch. Higher risk corporate and households in advanced economies would face a sustained “credit crunch” that could have a serious detrimental impact on growth. Large global imbalances remain a downside risk. Policymakers need to be alert to the risks to the outlook and begin preparing contingent plans to deal with a deeper downturn.

**August 2008:** The global economy faces its most difficult situation in many years in the wake of financial turmoil and high commodity prices. Inflation has risen to levels not seen in a decade especially in emerging and developing economies, boosted by a surge in food and energy prices. Under the IMF’s baseline scenario recovery would gain pace only gradually in 2009. Forward looking indicators signal slower or negative growth in the second half of 2008. Downside risks: further deterioration in financial conditions, concerns that inflation could trigger more aggressive tightening; global imbalances. Financial market strains have intensified; difficulties of GSEs could have substantial negative repercussions for the U.S. housing market. Bank balance sheets remain under pressure and banks continue to tighten lending standards. Credit growth is slowing. The big risk going forward is the unpleasant specter of mutually reinforcing deteriorations in financial and economic conditions. Recent patterns of asset prices and credit in the United States appear similar to those of previous episodes of financial stress that were followed by recessions.

## ANNEX 6. THE IMF'S MESSAGE TO THE G-7[38]

**February 2004:** The recovery in global activity is strengthening and broadening. Forward-looking indicators are increasingly favorable. The policy stimulus in the pipeline, strengthening financial markets augur well for a continuation in the momentum. Improved current and prospective corporate earnings, together with a strengthening U.S. economy, have led to a strong recovery in mature equity markets.

**April 2004:** The global recovery has gained momentum and is more broad-based geographically. Accommodative policies, progress in corporate restructuring and an exceptionally favorable financial environment are supporting the recovery. Significant downside risks: geopolitical; higher oil prices. Medium-term risks: global imbalances, fiscal situation, and managing the transition to higher interest rates globally. Monetary policy will need to be tightened (at different paces in different countries). Abundant liquidity could be fostering investor complacency and search for yield. Given concerns that markets were becoming richly valued in an environment of very low interest rates, the recent widening of credit spreads is a welcome development.

**October 2004:** The global recovery has become more solidly established, underpinned by improved corporate balance sheets and profitability, a still very favorable financial environment, and improving labor markets. Key risks: geopolitical, high oil prices and inflation. Higher than expected inflation and therefore, higher global interest rates, could entail difficulties for emerging markets and for countries with elevated house prices. Medium term challenges: unsustainable fiscal positions and ageing populations; structural weaknesses; financial and corporate vulnerabilities and global imbalances. Global financial markets generally favorable. Market volatility is low, raising concerns that financial markets may have become complacent about risks.

**February 2005**: The global economic expansion remains solid, underpinned by strong corporate balance sheets; still accommodative macroeconomic policies; and favorable financial market conditions (including exceptionally low long-run interest rates). Global imbalances have worsened. Inflation is moderate, inflationary expectations are relatively subdued. Short-term risks: further exchange rate volatility, a rebound in long-run interest rates, and extended soft spot in Japan and the euro area. Medium-term risks: global imbalances; rising public debt and fiscal pressures from ageing; structural weaknesses that constrain growth. Global financial markets remain favorable, with valuations supported by improved fundamentals including solid, much improved corporate finances, and buoyed by search for yield which has been driven by continued high liquidity. Current low yields and credit spreads could reverse quickly in the face of unexpected inflation, abrupt increase in interest rates, unexpected deteriorations in credit quality or increased currency market volatility.

**April 2005:** The global expansion remains on track underpinned by strong corporate balance sheets and accommodative macroeconomic policies. Financial market conditions remain favorable and global long run interest rates and credit spreads remain low by historical standards. The favorable conditions reflects improved fundamentals (well grounded inflationary expectations and strengthened financial and corporate balance sheets), but also highly accommodative monetary conditions and ample supply of investable funds. Consequently, financial market conditions could tighten abruptly in the event of unexpected shocks. Global imbalances have worsened. Inflation, while subdued, needs to be watched in cyclically advanced countries. Downside short-term risks: high oil prices, sharper-than-expected increase in long-run interest rates, and further dollar depreciation. Medium-term risks: global imbalances, difficult fiscal positions in advanced countries, structural weaknesses. In the United Kingdom, the economy continues to perform well, and a soft landing is likely in the housing market.

**December 2005:** The underlying momentum of the global recovery has remained solid. With oil prices falling, the risks to the outlook have become more balanced, with the weight somewhat to the downside (with avian flu a rising, if unquantifiable, concern). Possibility of an abrupt tightening of financial markets remains a concern, especially where housing markets are richly valued. Rising global imbalances remain a central risk. Underlying inflation seems contained, but central banks must remain vigilant about the appropriate monetary policy stance especially where a solid domestic demand driven recovery is in place. Opportunity provided by the expansion to

[38] Source: Surveillance Notes to the G-7 produced by staff that were made available to the Independent Evaluation Office.

address fiscal and structural vulnerabilities is in danger of being missed. Financial conditions remain favorable even though interest and credit cycle have turned. Low credit premia and volatility are due to improving fundamentals and corporate and financial balance sheets in most industrial countries, but also abundant liquidity and search for yield, encouraging leverage. Ample liquidity has encouraged households to take on debt, leaving them exposed to high interest rates and/or a correction in housing markets. Consequently a transition to an environment of somewhat higher interest rates, less liquidity and some deterioration in credit quality may pose a risk to financial markets. For the United States, with households savings in negative territory, the key downside risk remains the outlook for private consumption if the housing market were to weaken sharply.

**April 2006:** Global growth has exceeded expectations and the immediate outlook is encouraging. The relatively benign outlook disguises underlying vulnerabilities posed by global imbalances. Global financial market conditions remain very favorable, characterized by unusually low risk premia and volatility reflecting both technical factors and fundamentals. Downside risks: high and volatile oil prices; tightening financial market conditions, disorderly adjustment of global imbalances and an avian flu pandemic. Currently favorable financial markets partly reflect temporary factors, in particular, still relatively easy monetary conditions and the related search for yield. If the transition to more normal financial conditions is fully anticipated, its impact will be moderate; if not the effect could be considerably greater. Financial institutions and markets should be able to manage this change without undue difficult, given the recent marked strengthening of their balance sheets. However, households—particularly in countries with elevated housing valuations—and some emerging market countries remain vulnerable, as the recent turbulence in Iceland indicates.

**September 2006:** The global economy continued to expand rapidly and is becoming more balanced. Nevertheless global imbalances remain. Rising oil prices is pushing up inflation and inflationary expectations. Tight commodities markets are raising concerns about inflation and a growth slowdown. Nearly all advanced countries have raised interest rates reining in global liquidity growth. Tighter conditions in global financial markets, rising uncertainty about growth and inflation prospects contributed to increased market volatility and pull back from riskier assets in May and June, triggering a correction in asset prices and currency depreciation in some emerging market countries. Some countries with large current account deficits were hit particularly hard. Most financial markets have since stabilized. Activity in the United States is slowing rapidly; the housing market is cooling rapidly and a more abrupt adjustment remains a downside risk. Corporate balance sheets and household income growth still look healthy, helping to contain the risk of a more severe downturn. Salient risks to the global economy: a more rapid and deeper U.S. slowdown with global spillovers, and, inflation.

**February 2007:** A soft landing for the global economy looks increasingly reassured. Short-term risks: potential cross border spillover from the U.S (via trade and financial channels due to heightened uncertainty about economic prospects and monetary policy), inflation, financial markets volatility prompting retrenchment from riskier assets. Global imbalances remain a concern. Diminution of short-term risks has helped support a continued growth-friendly financial environment. Some evidence of strains surfacing in the U.S. subprime mortgage market, but they appear isolated so far. In the United Kingdom, growth is projected to remain strong. Financial markets are increasingly complacent as prospects for a soft landing have improved. Investors are entering markets where credit risk is hard to assess. Rising corporate leverage possibly overextending balance sheets, credit risk in mortgage instruments, rising flows to emerging markets and the role of hedge funds are of concern. Credit strains in the U.S. mortgage market do not seem systemic at the moment, but the heavy exposure of U.S. banks—with one-third of on-balance sheet assets—is a concern, notwithstanding strong capitalization and profitability.

**April 2007:** Notwithstanding recent developments, the global economy looks set for another strong year in 2007. Spillovers from the U.S. housing market have been limited, while global financial conditions remain generally favorable. Overall the balance of risks is more evenly balanced, with increased concerns about financial risks, including from developments in the U.S. subprime mortgage sector. The recent turbulence in financial markets reflects market correction following a prolonged period of asset buoyancy rather than a fundamental shift in direction. Nevertheless, recent market developments underscore concerns that investors could retrench from risky positions if market volatility were to rise. The United States should regain momentum in the second half of 2007. Growth remains robust in the United Kingdom. Downside risks from: broader impact of the U.S. housing market, including through the tightening of lending standards; risks of deterioration in global financial conditions; inflation, and global imbalances.

**October 2007:** Global financial markets came under severe strain clouding the economic outlook, whose prospects will depend inter alia on how long it takes for liquidity conditions to return to normal. The baseline growth forecast has been lowered modestly, but downside risks have significantly increased. A dramatic squeeze in money markets has, in particular, affected North American and European banks exposed to conduits or SIVs. The turmoil spread to markets for riskier assets, reflecting a more general repricing of risk. Current market liquidity problems are expected to recede in coming months, but wider credit spreads will likely persist, reflecting an inevitable repricing of risk following a period of unusual compression. Tighter credit conditions will affect real activity, with the greatest macroeconomic impact expected in the United States where the housing correction is likely to be more prolonged than anticipated previously. Overall, a combination of solid fundamentals and appropriate action by central banks and other authorities should help calm rough financial waters and provide support to global economic expansion. In advanced countries, economic fundamentals remain solid. The balance sheets of core financial institutions were strong at the onset of the current market turbulence while corporate leverage was low. Main sources of risk: deteriorating financial conditions and weaker United States and European domestic demand. A sustained deterioration in financial conditions, reflecting increased credit, market and liquidity risks, and uncertainties regarding exposures of financial institutions to distressed assets could pressure bank liquidity and profitability and lead to a broader "credit" crunch with much more significant macroeconomic impact. Risks of a U.S. recession have risen, although a prolonged period of sub potential growth is the most likely outcome. There is a need to enhance transparency, notably regarding the links between financial institutions and off-balance sheet entities. Authorities should not display excessive willingness to bail out individual institutions in trouble to limit moral hazard.

**February 2008:** Ongoing financial turbulence continues to dampen global outlook. Risks of a U.S. recession have increased. Financial market strains have intensified—notwithstanding policy actions and coordinated central bank interventions to ease money market strains—due to rising loss estimates (now estimated to be about $400 billion for the global financial system with bank losses at $200–250 billion), and heightened uncertainty about loss distributions. Risks: Still unfolding events in financial markets where fallout from U.S. subprime mortgage sector continues to spread to other markets (such as prime mortgage markets) reflecting weak underwriting and worsening economic conditions, the possibility of a more protracted slowdown of the U.S. housing market, risks from slowing house markets in some European countries, continued inflation due to high oil and commodity prices. An overarching concern is that credit creation maybe impaired leading to a credit crunch across major advanced economies. Policies: supportive fiscal policies in advanced economies, improving transparency, raising bank capital, provision of liquidity, other longer term policies.

**April 2008:** Global economic prospects continue to weaken with the spreading financial crisis. Growth in advanced countries is expected to decline sharply in 2008 and the balance of risks is tilted to the downside. Further "tail events" in financial markets—with global macroeconomic consequences—cannot be ruled out. Credit market strains have intensified and continue to spread amid heightened concerns about financial sector soundness and continuing deterioration in the U.S. housing market. Rising financial sector loss estimates (now estimated at $450–510 billion), the near collapse of a major U.S. financial institution, increasing concerns about contagion have led to renewed upheaval. Liquidity strains in most interbank markets have eased somewhat, but money market spreads remain considerably above normal levels. The United States is expected to tip into a mild recession in 2008, due to mutually reinforcing adverse housing and credit cycles. Inflation risks in the context of rising energy and food prices and the risk of a disorderly adjustment of global imbalances remain concerns. IMF staff have analyzed and quantified two tail risk scenarios for the global economy, including the case of a global hard landing. IMF staff now sees a 25 percent chance of a global recession in 2008–09.

**June 2008:** Global growth likely to moderate substantially in 2008–09 due to ongoing financial strains, with an added drag from soaring oil prices. Concerns about more serious financial "tail" risks have receded. Financial sector risks have moderated. Financial markets have rebounded some in recent months as concerns over systemic risks have receded, although sentiments remain fragile. Markets have been reassured by the demonstrated commitment of central banks to forestall systemic events and the progress made by financial firms towards recognizing losses and replenishing capital. Nevertheless, market sentiment remains fragile and balance sheet repair will continue for an extended period. Tighter lending standards are likely to persist, and slower growth will likely complicate financial sector adjustment. Inflation risks have intensified, especially in emerging markets, due to escalating energy and food prices. A mild recession is projected for the United States.

## ANNEX 7. WHAT DID THE FINANCIAL STABILITY FORUM (FSF) SAY?[39]

**Spring 2004:** Cautious optimism about global recovery justified. Potential vulnerabilities: global imbalances, rising commodity prices, asset valuations and financial stability implications of monetary tightening, household indebtedness, and increased interest rate sensitivity. Some characteristics of the credit risk transfer (CRT) market—opaque, fast growing, and somewhat concentrated—associated with heightened risk in past. Consider merits of gradually increasing oversight of ratings agencies.

**Fall 2004:** Macroeconomic backdrop generally improved, potential risks less pronounced and do not represent a clear and present danger. Resilience of key financial systems increased. Large financial institutions well placed to handle monetary tightening. Indebted households and housing market pose limited direct threat to financial sector. Key financial systems well placed to absorb shocks and withstand events causing significant unexpected loss, given high capital, strong profits, improved asset quality, and risk management.

**Spring 2005:** Macroeconomic backdrop relatively benign. Risks: high global funding and liquidity, low risk premiums and long-term rates; global imbalances; tight commodity markets; risks to household balance sheets. Major financial institutions more resilient but high funding liquidity and consensus about U.S. rates may lead to complacency and underpricing of risks. Risk exposures have risen (including rapid expansion of structured credit markets). Incentive structures pressure market participants to follow the trend, a worrying development. Households pose limited direct threat to financial institutions due to a predominance of fixed rate mortgages, but "pockets of concerns" remain, e.g., adjustable rate U.S. mortgages to less sophisticated lower-income households, and indications that real estate prices are above fundamentals in several countries. Herding by households into asset classes could create bubbles; if households are unable to manage risks, the costs could transfer to financial institutions or governments. Given growing indebtedness, households' current high net worth depends on continued high asset valuation. Financial systems are systemically strong. Large banks well placed to manage potential shocks (given high capital, strong profits, further improvements in asset quality and significant advances in risk management, and more widely dispersed risk). Vulnerabilities: (i) untested risk management systems may not be resilient to drops in market liquidity, low volatility may have led to unduly rosy view of risks, common assumption that positions can be exited as markets move may not be true.
(ii) increasing size, complexity, and international reach of some large financial institutions challenging internal control of these institutions and increased impact of changes in their books on market pricing and liquidity.

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The Joint Forum review of CRT activity ("Credit Risk Transfer," March 2005) concluded:

- Do CRT "accomplish a **clean transfer of risk**?"—"Credit derivatives have achieved a relatively good record to date."

- Do "participants **understand the risks**?" —Market participants seem "largely aware of the risks associated with credit derivatives activity," although it was difficult to assess the extent to which all participants fully understand the most complex new products.

- Were there "undue **concentrations of risk**?" —"Extremely difficult to assess with any precision" as notional amounts do not fully measure the extent of risk transferred. Nevertheless, the aggregate amount of credit risk that has been transferred via CRT, particularly outside the banking system, is still quite modest as a proportion of the total credit risk that exists in the financial system.

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[39] The FSF is a colloquium of regulators, supervisors, central bankers and other national authorities responsible for financial stability in significant financial centers. It also includes representation from international groupings of regulators and supervisors engaged in developing standards and codes of good practice. This annex draws from the summaries of FSF plenary meetings reported to the IMF's Executive Board as made available to the IEO.

**Recommendations**: senior management to align use with overall risk management framework; users should have capacity to assess credit risk, resources and skills to understand credit model risks and their limitations, the nature and scope of ratings, and liquidity characteristics of CRT positions; improve disclosure; improve supervisory efforts, skills, and information sharing.

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**Fall 2005:** Benign macroeconomic conditions improved balance sheets of borrowers, lenders. Structural changes supported financial stability. Financial systems resilient to recent challenges. Benign picture maybe masking and stimulating growing medium-term imbalances which could challenge financial stability: rising energy prices, household balance sheets, global imbalances, emerging market developments. Household risks: house price rises unsustainable in some cases; indebtedness has risen sharply, greater use of new mortgage structures in some countries has made it easier for marginal homebuyers to get credit but exposed them to sharp increase in payments in a few years. Housing activity may cool gradually with modest impact on financial sector (e.g., Australia, Netherlands, and the United Kingdom). Financial institutions quite resilient to significant weakening in household sector, but risks from easing lending standards, higher LTV ratios, less rigorous loan appraisals, and some uncertainty about effectiveness of risk management practices for innovative mortgage products. Risk premiums and volatility unusually low due to search for yield, encouraging larger position taking. Risk exposures in some markets underpriced, e.g., asset-backed securities, CDS index products. Complacency leading to low provisioning. Rapid growth in exposures to complex, illiquid financial products posing risk management challenges, liquidity risks. Joint Forum and Counterparty Risk Management Policy Group II concluded that major financial firms are better prepared due to improved risk management and capital strength; however further strengthening needed in practices related to stress testing (methodologies, governance, and defining market-wide stress scenarios) and developments in complex products (understanding firms' readiness to shocks related to new markets), trading models, and fragility of assumptions). Heightened concentration of major institutions, increased complexity, and inherent limitations in firms' ability to take a forward-looking view, especially of market liquidity risks, increase the importance of robust risk management, systems, and controls. Past market liquidity crises have been sudden with little time to prepare, therefore it would be sensible to have in place beforehand processes for obtaining relevant information and developing a response.

**Spring 2006:** Clear optimism about near-term outlook. Financial markets smoothly absorbed global monetary policy transitions. Financial institutions performing strongly. Vulnerabilities from external imbalances and household indebtedness readily manageable. Risks: geopolitical shocks, energy price rises, flu pandemic, and greater protectionism. Simulations of adjustment scenarios, including a jump in risk premiums and falls in equity/house prices, indicate that losses to financial institutions are not sufficient to remove current capital buffers. However, models may understate impact of shocks by not capturing market liquidity and macro-financial feedback. Risk exposures are building. Demand for complex, structured products with embedded leverage presents significant risk management challenges. Firms are well placed to absorb rising market volatility given high capital and profit levels but some firms may be underestimating risks. High liquidity and low volatility have reduced perceived risks, encouraged larger position taking. Collective overestimation of market liquidity and ability to trade out of positions could cause problems in an adjustment. Rapid house price inflation and rising household debt continue in several countries, including increasingly in the euro area, and supply of "exotic" housing finance to less creditworthy borrowers. Credit derivative markets have contributed to systemic resilience but effective risk management and efficient valuation of credit derivatives and related structured products depends critically on adequate liquidity in relevant markets.

**Fall 2006:** Vulnerabilities include: vulnerability of household balance sheets to house price developments and interest rate movements; rapid pace of leveraged buyout activity; growing complexity of financial products; and persistent global imbalances. The economic outlook remained broadly supportive of financial stability. Financial firms had strong balance sheets, and financial systems seemed to be adapting well to the removal of monetary policy accommodation. Households' capacity to manage rising debts can potentially strain financial systems. Aggregate default rates remain low, but default risk may have been masked by innovations in mortgage products. Concerns remain about the complexity or opacity of risks in the global financial system due to the growth of risk transfer activity, expanding the role of new players and increased use of complex financial instruments. These are challenges for risk management and for understanding how the system will respond under stress.

## Annex 8. Discussion of Global House Price Boom, *WEO* 2004: Departments and Executive Directors' Comments

"Regarding the sensitivity of housing markets to adverse shocks, we wonder whether studying the distribution of debt and assets among income groups could have shed light on additional weaknesses as [suggested] by UBS…improvement [in] … net household wealth …does not mitigate rising household debt, if there is (i) an uneven distribution of debt and assets, and if (ii) income cohorts have a different marginal propensity to consume. If the ownership of assets is biased towards [the] wealthy … and debt is biased towards lower income, the aggregate net debt position gives little guidance [about]the interest rate sensitivity of the economy as a whole."

"Research … suggest[s] that globalized finance might have become a powerful explanatory factor in co-moving returns on assets across countries, [both] financial [and] housing assets. Policy implications from this finding are not spelled out … and … would merit a follow-up."

"The identification of a globally synchronized cycle is also interesting…could the global factor be picking up changes in house prices as part of a general portfolio shirt away from equities at a time when equity prices were falling? Is it reflecting the role of the US as a driver of global developments? Or is it picking up the similarity of housing market structures across economies? These would be useful topics for further work, and attempting to explain some of these statistical trends in terms of the role of financial liberalization, housing supply and sub-national regional differences - all of which are important in the UK context."

"…how can [euro area] household balance sheets be solid while household debt is surging (or is "solid"--as in the US--the result of a housing bubble on the asset-side? ). For the UK, we continue to be skeptical about whether the financial system could really absorb a crash in house prices that easily. … It would be useful to point to the effect of rising rates on house prices in several countries by providing example of how previous housing market bubbles were pricked by interest rate increases--the U.K. in the late 1980s [is] a nice example.

**Spring 2004:** Buoyant property markets of particular concern in U.K., Australia, Ireland, and Spain, and to lesser degree in U.S. and New Zealand. Heightened concerns of asset price bubble and sharp price correction. Cost of asset price shocks in modern economies very large, equity price busts typically caused cumulative loss of about 4 percent of GDP, with housing busts twice as severe. Monetary policy not well suited to address asset bubbles, but no consensus on alternatives.

**Fall 2004:** Industrial country housing boom highly synchronized due to synchronized monetary policy and financial liberalization. Downturn to be synchronized with significant adverse effect. Prices higher than explicable by fundamentals (10-20 percent in UK, Ireland, Spain, Australia; 10 percent in US). Risk of abrupt adjustment in housing market (especially Ireland, Spain). Given predominance of adjustable rate mortgages, impact of higher interest rate must be monitored (especially Norway and Sweden) but impact manageable (especially in UK). US real house price decline unlikely except at regional levels.

"…the implication that any downturn in housing prices could also be highly synchronized suggests the challenge a central bank might face in seeking a subtle balance between containing inflation…while…minimiz[ing] the risk of a housing price bust. Past experience pointing to early but gradual tightening could be one policy option …"

…needs to strike better balance between policy objective of optimizing short-term growth and preservation of financial stability. If US policy makers score high points on the former, they seem to be taking huge risks on jeopardizing the latter through highly procyclical policies. …rather than fostering financial stability, US policies are mortgaging the future by fuelling a new bubble in the stock market. Also, the apparent endorsement of some central bankers that monetary policy is not well suited to address asset bubbles is a retreat from the position taken by staff in the past. Monetary policy may indeed be a blunt instrument but undoubtedly has key role to play in asset price inflation and credit booms.

"…Global factor" and Global Housing Factor" come across as labels and results have ex cathedra air. Alternative explanation could be that house prices have been somewhat cyclical and cycles have to some extent been correlated across countries.."

"…[what are the] policy implications of house price booms. Is there a case for a monetary policy response? If so, how could authorities determine price bubble existed? …could explore more fully that credit booms appear synchronized. Regarding financial sector supervision, paper could usefully discuss countercyclical provisioning ratios.

"…the excesses of the 90s, particularly in the US, have not been fully worked out…particularly [for] household debt, housing prices, the still relatively high degree of financial leveraging (where data on the intricacies of this activity are complex and far from clear), the relatively slow job creation, and the excess capacity in many productive sectors … in the US, following an unprecedented period of expansionary monetary and fiscal policies which had contributed to … inflated asset prices and increased leveraging…."

"…model…not designed to test a potential bubble… staff analysis should go further, looking at other possibly relevant linkages and draw implications for both the financial and housing sectors. …as the collateral for mortgages and the so called 'housing equity withdrawal' are based on the value of the house, a synchronized collapse in housing prices can potentially [destabilize] the banking sector … The second …most worrying effect of a possible global correction in the housing market, is related to the high level of debt of the household sector…only fleetingly addressed…is such household debt sustainable? Is this debt historically high?"

"… if sharp house price increases do reflect a bubble, they may decline by much more than predicted by current models. The unusually high leverage of household balance sheets in many industrial countries is a key concern given the steady increase in US households debt service ratio since 1995 in spite of record-low interest rates. What is the meaning of the "global housing" factor?

"… the paper mentions briefly the conclusion of other research that the timing of financial deregulation may have … influenced the high correlation [of house price movements]. We would stress this channel more, which also helps to explain why some countries have not experienced the same rise in prices as others"

## Annex 9. How Do Financial Systems Affect Economic Cycles? *WEO* Fall 2006: Departments and Executive Directors' Comments

**WEO Fall 2006:** Important differences in the structure of financial systems across advanced economies influence cyclical behavior. In financial systems characterized by a greater degree of arm's length transactions, households appear better able to smooth consumption while becoming more sensitive to asset price changes. In financial systems that rely less on arm's length transactions, firms are better able to smooth investment during downturns. However, arms-length financial systems appear better placed to shift resources in line with new growth opportunities. There is also evidence that crossborder portfolio investors allocate a larger share of holdings to countries where the financial system is more arm's length, contributing to the financing of current account deficits. The United States' sophisticated arm's length financial system made it easier for consumers to borrow against future incomes, augmenting the current account deficit. Indeed, the expectation of higher future incomes coupled with accommodative monetary policy may have fueled the U.S. housing boom, which boosted consumption even more as the financial system allowed borrowing against collateral.

"The arm's length transaction system reflects a higher level of financial sophistication in general. In such system, households are better able to smooth consumption, while corporations have more flexible mechanisms to reallocate resources across sectors, if needed. The downside is that households are more exposed and sensitive to wealth shocks while corporates seem to be less able to smooth temporary business cycle downturns than in a more relationship-based financial system. The move toward a more arm's length system will require more advanced regulatory and supervisory policies"

"…argument that consumers … are better able to smooth their consumption over time [in an arms length financial system] is not entirely convincing. First, the existence of credit constraints is not directly tested. Second, the recent fast increase in household lending in many developed countries suggests that borrowing constraints…are currently not very restrictive…More evidence is required for a conclusive view …The changing risk profile of…financial institutions, the increasing interlinkages and cross-border activities…and rising popularity of credit risk transfer instruments make it more difficult to detect which parties truly bear the risk of certain type of financial instruments and transactions."

…[should] more explicitly indicate the limitation of the index … Strongly encourage … [greater] attention to the tone of the conclusions. [While] both systems "seem to have particular strengths and weaknesses depending on the specific challenges facing the economy", yet, [the tone] convey[s] the impression that the rise of arm's length financing is a natural movement and that the more relationship-based financing model is associated with less developed financial structures.

Please explain the construction of the financial index more thoroughly. There are conceptual difficulties and severe data limitations in distinguishing arms-length from relationship forms of financial intermediation. Since 1980s such distinctions have increasingly little meaning. Claims for smoothing properties of relationship-based intermediation are not well-supported by empirical evidence and are inconsistent with experience. Indeed, bank lending is highly pro-cyclical.

"…would like to add [to the disadvantages of more arms-length financial systems]…that more market-based funding might be motivated by a transfer of (credit) risk to less regulated and supervised sectors and to sectors less able to absorb and to manage risks than established banking sectors. In the long run, this might not be desirable. Also, household indebtedness seems to be higher …, increasing the vulnerabilities to severe demand contractions in the event of rising interest rates"

"…the key policy issues stemming from this analysis include … the difficulty of monitoring exposures … held by a wide range of firms, including cross-border, and by non-banks"

"While…households can better smooth their consumption in a more arm's-length financial system, in case of a negative income shock, the argument that asset price booms and busts are shallower is not fully convincing. A number of studies show that countries with a high financial index score (e.g., US, UK, Netherlands, and Spain) might currently be developing housing price bubbles, whereas countries with a low index score do not (e.g., Germany). The fact that potential bubbles in the more arm's-length countries have not burst (yet) might bias."

"…of the seven countries with a value for the financial index above the average level, more than half (Canada, Denmark, the Netherlands and Norway) have a current account in surplus. The attractiveness to invest in the US and the UK may also have other reasons. …it is of value to weigh the risks of moving towards a more arm's length financial system. Reputation and contagion risks associated with these systems could indiscriminately affect both households and the corporate sector. Particularly, households appear to be more vulnerable to swings in asset prices in arm's length systems"

Are the results for the Anglo-Saxon group driven by the US? Some sensitivity analysis would help. The text could usefully discuss the extent to which the difference in the overall financial index scores are due to the regulatory environment. For instance, differences in the judicial system and regulatory environment are associated with different levels of capital markets developments (see Shleifer, La Porta, Lopez-de-Silanes, 2006).

Claim that collateral is priced more effectively in an arms-length financial system is unsubstantiated; this ignores securitization where pricing is done by a financial intermediary. Conclusion that market based financial systems are better at attracting foreign capital: results seem to be driven by Anglo-Saxon economies with large current account deficits. But conclusion implies these current account deficits are capital flow driven while the Fund's position on this empirically unsettled question has generally been that they are driven by excess domestic absorption.

As it stands…[the analysis] leaves the impression that the Anglo-Saxon model is just more advanced, notwithstanding some minor drawbacks and the others need to catch up. Many of the observations … may have less to do with the arms-length relationship dichotomy and more to do with the degree of development of the financial system, as many components of the financial index seem related to development. The analysis clearly favors the US situation, but it should also analyze why other countries have a different mix; are there different legal, taxation, regulatory issues. There may be reverse causation; thus the observation that countries with arms length financial systems have responded better to economic shocks may not reflect the benefits of the financial system at all.

We are skeptical of the methodology and doubtful of the sweeping conclusions on the role of structural features of the financial system in business cycles. This is a rather narrow academic analysis of financial structure. Relationship-versus-arms length forms of intermediation draws artificial boundaries as current practices suggest features which are common to both. The key question not addressed is whether move toward arms-length financing makes countries more resilient to financial crises. New instruments such as credit derivatives can blur the lines between arms-length and relationship-based financing.

"… analysis does not cover… relationship between…asset prices and the type of financial systems…more arm's length financial systems are more conducive to run-ups in asset prices…creating bubbles in some cases…because of higher leverage ratios they permit through allowing households to accumulate higher levels of debt relative to their assets or income. Anecdotal evidence from the housing market behavior in the US, the UK and Australia supports this point. [Also] in more arm's length systems households appear…more vulnerable to swings in asset prices…If so, doesn't then the transition to a more arm's length pattern make financial systems intrinsically more unstable? Do the benefits that such systems … outweigh the risks of financial instability? …what should monetary authorities do if richly valued asset prices (especially in housing) exist in parallel with rising inflation…(the situation we may now be witnessing in the US)?…the conduct of monetary policy becomes enormously complicated…a better strategy for monetary authorities would be not to allow excessive inflation of asset prices in the first place"

"…advantages [of an arm's length financial system] … are overemphasized…[such systems] give individuals various and flexible options for investment and consumption…[but] might increase the volatility of the financial market or induce … excessive consumption and debt. … Further elaboration [of vulnerabilities] would be warranted. …[Is the] argu[ment] that arms-length system is resilient against asset price bubbles…supported by theories and empirical studies? …The shift to arms-length systems would make the economy more dependent on asset prices. Accordingly, the key issue … is whether one could be sure that the asset price is likely to reflect fundamentals and the risk of a bubble can be avoided in arm's length financial systems. One should analyze how and to what extent the emergence…of a bubble is caused by the financial system…Second, we are concerned that the risk-taking incentive … in arms-length systems may not necessarily bring about the social optimum. With the economy's reliance on asset prices increasing in arms-length systems, it could be the case that fund managers collectively participate in a one-sided bet on rising asset prices. A well-known example is the Japanese real- estate bubble in the run-up to the banking problem during the 1990s… Third, a shift to arms-length systems might affect the effectiveness of the current financial sector supervision and regulation… . Prudential regulations could become more difficult in arms-length systems as they would involve numerous players and transactions could be complicated. In addition, the risk-taking incentives of financial intermediaries could have different social impacts not envisaged before.

## Annex 10. The Influence of Credit Derivative and Structured Credit Markets on Financial Stability, *GFSR* Spring 2006: Departments and Executive Directors' Comments

**GFSR Spring 2006**: views on the securitization chapter
Credit risk dispersion is making banking and overall financial system more resilient. Credit derivatives raise supervisory concerns, but provide useful information for supervision: the collective market view of credit risk is more transparent. This improves market discipline, the ability to monitor institutions and early warning mechanism about stress in sectors beyond banking (e.g. household sector).

"…Equity trenches from Collateralized Debt Obligations (CDOs), with only small notional amounts, are responsible for a major part of the risk transfer…[Given] the lack of sufficient reliable data about these markets…[and] the increased complexity of credit derivatives [which could imply that] models applied to determine risk premiums might be inaccurate. Where these are inaccurately priced, risks cannot be distributed efficiently."

"…the transfer of credit risks is increasingly directed towards non-regulated financial institutions…lack[ing] the skills and resources to conduct risk management operations…[and] puts significant additional demands on already limited capacities and resources of regulators and supervisors."

"…the lack of information on the ultimate holders of risks in these markets and their potential interrelationships may lead to a host of unforeseen spillover effects from any particular materialization of risks."

"credit derivatives markets have created their own set of risks—possible secondary market liquidity disruptions, operational risks…and difficulties in identifying the ultimate risk bearer. Given the rapid growth in these markets, global supervisors and regulators must remain vigilant…Good data is essential…[as is the need to] improve the standards for disclosure, transparency, corporate governance and risk management, as well as to monitor counterparty risk related to hedge funds concerning credit."

Basis for claim that concentration in derivative markets are not a problem is unclear. We recommend more agnostic position. "Market forces expected to mitigate excessive lending" is overly sanguine. The issue of leverage should be addressed as a financial stability issue; past crises illustrate how sizeable leverage in derivatives magnifies financial shocks.

Too optimistic about the reduction of systemic vulnerabilities through the widespread use of credit derivatives. There is insufficient evidence to conclude that this process has resulted in permanent risk shifting away from the banking system. In fact, surveys show amount of credit risk moved out of the banking system is small.

The analysis should recognize that prices of financial assets and credit derivatives have been known to overshoot in periods of exuberance and generalized pessimism. Thus price signals could be distorted at times when they are most valuable.

"…the incentive to perform the credit screening and monitoring role gets eroded when…credit risk is ultimately transferred to a less informed entity…[despite the argument] that sufficient incentives remain…[it is] still far from certain…[that] the market structure [is able] to differentiate and reward the quality of the origination. … Longer term consequences of credit risk transfer instruments …should be investigated alongside the more immediate effects on financial stability. [… The report] is rather sanguine about the quality of information generated by … credit risk transfer instruments…Unless price formation remains grounded in solid credit analysis…and one avoids the notion that any price resulting from active trading is ipso facto the fundamental price, then the price discovery process in the market for credit risk derivatives would seem particularly prone to the 'beauty contest' phenomenon. […] [As regards the argument that information will be timelier], the acquisition of information by market players is not invariably smooth and, coupled with leveraged positions and vanishing liquidity in adverse circumstances, lumpy information flows may lead to sharp swings in derivatives prices, which in turn can jolt the underlying credit markets. […] persuasive empirical evidence is just not [yet] available [to support the conclusion that the general influence of the credit derivative markets is stabilizing]….The experience with securitization in the housing mortgage markets [should be] pursue[d]…in greater detail.

"…New instruments could amplify the cycle. Shouldn't the IMF be vigilant on the systemic consequences of the development of these markets? How these markets affect crisis management is a subject that falls squarely in our mandate. What can we say in that respect?"

"our overall assessment is slightly less sanguine…as regards prospects of a 'soft landing' in housing and mortgage markets, and the financial stability implications of the credit risk transfer market. ….We take a …nuanced view of [the] relative benefits and risks [of credit risk transfer markets]. To the extent that such markets facilitate the dispersion of credit risks, this…[is] welcome…[but] it [is] premature to draw final conclusions about the overall financial stability implications, as the new market segment has not been tested during a full credit cycle. The products … are extremely complex. Models for pricing depend on assumptions that may not adequately reflect reality…[and may not incorporate] possible interactions of risks such as counterparty risk, market risk, and market liquidity risk…the concentration of market making activity in a small group of large and complex intermediaries is [another] reason for concern…[and] substantial efforts are still necessary to counteract the sizeable operational risks…Given that robust data are lacking…[it is] possible that the broader dispersion of credit risks actually prolongs—and perhaps amplifies—the credit cycle, since credit constraints might be somewhat looser.

" …Should present more balanced and nuanced views of the benefits and risks associated with credit derivatives. Strong statements asserting that the growth of credit markets "has helped make the banking and overall financial system more resilient" should be presented as a reasonable conjecture, rather than firm or highly likely conclusions. Conclusions and recommendation are very general and would be preferable to have more to offer here.

"…greater emphasis…on the risks…would be appropriate. …[These]instruments are vulnerable to moral hazard and adverse selection…[and] alter the incentives …[of banks] to monitor individual risks simply because it no longer has full exposure to the credit risk. [Does] the structure of CRT instruments result in banks still facing notable exposure to risk, including through retention of first loss equity tranches? [This] could also have negative effects if provisioning policies do not fully reflect the underlying risks of continuing to hold…'toxic waste.' …Other reasons…[why] CRTs may, in practice, transfer less risk away…than is widely believed…[are that] the originating bank may face reputational risk, or even the obligation to absorb losses beyond those specified in the CRT contracts….[or] banks may find they have counterparty exposures to the same hedge funds that are exposed to losses on bank-originated Collateralized Debt Obligations (CDOs). The argument [that these instruments have created an efficient, timely, and transparent price discovery process for credit risk] rests on the presumption that market prices accurately reflect risk and, by extension, marking to market is always to be preferred to historical cost accounting in assessing credit risks. However, some recent research leaves open the possibility that marking to market may lead to inefficiencies by injecting artificial volatility that degrades the information value of prices, and results in inefficient real decisions. A common factor running through these concerns is the sheer newness of CRT instruments, which…[have not been] tested in a generalized economic and credit."

"…the report may be too sanguine [as] credit derivatives markets …have yet to be tested in a full cycle…the Joint Forum Working Group on Credit Risk Transfers …[pointed to other risks such as] too much reliance on valuation models without fully understanding all fundamentals, and various legal and operational risks…[While] the risk is …being outsourced to less regulated and less transparent parts of the financial sector…this raises concerns as to whether there may be risks of systemic significance accumulating 'out of sight' from current surveillance."

The chapter provides a good discussion of risks but appears to ignore them in the overall summary [which] makes sweeping generalizations overly speculative in nature. Please place greater emphasis on risks posed by potential drops in liquidity, counterparty risks and operational risks. "dispersion of credit risk has enhanced financial stability" is both unproven and too early to make. The statement that "we believe market forces may be expected to mitigate excessive lending" should be removed to prevent fits of laughter.

"Risks" and "vulnerability" are used interchangeably. Risks may currently be low but longer-term vulnerability may be high. The chapter emphasizes the need for better data and reports the efforts of the Joint Forum. It would be useful to provide examples of the types of quality data the IMF perceives to be necessary for surveillance of this market.

"…[In] the April 2005 GFSR …[these]markets [were identified] as major blind spots in the global financial market landscape since their liquidity shortage can amplify market price shocks. …The main cause for the market's rapid growth (over 200 percent in one and a half years) was driven by the search for yield under the environment of ample liquidity and low interest rates, and as such, we find it difficult to believe that this phenomenon has been caused by the desire of banks to mitigate their credit risk….[Absent] data on the distribution of these instruments, we … do not have a complete picture of how the risk is spread; it is possible that a few highly leveraged institutions…are taking on most of the risk."

## ANNEX 11. CONCLUSIONS FROM OTHER EVALUATIONS AND REPORTS

**Whittome Report, "Mexico—Report on Fund Surveillance 1993–94," 1995**

- The Fund culture does not encourage frank discussions of risks. Fund staff is in the habit of second-guessing Management and the Board.

- The Managing Director must insist that analysis be pertinent, pointed, and take responsibility for the degree of "political" understanding that should be allowed to affect staff's conclusions.

**External Evaluation of Fund Surveillance—Report by a Group of Independent Experts, 1999**

- The Fund should place greater emphasis on the surveillance of financial sector and capital markets issues.

- There is need for greater linkages between bilateral and multilateral surveillance.

**Lipsky Report, "Report of the Financial Sector Review Group," 2001**

- The focus, expertise, and support for financial sector/capital markets issues should be enhanced.

- There are weak linkages between multilateral surveillance of capital markets and the Fund's core bilateral surveillance activities.

- More effort needs to be made by area departments to follow financial market developments in countries.

- An active role of Fund Management is needed to make financial sector work more effective. This requires "clear-cut support of senior management" to overcome "natural institutional inertia."

**McDonough Report, "Report of the Review Group on the Organization of Financial Sector and Capital Markets Work at the Fund," 2005**

- Provide incentives for inter-departmental collaboration to increase cross-fertilization between traditional macroeconomics and financial/capital market issues; overcome silo mentality that is reducing the IMF's overall effectiveness and influence. This requires clear direction from management and Executive Board.

- A fundamental change of orientation, mind-set required for all departments, management and Executive Board with incentive structures to reward collaboration and penalize silo behavior, set clear objectives on what is expected in terms of integrating financial issues into surveillance, and, sustained follow-up to ensure accountability.

- Clear guidance, continuous monitoring, and direct, regular, continuous, and visible engagement and leadership by the Managing Director and the Fund's senior leadership are required.

- Fundamental mind-set change in how the Fund thinks about financial issues. Put financial issues at the center rather than the periphery. Area departments yet to fully embrace the need to change the traditional macroeconomic focus and elevate financial issues to a central role in their work. Teams still comprise traditional macroeconomists who do not have the necessary comfort level or expertise.

- Departments set their own agendas and priorities. Systematic collaboration is an exception rather than a rule, and largely limited to calendar-driven events. The problems are symptomatic of a broader 'silo' mentality across departments impeding cooperation, and an incentive structure that rewards for looking up (to management and the Board) rather than across the institution. Internal silos can only be overcome with strong management.

- Two separate publications (*WEO* and *GFSR*) raise questions of overlap and efficiency, and do little to reinforce an integrated view of the links between global macro and financial developments. The *GFSR* is not widely read or used by staff within the organization, and does not play a significant role in country work.

**IEO Evaluation of Multilateral Surveillance (2006)**

- Enhance the role of the Board and the IMFC in multilateral surveillance.

- Improve the content/form of multilateral surveillance outputs through streamlining and more focus on key issues.

- Strengthen multilateral surveillance by clarifying operational goals, organizational strategies, and accountability. Clarify the scope of regional surveillance.

- Integration between *WEO* and *GFSR* and bilateral and multilateral surveillance.

**2008 Triennial Surveillance Review (September 2008)**

- Need to strengthen risk assessment (connect dots, highlight unknowns, think unthinkable), guard against tail risks, incorporate risks at multilateral/regional level.

- Better integration of macroeconomics and financial sector surveillance.

- Do better: cross-border inward/outward spillover analyses; cross-country analyses; exchange rate analyses.

- Pay attention to: effective communication; preserve existing strength.

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