ANNEX 4

Early Analysis and Diagnosis of Factors Leading to the Crisis

A number of analysts outside the IMF pointed to the vulnerabilities and policy shortcomings that eventually led to the crisis. The following briefly reviews some of these contributions through 2006.

Warning about the prospect of a housing market collapse:

- Illustrating the entrenched nature of home price speculation by viewing the ongoing appreciation in historical perspective (Shiller, 2005);
- Predicting recession via asset price adjustment (Krugman, 2006; Richebacher, 2006);
- Linking unsustainable household balance sheets to a dramatic reversal of household spending (Parenteau, 2006).

Forecasts linking a housing market collapse to financial implosion:

- Recognizing that an asset bubble backed by unsupportable subprime mortgages could not endure (Burry, 2005, as described in Lewis, 2010),
- Probing where the mortgage risk was located and the repercussions for the institutions holding it after the prospective housing bust (Roubini, 2006).

Highlighting regulatory shortfalls and ensuing risks:

- Warning about the need to strengthen disclosure requirements and oversight over OTC derivatives (Commodity Futures Trading Commission, 1998)
- Warning about the risks and conflicts of interest inherent in using private credit ratings to measure loan quality as the basis for lowering capital requirements (Shadow Financial Regulatory Committee, 2000).
- Highlighting an array of risks arising from the evolving nature of structured finance (summary of proceedings from conference organized by the IMF Institute, 2005).

Urging monetary policy to take account of its impact on credit expansion and asset prices and warning of the drawbacks of not doing so (Borio and Lowe, 2002; Borio and White, 2003).

But some within the IMF also were quite prescient regarding the evolving risks and vulnerabilities, as evidenced by the contributions below through 2006.

Pointing to risks in the evolution of financial markets:

- The IMF's Economic Counsellor warned in his personal capacity that the evolution of financial development and the nature of compensation incentives for investment managers were driving the financial system toward increased risk, which ultimately could freeze the interbank market and lead to a full-blown financial crisis (Rajan, 2005a and 2005b);
- "Liquidity shortage as a potential amplifier for market price shocks was a major 'blind spot' and will need to be at forefront of all future effort to further improve the global financial architecture" (*GFSR*, 2005);
- "Historically the most important risk for financial markets in good times is complacency. Current risk premiums leave little or no room for asset valuation errors" (*GFSR*, 2005);
- The cyclical and structural shift in global financial markets could "become hazardous to financial stability" (*GFSR*, 2005);
- A combination of low risk premiums, complacency, and untested risk management systems dealing with complex financial instruments

could become hazardous to financial markets. The proliferation of complex, leveraged financial instruments (such as credit derivatives and structured products) made liquidity risk increasingly relevant (*GFSR*, 2005).

Highlighting regulatory shortfalls and ensuing risks:

- From unregulated OTC derivatives, including those relating to the liquidity consequences of the unraveling of derivative contracts. "There could be a tsunami of credit evolving into a perfect storm …," as he warned of counterparty risk and evaporating liquidity (Schinasi, 2006);
- "… credit risk which appears to have left the banking system may in fact turn out not to have done so" (Executive Board member's statement on the *GFSR*, 2006).

Forecasts linking a housing market collapse to financial implosion:

- The "longer [asset bubbles unjustified by fundamentals] persist, the greater the potential for disruptive corrections" (*GFSR*, 2004).

Warning about the prospect of a housing market collapse:

- "particularly concerned" about buoyant property prices in the United Kingdom, Australia, Ireland, and Spain, and to a lesser degree in United States and New Zealand (*WEO*, 2004);
- "heightened concerns" about an asset price bubble and a sharp correction thereof (*WEO*, 2004);
- Concern about the possibility of a synchronized downturn with significant adverse effects (*WEO*, 2004).

Sketching out the contours of a systemic financial crisis in the context of global imbalances (background paper for the multilateral consultation by team of IMF financial experts, 2006)**:**

> "… 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."

> "… concern[ed] about the increased use of nontraditional mortgage products for which default histories were 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."