

## Lucas Papademos: Globalisation and central bank policies

Speech by Mr Lucas Papademos, Vice President of the European Central Bank, at the Bridge Forum Dialogue, Luxembourg, 22 January 2008.

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### I. Introduction

For years now, globalisation has been, and continues to be, a buzzword in the public debate. Its persistent significance is certainly also due to the fact that it is such a multi-faceted phenomenon which has yet to be fully understood and assessed. Globalisation encompasses a broad range of aspects – economic, social, political, cultural and intellectual – and many of these are of relevance to public policy. Even though public discourse often focuses on the economic consequences of globalisation – the integration of markets and its associated distributional effects – globalisation is about more than the free exchange of goods, services and capital on global markets. It is also about an unprecedented opportunity to exchange knowledge and ideas across the globe. And the Bridge Forum Dialogue here in Luxembourg provides an excellent platform to see this intellectual facet of globalisation in action. I should like to thank Governor Mersch, the President of the Forum, for having invited me, and I am looking forward to an enriching debate with my fellow panellists and the audience on the theme of this year's event: "Globalisation: how to manage it?"

Exploiting my professional comparative advantage, I will elaborate on the central bank perspective. In my remarks, I intend to address three aspects of globalisation and their potential impact on central bank policies:

- First, I will discuss to what extent globalisation may affect the conduct and effectiveness of monetary policy in controlling inflation and influencing domestic economic activity. Or: does globalisation alter the job of a central bank, and if so, how?
- Second, I will explore the impact of globalisation on the functioning of financial markets, which is of course a particularly pertinent issue during the ongoing financial market turmoil, and its potential implications for financial stability. Or: did we sow the wind of financial globalisation, only to reap the whirlwind of market turbulence?
- Third, I will briefly seek to shed some light on links between monetary policy and financial stability, and how globalisation may affect this interrelation. Or: did past central bank policies worldwide play a part in building up imbalances in global financial markets whose correction and unwinding we are witnessing at present?

### II. Globalisation and monetary policy

In recent years, it has been argued that globalisation has had – or is likely to have – significant implications for the conduct and effectiveness of monetary policy in controlling inflation and influencing domestic economic activity. It has been suggested by some that the effectiveness of monetary policy could be impaired as a consequence of the impact of globalisation on the structure and functioning of markets – product, labour and financial markets – which would affect – and in the extreme disrupt – important channels of the transmission mechanism of monetary policy. Various effects have been discussed and analysed, and a number of empirical studies have attempted to estimate their quantitative significance. Simply put, globalisation could undermine the effectiveness of monetary policy as a result of its impact on both domestic aggregate demand and aggregate supply. The channels through which monetary policy influences aggregate demand could be impaired if domestic interest rates and domestic aggregate demand are increasingly determined by

global factors rather than domestic monetary policy. On the supply side, globalisation could affect inflation dynamics in various ways, notably by reducing the responsiveness of domestic inflation to domestic firms' marginal cost increases, by making "global economic slack" rather than the domestic output gap an important determinant of domestic inflation pressure, and possibly by influencing the trend rate of change in the terms of trade.

### ***Effects of globalisation on aggregate demand***

With regard to the influence of globalisation on domestic aggregate demand, two arguments have been advanced. First, in a financially integrated world it has been argued that it is global monetary liquidity rather than domestic liquidity which affects domestic interest rates and domestic economic activity, mainly – though not exclusively – through its effects on liquidity premia. Second, it has been claimed that the level of longer-term domestic real interest rates is likely to be determined by global savings and investment rather than its national components. These influences can be expected to be more pronounced for smaller economies. Therefore, a smaller country which cannot affect the global supply of liquidity to any significant degree could then lose effective control of inflation. This reasoning, however, is dubious, and not supported by theory or confirmed by empirical evidence. For example, in a two-country new Keynesian model, it has been shown that, provided exchange rates are flexible, global monetary factors can affect the domestic price level only through their potential short-term effects on global output.<sup>1</sup> Interestingly, the sign of the spill-over effect is the opposite of what would be expected from the global liquidity hypothesis. A comparatively loose foreign monetary policy induces a depreciation of the foreign currency and has a negative impact on domestic demand and prices in the home country. The main conclusion of rigorous theoretical analysis is that monetary policy can affect domestic demand even in a fully financially integrated world and even in a small country, as long as exchange rates are flexible. The exchange rate channel plays a more prominent role than the interest rate channel in the monetary transmission mechanism, to an extent which depends on the relative size of a country and the degree of financial market integration. This result is fully consistent with basic economic theory. Thus, the ability of central banks to control price developments over the medium term by influencing aggregate demand is not undermined, although the role and relative importance of different transmission channels might be affected by increasing global financial integration.

What is the empirical evidence about the potential impact of globalisation on this channel of the monetary transmission mechanism? It is theoretically plausible that globalisation can influence to a certain extent key determinants of long-term interest rates, such as the global riskless real interest rate and the real risk premium.<sup>2</sup> Moreover, inflation expectations and the inflation risk premium may also have been influenced to some degree by the forces of globalisation, though monetary policy across the globe has certainly been the main factor. There is some empirical evidence that in the euro area, as well as in a broader sample of OECD countries, long-term rates are reacting less to changes in short-term rates than they used to.<sup>3</sup> Global factors seem to be increasingly important in determining national real bond yields.<sup>4</sup> Furthermore, the co-movement of US, German and Japanese bond yields has been exceptionally high over the past few years.<sup>5</sup> My interpretation of these findings is that, although global forces have played an important role in determining domestic long-term

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<sup>1</sup> See Woodford (2007).

<sup>2</sup> See Wu (2006).

<sup>3</sup> See Reichlin (2006).

<sup>4</sup> See Giannone, Lenza, Reichlin (2007). Barro and Sala-i-Martin (1990) found that real interest rates for seven of the nine OECD countries they investigated mainly depended on world factors for the period 1958-1989.

<sup>5</sup> See Ferguson et al. (2007).

interest rates, they do not provide sufficient evidence to conclude that the effectiveness of monetary policy in controlling inflation has been reduced. The increased significance of global factors identified by empirical analysis is likely to reflect common trends as well as the similar orientation of monetary policies and their success in containing inflationary pressures. If national monetary policies diverge from such a common orientation, which itself has been fostered by increasing competition between currencies,<sup>6</sup> the observed regularities are likely to be affected. A central bank is still able to influence aggregate demand and preserve price stability under floating exchange rates.

### ***Effects of globalisation on aggregate supply***

Let me now turn to the effects of globalisation on the aggregate supply and on the dynamics of inflation. Several effects have been identified or suggested, some of which are relatively direct and others indirect. Globalisation can affect inflation dynamics through various channels: (1) by influencing the responsiveness of wages and prices to measures of domestic slack in the labour and product markets (that is, by affecting the slope of the short-term Phillips curve and the sensitivity of profit margins to cyclical factors); (2) by affecting trend productivity growth; and (3) by causing shifts in the “natural rate of unemployment” or NAIRU; (4) by making a measure of “global economic slack” an important determinant of domestic inflationary pressure; and (5), more directly, by affecting the trend rates of change of the relative prices of imported final goods, intermediate products and commodities. It is important to keep in mind the various channels and potential effects because their impact can be offsetting, and also because theoretical arguments and empirical analysis often focus only on some of the potential channels, thus providing a partial picture. I will elaborate on some of these effects and the empirical evidence for the euro area.

Economic theory does not provide unambiguous conclusions about the impact of globalisation on the slope of the short-term Phillips curve, that is, on the responsiveness of domestic inflation to measures of domestic economic slack, e.g. the output gap and/or the deviation of unemployment from its natural rate. Arguments can be advanced – and have been advanced – that imply that globalisation would tend to make the Phillips curve flatter<sup>7</sup> or steeper.<sup>8</sup> Kenneth Rogoff has argued that inflation becomes more responsive to domestic excess demand if price rigidities are reduced and the economy becomes more flexible as a result of increased competitive pressure induced by globalisation.

The proposition that a measure of “global economic slack” rather than the domestic output gap is a more important determinant of domestic inflation pressure has been discussed extensively. This hypothesis, if valid, would imply that the slope of the short-term Phillips curve, which depicts the responsiveness of inflation to domestic excess demand, becomes flatter.<sup>9</sup> Thus, in a globalised world – so it has been argued – a much stronger monetary policy response would be required, other things being equal, to preserve price stability over the medium term in the presence of adverse shocks. But also in this regard there exists no robust empirical evidence or solid and convincing theoretical foundation to support the claim that a structural change has taken place.<sup>10</sup> Empirical estimates for the euro area do not show a significant change in the slope of the short-term Phillips curve. Furthermore, it would be misleading to interpret the recently observed low correlation between domestic output gaps and domestic inflation in some countries as a structural change in the short-term Phillips

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<sup>6</sup> See Kroszner (2007).

<sup>7</sup> See Bean (2006a and 2006b).

<sup>8</sup> See Rogoff (2004, 2006).

<sup>9</sup> See Borio and Filardo (2007).

<sup>10</sup> See Ihrig et al. (2007).

curves. A reduced correlation – or even a lack of it – could simply be a consequence of the effective monetary policies of central banks which have succeeded in anchoring inflation expectations to price stability.<sup>11</sup>

### ***Direct effect of globalisation on domestic inflation***

The two more direct effects of globalisation on world and domestic inflation dynamics have been more visible but have partly offset each other, and the relative impact may be changing over time. On the one hand, raw materials and basic commodities, notably oil and other sources of energy, have become scarcer relative to world demand, leading to substantial upward pressure on prices. [see Chart 1] For example, Brent crude oil prices have increased almost tenfold over the last nine years, reflecting to a very large extent the impact of rising demand, especially in emerging market economies [see Chart 2], although supply-side factors have also played a role during some periods. On the other hand, the integration of a large reserve of low-cost, skilled labour in the international economy and the increasing production of manufactured goods in emerging market economies have put downward pressure on import prices of manufactured goods as well as on wage demands in industrial economies. As a consequence, the prices of a wide range of manufactured goods have been declining since 2000. This is reflected in the unit value of imports of manufactured products in the euro area, which in mid-2007 was virtually at the same level as in 2000. [see Chart 3]

The counteracting effects of these global price pressures on euro area inflation can be observed more clearly if we take a look at the development of the overall Harmonised Index of Consumer Prices (HICP) and selected components (energy and non-energy industrial goods). [see Chart 4] The prices paid by consumers for energy products, which account for approximately 9% of euro area private consumption, surged at an average rate of 5.4% per annum following the series of sharp oil price increases over the period 1999-2007. But, the prices of other consumer goods, such as non-energy industrial goods, which account for over 30% of total private consumption, increased at a more moderate rate of 0.7% per annum on average during the same period.

In an environment of significant and persistent changes in the relative prices of energy goods and agricultural products, the price increases of these goods, which are comparatively more visible to consumers than the relatively more stable prices of many other consumer goods, may, therefore, adversely affect inflation expectations. Consequently, it is crucial for monetary policy to anchor inflation expectations to price stability, and to ensure that second-round effects of increases in energy prices and other commodity prices on price and wage-setting do not materialise.

All in all, the empirical evidence on how globalisation has directly affected consumer price inflation in the advanced economies reveals a rather muted impact. Inflation in the euro area is likely to have been 0.0-0.3 percentage points lower per annum as a result of the net impact of the inflation-dampening effect of non-commodity import prices and the inflation-augmenting effect of commodity import prices over the past decade.<sup>12</sup> The two effects are linked and have partly offset each other as they reflect the impact of emerging market economies on the prices of manufactured goods and world commodity prices. The size and sign of the net impact on the inflation of advanced economies in the future are surrounded by uncertainty, and are likely to change as globalisation unfolds.

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<sup>11</sup> See Boivin and Giannoni (2006) and Bean (2005).

<sup>12</sup> See ECB (2008); Pain et al (2006) and Pula and Skudelny (2007).

### ***Impact on monetary policy strategies***

Do central banks need to adapt their monetary policy strategies to cope with the challenges of globalisation? It has been shown that the rationale for maintaining price stability – the primary objective of the ECB and of many other major central banks – is strengthened by financial globalisation for at least two reasons. First, if international risk-sharing loosens the link between domestic consumption and domestic output, optimal monetary policy would tend to increase the relative weight on price stability at the expense of output variability, as it is real consumption which ultimately matters for social welfare. Second, the welfare-maximising weight to be attributed to price stability also increases when international risk-sharing is obtained by means of cross-border holdings of nominal assets (e.g. non-inflation indexed bonds), as inflation would seriously distort effective risk-sharing. These interesting arguments bring me to the second part of my presentation on the potential implications of globalisation for financial stability.

### **III. Globalisation and financial stability**

Let me now focus on the effects of globalisation on the functioning of financial markets and institutions and the potential implications of these effects for the performance of the central bank task of safeguarding financial stability. This issue is both important and topical as the pace of global financial integration has accelerated in recent years and as the ongoing financial market turmoil has clearly demonstrated. Financial globalisation involves the increasing integration of financial markets and the growing presence of cross-border financial institutions. Financial globalisation is often defined and measured by the extent to which countries are linked through cross-border financial holdings. A commonly used indicator of financial globalisation is the sum of countries' gross foreign assets and liabilities as a proportion of GDP. The evolution of this indicator documents the impressive dynamics of financial globalisation since the mid-1990s, especially for advanced economies (and to a lesser extent for emerging markets and developing countries). [see Chart 5]. In the euro area alone, the ratio of the sum of foreign assets and liabilities to GDP increased from 190% in 1999, the year the euro was launched, to 280% in 2005. It is also impressive and relevant that the pace of financial integration for advanced economies was much faster than that of their trade integration from the early 1990s onwards. This is evidenced by the ratio of the sum of external assets and liabilities to the sum of exports and imports [see Chart 6]. Interestingly, this same ratio has been roughly stable for emerging market economies and developing countries over the same period. Finally, another pertinent indicator measures the extent and rapidly growing importance of the total cross-border bank assets and liabilities since the early 1990s, which increased fivefold from about 5 trillion US dollars in 1990 to almost 25 trillion US dollars in 2006. [Chart 7].

### ***Globalisation and the development of financial markets***

The fast pace of financial globalisation has reflected, and at the same time has contributed to, the rapid development of financial markets. Both financial integration and development have been driven by several factors: deregulation, capital liberalisation, financial innovation and advances in communication and information technology. These factors have contributed, in a mutually reinforcing manner, to the exceptional growth of the overall size of financial markets relative to GDP [Chart 8] and the consolidation of the banking sector, with the emergence of large and complex financial institutions. They have also contributed to the exponential growth of new financial instruments, the adoption by banks of the “originate and distribute” business model and the increasing presence of new financial intermediaries. In addition, the distribution of net saving flows across the globe, with large excess saving (relative to domestic investment opportunities) in some emerging market economies searching for higher global investment returns also contributed to the fast pace of financial globalisation and development in recent years. When examining and assessing the effects of

globalisation on the financial system – its efficiency and stability – it is important to keep in mind the role of the other factors, e.g. financial innovation, new business models, risk management practices, which have simultaneously exerted a significant impact on the functioning of financial markets and institutions.

The securitisation of bank loans and the development of credit risk transfer (CRT) instruments and complex structured finance products have fundamentally changed the functioning of the financial system and the distribution of risk across sectors and borders. Since the mid-1980s, an unprecedented growth in the development and issuance of new financial market instruments has allowed the transfer of risks across market participants also in connection with previously relatively illiquid assets like bank loans and mortgages. While initially the focus was on transferring market risk, credit risk transfer instruments have increasingly gained in importance since the 1990s.<sup>13</sup> With respect to securitisation, this development can best be described by pointing out that the outstanding value of US agency mortgage-backed securities grew from about 100 billion US dollars in 1980 to about 4 trillion dollars in 2006 [Chart 9]. Annual securitisation is about 3 trillion US dollars a year in the US and about 500 billion euro in Europe. In both areas, mortgage-backed securities account for the bulk of the total. With respect to credit risk transfer instruments, the increase in the notional value of global credit default swaps has been phenomenal, from 90 billion US dollars in 2001 to 34 trillion US dollars in 2006. Over the same period, the share of credit default swaps in the overall derivatives market increased from 1 to 11% [Chart 10]. Collateralised debt obligations (CDOs) are another major type of security used to transfer credit risk. The global issuance of CDOs more than tripled between 2004 and 2006 [Chart 10]. One prominent feature of the development of the financial system is that it has become much more “leveraged”, as indicated by the ratio of total monetary and financial assets relative to the monetary base (central bank money).

### ***Financial globalisation and economic growth***

What have been the effects of financial globalisation and development on the efficiency and stability of the financial system, on trend economic growth and on output and financial market volatility? Let me first examine the impact on efficiency, growth and output volatility. The available empirical evidence supports the view that the development of the financial sector, as measured by financial market size and other indicators of its features and sophistication, has had positive effects on the efficient functioning of product markets and has fostered (total factor) productivity gains and output growth.<sup>14</sup> The evidence on the impact of financial globalisation on economic growth is not as conclusive or sufficiently robust.<sup>15</sup> This partly reflects the fact that the impact is conditional on the macroeconomic policies pursued as well on the institutional and regulatory framework in place, which makes it difficult to isolate empirically and estimate its net contribution. Moreover, the impact of financial globalisation on growth may take some time to become visible as it exerts its influence through various channels, some of which involve indirect effects. Indeed, a new approach which emphasises the indirect effects of financial globalisation growth by promoting the development of the financial sector, by strengthening competition and by enhancing market discipline on macroeconomic policies suggests that the total impact on growth of financial globalisation through these indirect effects can be significant. In particular, for advanced economies their integration into global financial markets fosters (total factor) productivity growth and improves risk-sharing. Moreover, there is some evidence that financially integrated economies can

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<sup>13</sup> See Ferguson et al. (2007), Ch. 9.

<sup>14</sup> See Hartmann et al. (2007).

<sup>15</sup> See Kose, Prasad, Rogoff and Wei (2006).

absorb shocks – and can tolerate a higher level of volatility – without this volatility having an adverse effect on growth.<sup>16</sup>

### ***Globalisation and the volatility and liquidity of financial markets***

An important issue for financial system stability is whether financial globalisation has been – or can be – a key factor in reducing volatility and increasing liquidity in financial markets. Over a number of years, before the current financial market turmoil, global financial markets were characterised by abundant liquidity which had indeed reached unprecedented levels. Financial market liquidity, a concept distinct from monetary liquidity, is a measure of the ability of market participants to undertake transactions without triggering large changes in asset prices. The abundant financial market liquidity over the period 2003 until the summer of 2007 was associated with very low market volatility, especially in equity and bond markets [chart 11], low risk aversion [chart 12], low corporate bond yield spreads [chart 13] and credit spreads, high leverage and high market turnover. It also reflected the “search for yield” and confidence in the smooth functioning of the market. A composite indicator of financial market liquidity in the euro area equity, bond, credit and foreign exchange markets,<sup>17</sup> constructed at the ECB [chart 14] shows that financial market liquidity had increased significantly since 2001, rose sharply in 2003 and 2004 and remained at high level until the summer of 2007. A similar indicator constructed by the Bank of England for the UK financial market highlights the global dimension of this phenomenon and a similar trend. It has been argued by some that increasing financial market integration –the liberalisation of international capital flows– was a key determinant of this increase in market liquidity and the associated decline in market volatility. But a more careful analysis shows that other factors played an important role, such as the rapid growth of new financial instruments, the increasing presence of very active and highly leveraged financial market participants. Moreover, ample market liquidity also reflected an increase in risk appetite and a rise in leverage. And the recent market developments showed that an abrupt and sizeable increase in risk aversion caused an evaporation of liquidity in many markets and a rise in market volatility. Therefore, although financial globalisation can play a role in containing market volatility, it cannot be expected to have a dominant and permanent impact.

### ***Impact on financial stability – the financial market turmoil***

What are the broader potential implications of financial globalisation for the stability of financial systems? How are real and financial shocks likely to propagate across borders and asset classes in a financially integrated world? On the one hand, there is obviously an augmented risk of cross-border contagion of asymmetric shocks to the rest of the world if cross-border asset holding is widespread. On the other hand, this risk has to be weighed against the positive side of the very same coin, which is the benefit gained from an increase in international risk-sharing by means of diversification. The resilience of financial asset prices to negative shocks is improved when the market is more liquid and the investor base more heterogeneous. On balance, despite the ongoing financial turmoil, I would argue that financial integration has had a stabilising influence on the global financial system for the reasons just mentioned.<sup>18</sup> If, however, risk assessment and management is inadequate,

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<sup>16</sup> See Kose, Prasad and Terrones (2005, 2006).

<sup>17</sup> The financial market liquidity indicator is constructed to gauge market tightness, depth and resiliency, and liquidity risk premia.

<sup>18</sup> The available empirical evidence on how measured financial openness affected the severity of banking crises is somewhat inconclusive. The finance literature argues for a joint consideration of efficiency and stability issues, see Ferguson et al. (2007), ch. 6.3 for references to the literature.

asset valuation is difficult and highly uncertain, and incentives are distorted, the risks to financial stability could increase.

The current financial turmoil provides a clear example of how a shock to a relatively small segment of a national financial market can spread globally across borders and across other markets. As early as 2005, US sub-prime loan delinquencies started to rise. Consequently the value of credit products based on sub-prime mortgages rated lower than AA started falling. But it was not until two hedge funds from Bear Stearns with active exposure in the sub-prime market had almost lost all their capital by June 2007 and when some rating agencies in early July announced that they would downgrade many asset-backed securities (ABSs) and collateralised debt obligations (CDOs) that a significant reassessment of the expected returns of structured finance products took place and AA and AAA-rated asset-backed securities (or ABS) also started falling in value. The following general re-pricing of risk [see Chart 15] and tensions in credit markets (e.g. also the corporate bond market) now affected several countries other than the US (e.g. the corporate bond markets in the US and Europe). Financial market liquidity for most structured credit products started evaporating [Chart 16]. Equity markets have also been affected by the increase in risk aversion and a general flight to quality.<sup>19</sup> As a consequence of inadequate risk management, and in particular liquidity risk management, the interbank money market came under pressure. Due to the complexity of pricing structured credit products and the lack of transparency of banks' exposures to investment vehicles heavily in need of refinancing their ABS investments (which, at that time, were more or less fully illiquid), an adverse selection problem in the interbank market led to concerns about systemic risk. Banks were reluctant to lend to each other because of concerns about the counterparty's exposure to sub-prime related assets and also uncertainty about their own liquidity needs. In August 2007, interest rates in the unsecured money market started to rise significantly above the policy rates, also for very short-term maturities. Indicators of financial market liquidity, in a number of markets, declined dramatically.

Since August 2007, the ECB has launched a series of market operations aimed to address pressures in the money market, to ensure that very short-term money market rates remain close to the ECB's policy rates and thus to contain spill-over effects to the financial system and the real economy. These operations have succeeded in stabilising the very short-term interbank rate and reduced tensions in the long-term money market. Because money market pressures had remained at elevated levels globally until December [Chart 17], a global response was called for, in the form of a joint action of major central banks in the advanced economies, including the ECB, to provide US dollar liquidity to financial institutions also outside the US. Overall, the central bank operations have had a positive impact on money markets worldwide and contributed to mitigating the effects of the turmoil on the financial system and the economy. However, persisting uncertainty in financial markets – which these actions cannot address, and were not intended to address – imply that pressures in the longer-term money market remain, although at significantly reduced level since December 2007. The European Central Bank continues to stand ready to act in a swift and decisive manner in order to ensure the orderly functioning of money markets.]

### ***Causes of the financial market turmoil***

What have been the underlying main causes of the financial market turmoil? What have been the key weaknesses in the functioning of the financial system that have been revealed? And what are the appropriate further responses of market participants and policy-makers? A full diagnosis of the causes and weaknesses is not yet complete and, indeed, not possible as the

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<sup>19</sup> See ECB (2007b), Box 7, on the propagation of the sub-prime shock to other markets.

market adjustment is still ongoing. Nevertheless, I would like to highlight four areas that are also pertinent to the issues of financial integration and development we are discussing.

- First, the underlying causes and triggers are to be found in the price dynamics of the US housing market and the excesses and shortcomings (in the practices) in the US sub-prime mortgage market. So, a main determining factor of the financial market turbulence is that same one – property price overvaluation – that characterised previous episodes, as emphasised by Kenneth Rogoff.
- Second, weaknesses in the functioning of the market for structured finance products. These included valuation uncertainties due to the complexity of many products, the imperfect information available about the underlying asset characteristics, inadequate appreciation by investors of the embedded risks, and excessive reliance on the ratings of such products by credit rating agencies.
- Third, weaknesses in the implementation of the “originate-and-distribute” model by banks and in the chain of distribution and acquisition of credit risks. These shortcomings included inappropriate incentive structures for banks, as well as other financial entities and agents in the securitisation process, which fostered moral hazard and contributed to the inadequate assessment and management of credit and funding-liquidity risk.
- Fourth, the role and features of new financial entities – the off-balance sheet conduits and structured investment vehicles (SIVs) – which were linked to banks through management and financing, and played a key role in the transmission of tensions from the structured finance product markets to the money markets, as a result of the maturity mismatch on their balance sheets and the associated funding liquidity risk. The creation of these investment vehicles and the associated substantial off-balance sheet exposures of banks to the structured credit products was the unintended consequence of regulatory arbitrage, and reflected the poor assessment and management of the funding and market liquidity risks as well as the reputational risks faced by a number of banks.

Overall, the weaknesses in the functioning of the financial system revealed by the financial market turmoil lead to the general conclusion that financial integration and development have not been accompanied by adequate appreciation of risks, effective risk management and sufficient market discipline. The divergence between financial development, on the one hand, and sufficient discipline and effective risk management, on the other, should be bridged. This should be done not by measures that stifle financial innovation and market efficiency, but by actions and an institutional framework that encourage prudent behaviour and adequate risk assessment and management. More specifically, the securitisation of bank loans and other assets and the “originate and distribute” model should not be abandoned. Securitisation and the new bank model do entail economic and social benefits as they contribute to a better allocation of financial resources and a wider diversification of risks across markets and frontiers. At the same time, it is evident that this bank model and the securitisation process should be strengthened by improving incentive structures, risk assessment and management practices, and by increasing transparency. Similarly, the structured finance market, in order to be revitalised, will require actions that address the valuation problems and increase transparency and disclosure, so as to enhance the understanding and assessment of the embedded risks and to improve the practices of agencies and financial entities involved in their creation, rating and distribution of such products. Standardisation of some of the structured finance products could facilitate the market’s functioning. More generally, the risk management systems and practices of banks and other financial institutions should be further improved. This will require better and more extensive stress-testing in order to enable them to better assess the potential impact of tail risks and correlated risks.

The actions needed to enhance market discipline and strengthen the resilience of the financial systems are currently being examined both by market participants and policy-

makers. The recent experience has provided financial institutions and other markets participants with strong incentives to address the weaknesses revealed in various ways, including via improved transparency about exposures and greater disclosure of risks in products and processes. Financial regulators and supervisors are also examining ways to strengthen the resilience of the financial system through a robust framework that ensures adequate capital and liquidity buffers, and encourages market discipline and promotes effective risk management. At global level, the Financial Stability Forum will present a report to the G7 Ministers and Governors in April 2008 which will include recommended actions to achieve these objectives.

What has been the impact of financial globalisation in the unfolding of the ongoing financial turmoil? It is a key factor that had contributed to boosting market liquidity, reducing market volatility and fostering financial development in the preceding years. Moreover, it facilitated the propagation of shocks and the spreading of sub-prime related risks to Europe, as a result of the acquisition of large exposures by European banks to structured finance products based on bank assets originating from across the Atlantic and European banks major involvement in the dollar asset-backed commercial paper (ABCP) market, where, at a certain point in time, they accounted for about 50% of the funding. But, having said that, it would be wrong to conclude that financial globalisation is to be blamed for the financial turmoil as it cannot be considered responsible for the fundamental causes and key weaknesses I identified earlier and which resulted in the associated mispricing of risks and the mismanagement of assets and liabilities by some financial institutions. On the contrary, financial globalisation has contributed, other things being equal, through international risk-sharing to cushioning the impact of shocks on national financial systems and economies and it has also facilitated the boosting of the capital buffers and the restoration of the balance sheets of banks weakened by the turmoil.

### ***Beneficial cooperation between authorities***

The recent financial market episode has highlighted an important implication of financial integration for central banking: the usefulness of effective cooperation and coordinated action by central banks in managing liquidity and ensuring the efficient functioning of interbank money markets. It has also clearly shown the benefits of closer cooperation and improved information-sharing between financial supervisors and central banks. Such enhanced interaction would contribute to a better assessment of the potential systemic implications of financial shocks, and assist in addressing market tensions or problems faced by individual financial institutions.

## **IV. Globalisation, monetary policy and financial stability**

There is one final and important issue I would like to briefly consider: the interrelation between globalisation, monetary policy and financial stability. It has been plausibly argued that globalisation has played an important role in determining the low level of world real interest rates, for example as a result of emerging market savings having been mainly invested in developed economies due to a lack of investment opportunities in the respective home markets.<sup>20</sup> This has induced a decline in the equilibrium global real interest rates, which monetary policies have accommodated with low nominal interest rates.<sup>21</sup> Obviously there remain risks associated with a potential abrupt unwinding of global imbalances and investment strategies strongly influenced by a low interest rate environment. But monetary

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<sup>20</sup> See Caballero (2006).

<sup>21</sup> See Bernanke (2005).

policies have not played a role in the emergence of global imbalances and associated financial stability risks.

Alternatively, it has been argued that the benign effects of global competition and low-cost imports on consumer prices might have led to an underestimation of the stimulating effects of a monetary policy, which is consistent with the preservation of price stability over the medium term, but which can be characterised as accommodative over the long term, as evidenced by buoyant credit and money growth over a prolonged period of time.<sup>22</sup> A strong and persistent expansion of monetary liquidity could fuel or even trigger an asset price boom. During the bust phase of the asset price cycle, the associated credit crunch might lead to an economic downturn and a negative deviation from the objective of consumer price stability, and possibly even to deflation, which would exacerbate a financial crisis.

An environment of abundant monetary liquidity can affect the risk-taking behaviour of investors and financial intermediaries. Ample monetary liquidity and financial market liquidity<sup>23</sup> could be indicators of the ongoing execution of arbitrage strategies, such as carry trades, and short-termist or myopic “search-for-yield” behaviour, which can temporarily distort the pricing of risk.<sup>24</sup> It is not low inflation itself but rather low rates of return, which could trigger “searching-for-yield” investment strategies, providing financial market liquidity to previously much less liquid markets and affecting relative asset prices.

In fact, ECB research shows that there is evidence that monetary liquidity shocks have played a role in driving asset prices, particularly housing prices across OECD countries, during the boom phase of asset price cycles, and that these shocks have also to explain the negative effects on economic activity during the subsequent bust phase.<sup>25</sup> The intriguing aspect of this hypothesis, and of the associated empirical findings, is that the monetary policy stance might be perfectly appropriate for and consistent with the preservation of price stability over the medium term. Nevertheless, the potential implications for asset price boom-and-bust-cycles could signal that the monetary policy stance could prove accommodative for maintaining price stability in the long run.

The jury is still out concerning the final verdict as to which of the two views is right. In my opinion, however, one general conclusion is valid: a monetary policy strategy which carefully monitors money and credit developments is likely to contribute to the detection of potentially destabilising financial imbalances is likely to help detect potentially destabilising financial imbalances at an early stage.

## V. Conclusions

Our discussion on how to manage globalisation comes at a difficult moment in time, a challenging period for financial markets and institutions worldwide, and a period of heightened uncertainty about the potential impact of the ongoing reappraisal of risk on the real economy. This makes this joint intellectual effort to understand the underlying mechanisms and forces of globalisation even more topical, and our joint quest to identify ways to manage globalisation even more valuable.

In my contribution, focusing on the central banker’s perspective, I argued, first, that globalisation does not fundamentally undermine the effectiveness of monetary policy in preserving price stability. Although the channels through which monetary policy affects economic variables are certainly influenced by globalisation, the respective effects are

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<sup>22</sup> See Borio and Lowe (2002).

<sup>23</sup> See ECB (2007a), Box 9 for an elaboration of the measurement of financial market liquidity.

<sup>24</sup> See Rajan (2005, 2006).

<sup>25</sup> Adalid and Detken (2007).

estimated to be small. Second, there is no doubt that financial globalisation has had positive effects on the efficiency of financial markets, on global risk-sharing and ultimately economic growth worldwide. That said, the current financial market turmoil also revealed a number of weaknesses in the globalised financial system, where tensions in one relatively small market segment in one country can rapidly spread across other markets and countries. One of the lessons to be learnt is that financial market integration across the globe needs to be accompanied by adequate appreciation of risk, effective risk management and sufficient market discipline. In addition, the episode has underscored the benefits of effective coordination and, if necessary, joint action by central banks, as well as closer cooperation and improved information-sharing between financial supervisors and central banks. Third, the experience of the ongoing market turmoil has highlighted the need to deepen our understanding of how globalisation affects the complex and multi-faceted nexus of monetary policy and financial stability. At this juncture, it is more important than ever that central banks continue to pursue their primary objective of price stability and effectively contribute to safeguarding financial stability and preserving confidence.

Thank you very much.

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## Chart 1: Oil and other commodity prices

**Brent crude oil price (USD per barrel)**



Source: Bloomberg  
Note: Last observation refers to 21 January 2008

**Precious metal prices (Indices, Jan 1999 = 100)**

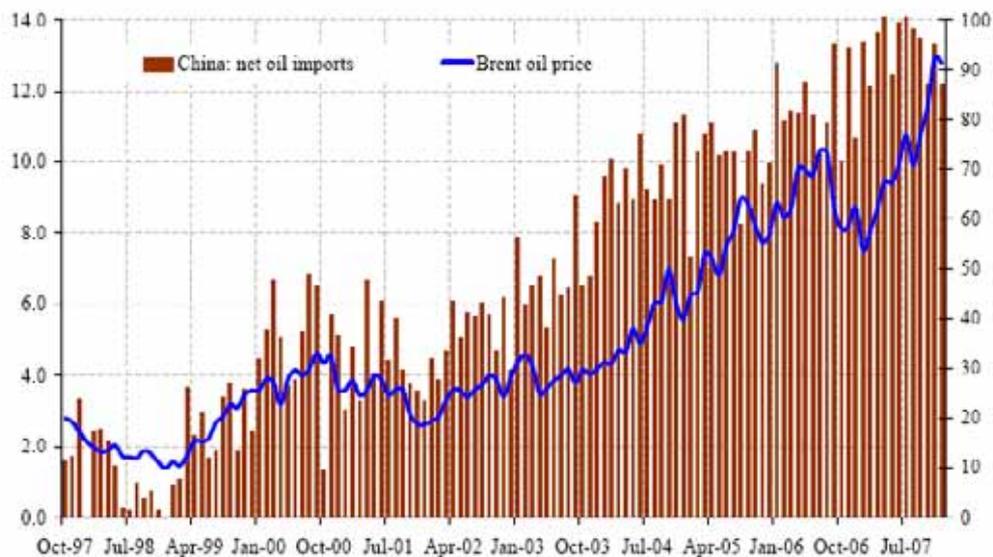


Source: Bloomberg

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## Chart 2: China's net oil imports and Brent oil price

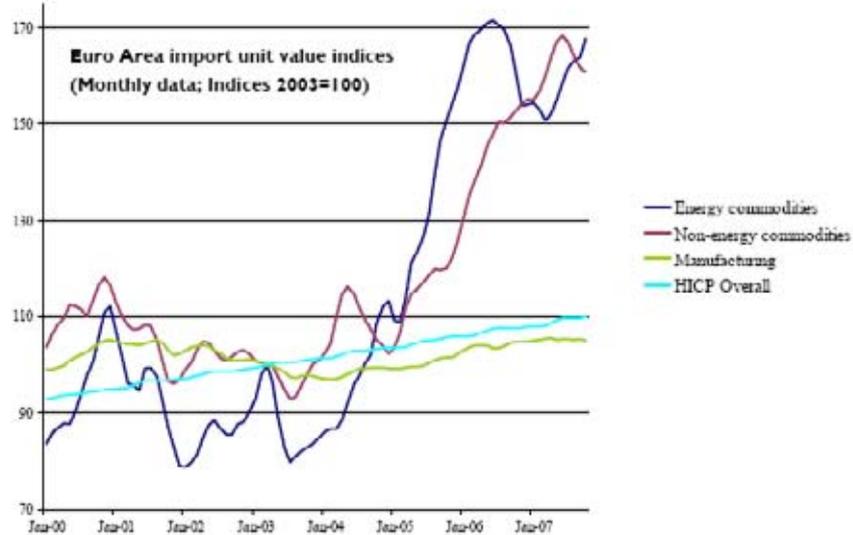


Note: China's net oil imports left-hand scale, monthly data, millions of tons. Brent oil price: right-hand scale, US dollars per barrel monthly averages. Latest observation December 2007.  
Source: CEIC

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### Chart 3: Consumer prices and import prices in the euro area: dynamics and trends



Source: Eurostat, OECD  
Note: Latest observation refers to October 2007

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### Chart 4: Euro area HICP inflation and components

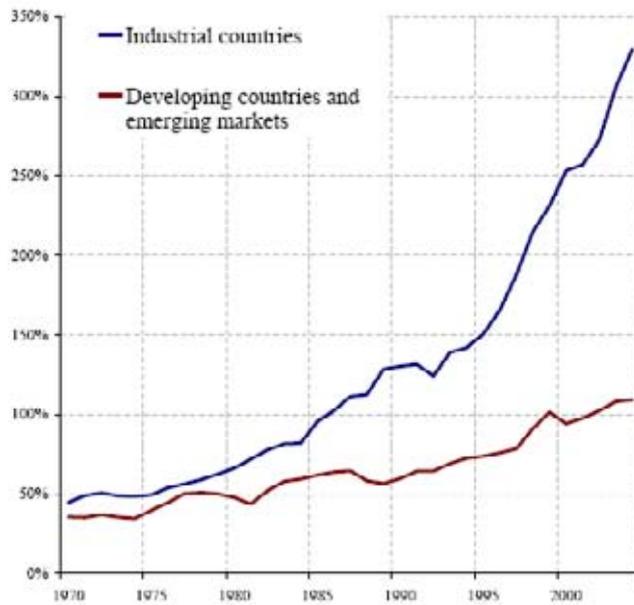


Source: Eurostat  
Note: Latest observation refers to October 2007

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**Chart 5: Sum of foreign assets and liabilities as a percentage of GDP**

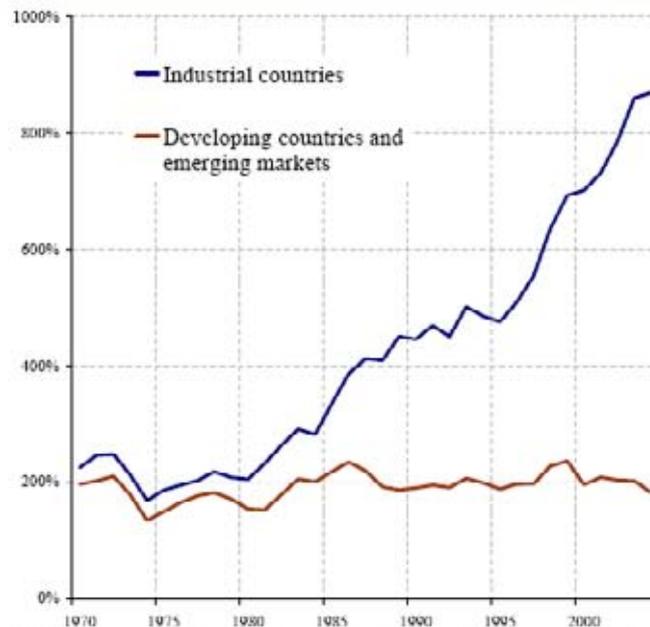


Source: Lane P. and Miles-Ferretti G., 2006, The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970-2004, CEPR Discussion Paper, No. 5644

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**Chart 6: Sum of external assets and liabilities as a percentage of sum of exports and imports**

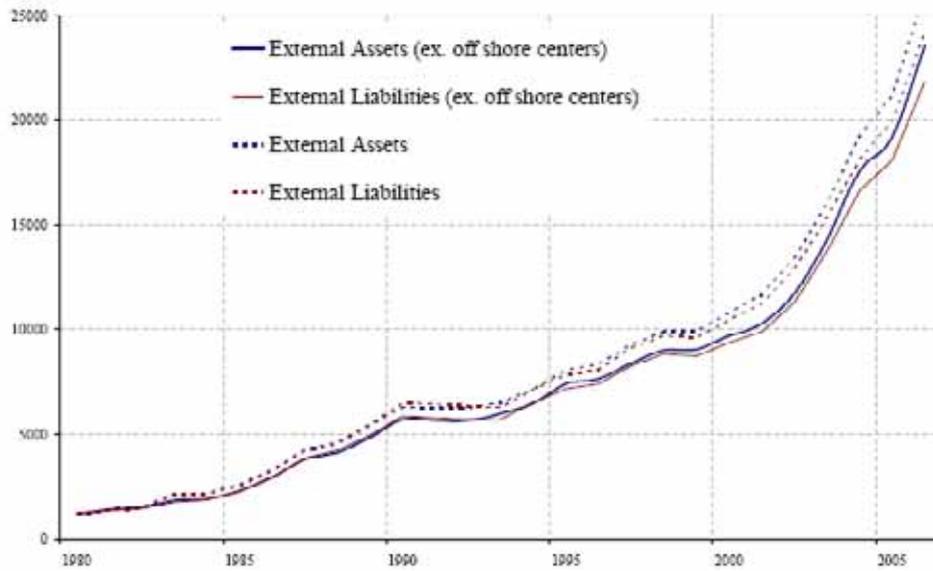


Source: Lane P. and Miles-Ferretti G., 2006, The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970-2004, CEPR Discussion Paper, No. 5644

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### Chart 7: International Bank claims (USD billion)

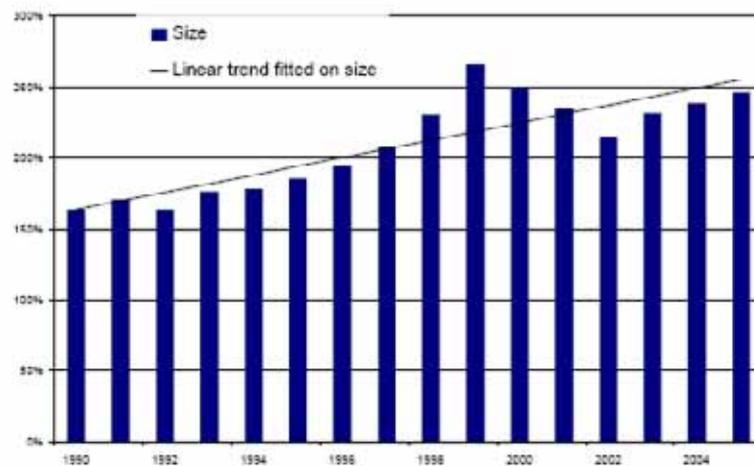


Source: Bank for International Settlements (BIS)

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### Chart 8: Size of Capital Markets as a percentage of GDP



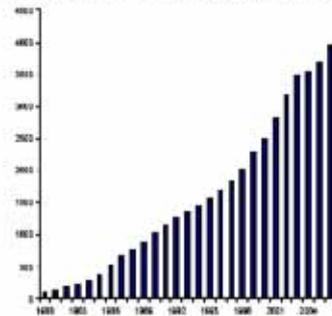
Source: Ferguson et al., 2007, p.2  
Data Sources: BIS, IMF, World Federation of Exchanges, ECB, Datastream

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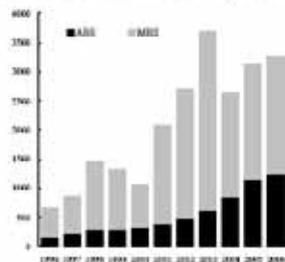
## Chart 9: Securitisation in the US and Europe

Outstanding Volume of US Agency MBS (USD billion)



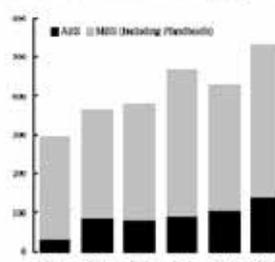
Source: Securities Industry and Financial Markets Association (SIFMA)

Securitisation issuance in the US (USD billion)



Source: Securities Industry and Financial Markets Association (SIFMA)

Securitisation issuance in Europe (Euro billion)



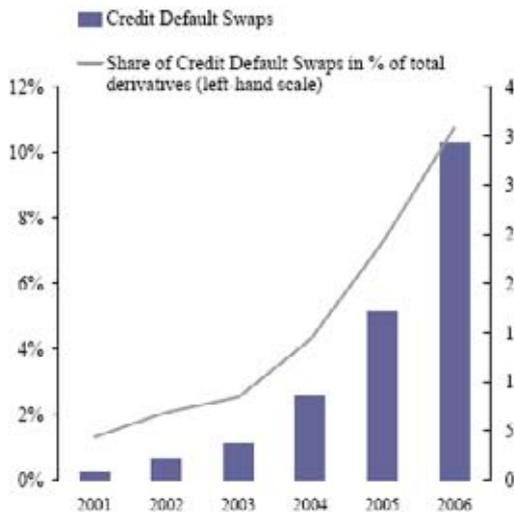
Source: European Securitization Forum

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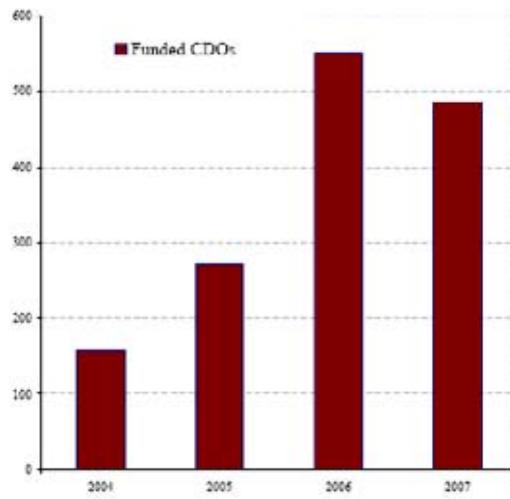
## Chart 10: Global Credit Default Swaps and Collateralised Debt Obligations

Nominal Value of global CDS (USD trillion)



Source: Ferguson et al., 2007, p. 111  
Data Source: ISDA

Global Issuance of CDOs (USD billion)

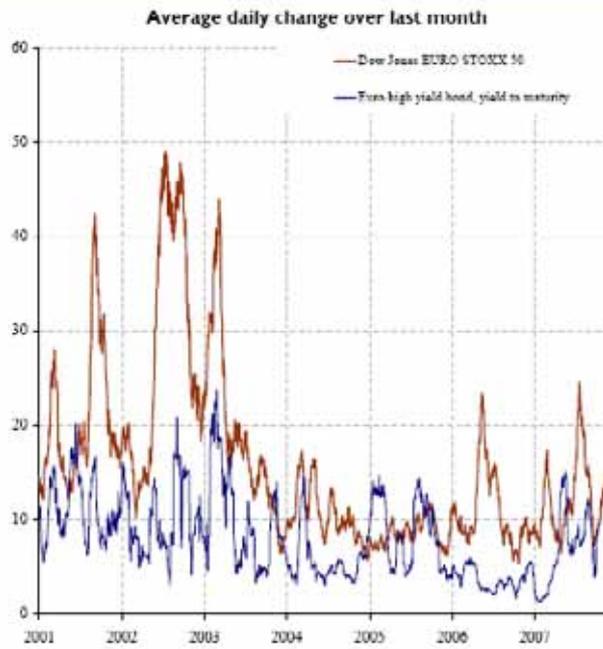


Data Source: Securities Industry and Financial Markets Association (SIFMA)

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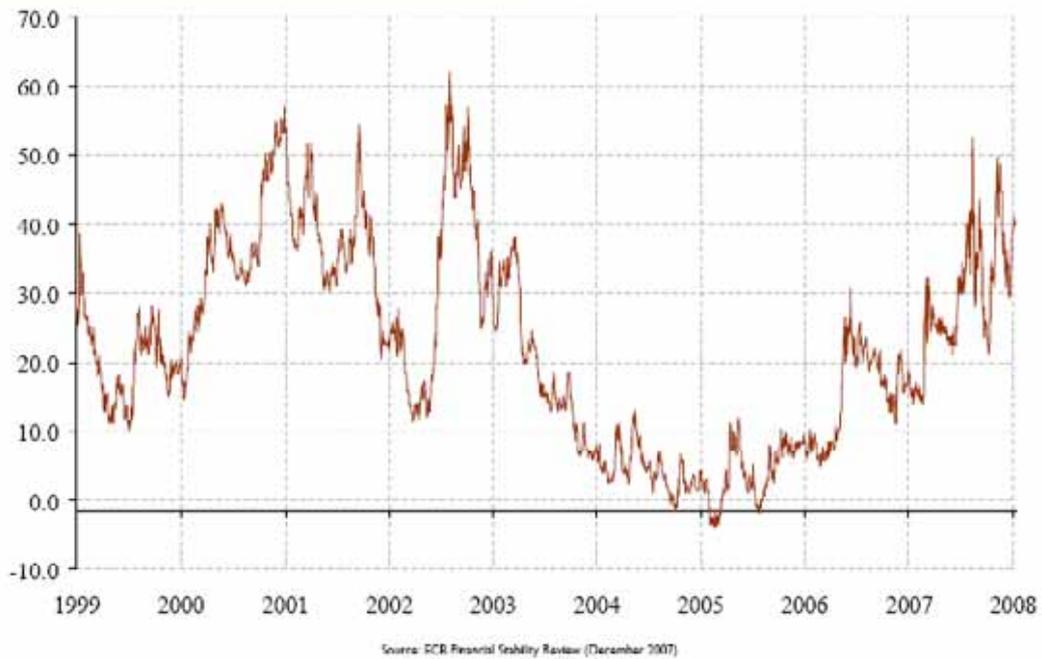
## Chart 11: Market volatility indicators



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## Chart 12: Risk aversion indicator

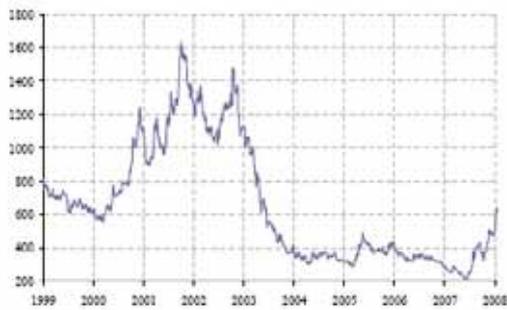


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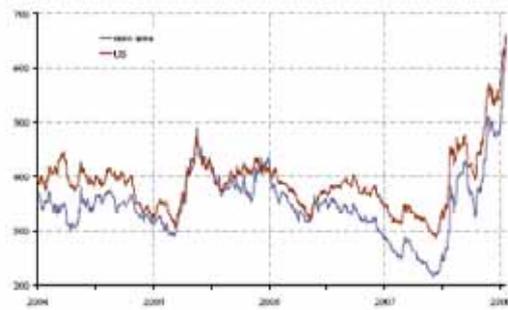
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## Chart 13: Corporate bond yield spreads

Spreads of euro area high-yield corporate bonds  
JP Morgan euro high yield – 5 year government bonds



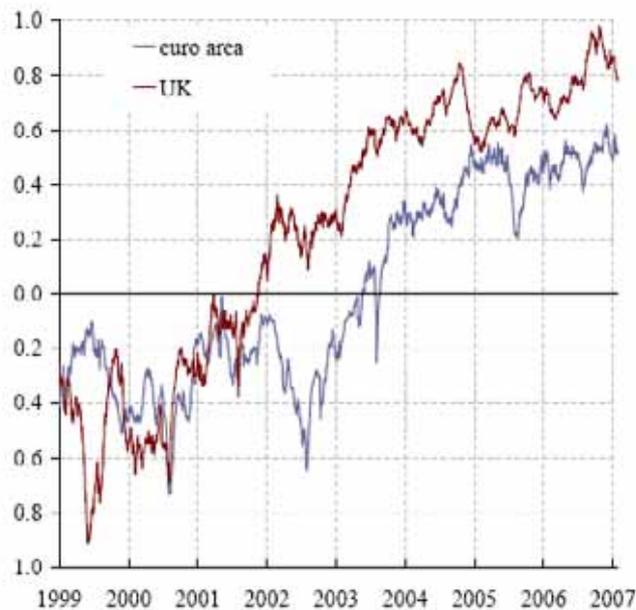
Spread comparison US and euro area



Source: ECB Financial Stability Review (December 2007) | 4

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## Chart 14: Financial market liquidity indicators up to June 07

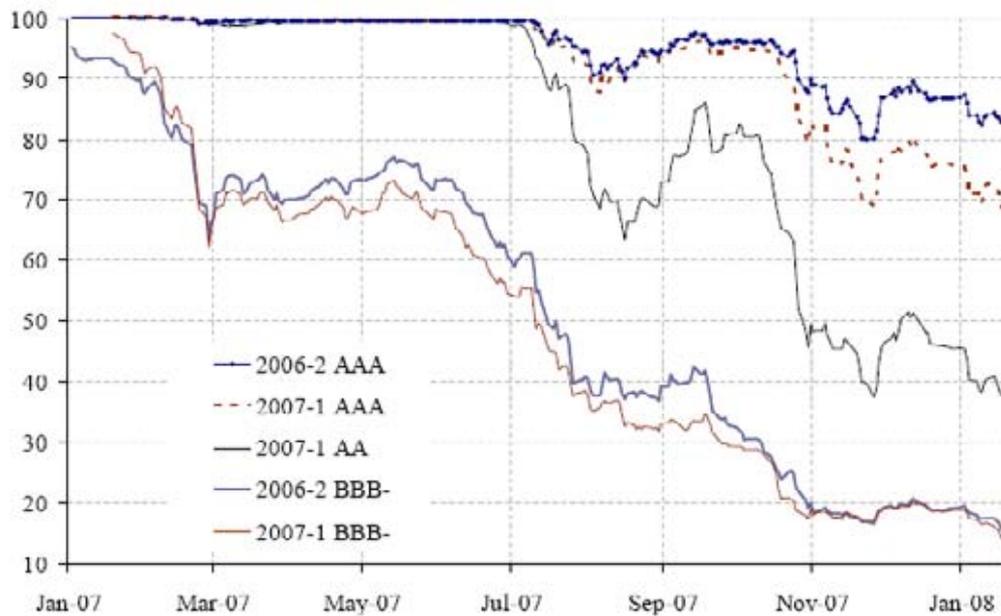


Source: ECB Financial Stability Review (June 2007) and Bank of England Financial Stability Report (2007)

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**Chart 15: Value indices of asset-backed securities or mortgage-backed securities (different vintages and ratings)**



Source: ECB Financial Stability Review (December 2007)

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**Chart 16: Collapse of market liquidity: euro area liquidity indicator as of July 2007**

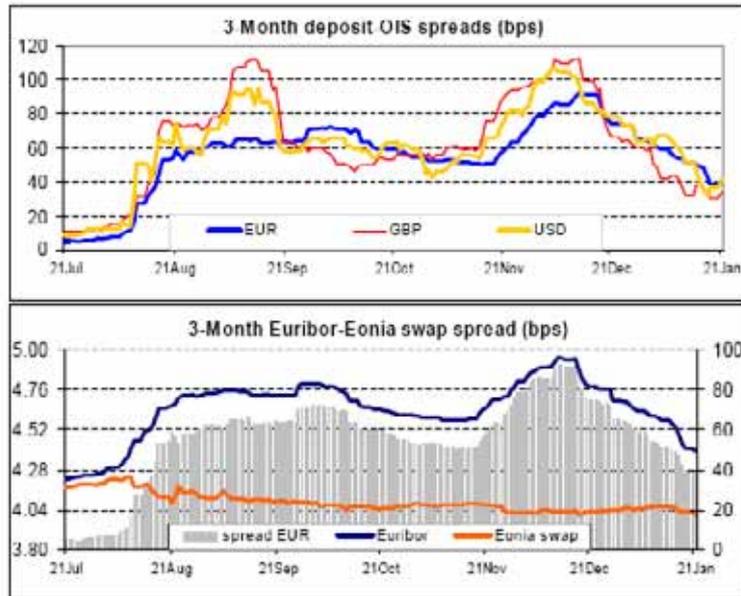


Source: ECB 17

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## Chart 17: Money market spreads

3-Month Spreads EUR, GBP and USD up to and including 21 January 2008



Source: ECB 18

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