



**DIRECTORATE GENERAL FOR INTERNAL POLICIES**  
**POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICIES**

**ECONOMIC AND MONETARY AFFAIRS**

**BUBBLY ECONOMICS**

**NOTE**

**Abstract**

The policy-induced rebound of the Euro Area economy still has to be transformed into self-sustaining growth. Monetary policy can contribute to this development by not exiting accommodative policies too early. At the moment, there is no evidence for inflation pressures caused by excessive liquidity creation, nor for the emergence of a new asset bubble in the Euro Area, although the environment needs to be monitored very carefully. The real bubble danger is in Asia and Europe should engage in global economic policy concertation.

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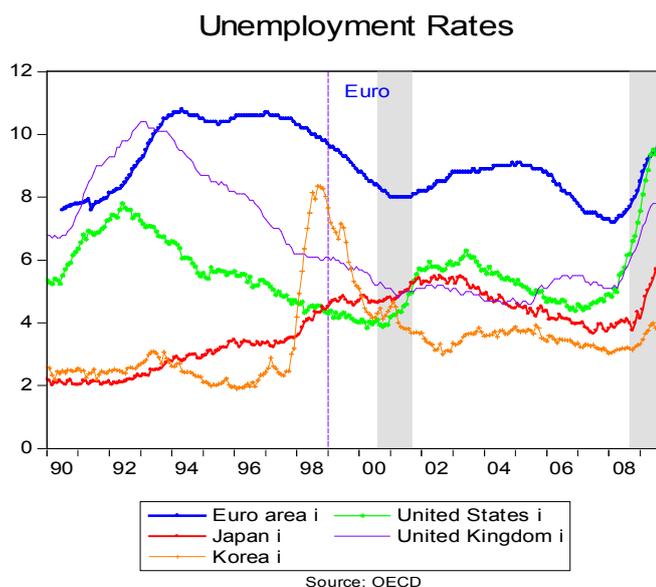
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## THE ECONOMIC ENVIRONMENT

It's over. The word economy has turned the corner. The deepest global recession since World War II is finished. Now is the time to exit stimulative monetary policies, "mop up" the liquidity created as remedies against the crisis and return to the path of virtue. Or is it?

True, GDP growth in major industrialized countries is back, although it remains weak. The IMF (2009) expects the Euro Area to grow by only 0.3 % in 2010, after -4.2% in 2009, less than in the US (3.1 after -1.1%), Japan (1.7 after -5.4%), and the UK (0.9, after -5.4%). Economic activity remains fragile and the crisis has damaged Europe's growth potential (European Commission, 2009). Furthermore, the turnaround still needs to show up in the labour market. Unemployment rates have been rising to levels not seen in a decade. Figure 1 shows that unemployment increased more rapidly in so-called flexible labour market economies (USA, UK) than in coordinated market economies (Euro Area, Japan), although, if the IMF estimates for future growth turn out to be correct, unemployment will also fall more rapidly in the Anglo-Saxon countries. I have added Korea as an indicator for East Asia, showing how a financial crisis (1997/8) can lead to a dramatic increase of unemployment, and also that it can be overcome.<sup>1</sup>

**Figure 1.**

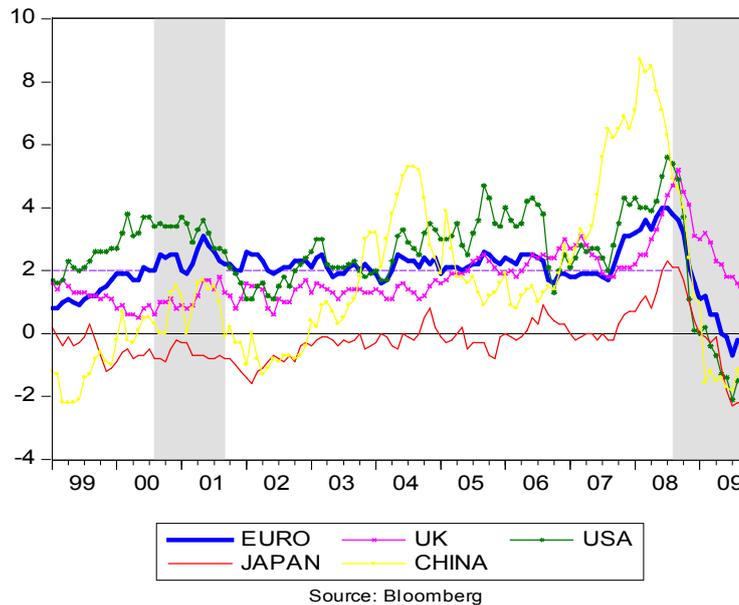


Inflation is a non-issue: headline consumer price inflation is now *negative* in the five major economies, except in the UK where it is close to zero (see Figure 2). This development is largely due to the base effects resulting from movements in global commodity prices a year ago (ECB Monthly Bulletin, October 2009). Consumer prices net of energy and food are close to 1.5%, well below 2 percent inflation limit. The ECB expects the HICP to turn positive again in the coming months and to remain at moderately positive rates over the policy-relevant horizon (ECB Monthly Bulletin, November 2009).

<sup>1</sup> Note, however, that Korean unemployment increased four times within one year, and took four years to return to earlier levels.

**Figure 2.**

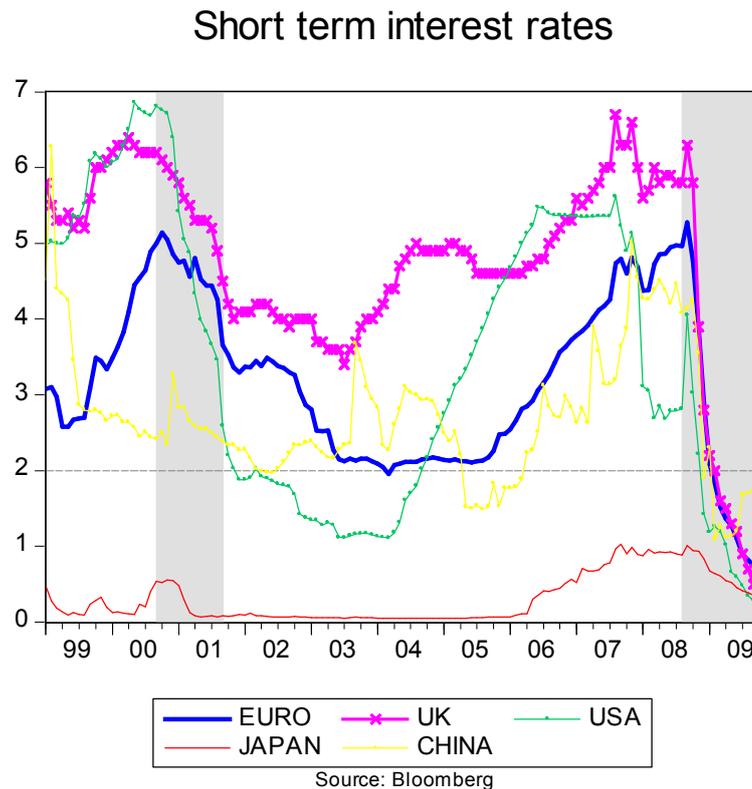
### Consumer Inflation



No doubt, the massive stimulus packages by monetary and fiscal authorities have contributed to the recovery. Interest rates were slashed when the crisis broke (see Figure 3). This monetary policy response shares some features with the response to the market crash in 2000 (the so-called dot.com-crisis),<sup>2</sup> when the Federal Reserve System lowered rates to prevent a recession<sup>3</sup> and then kept real short term interest rates in a negative range for three years. Arguably, this easy money policy generated the next asset bubble, which then imploded in 2007. Have the lessons been learned from this experience? Issing (2009; 48) rightly asks the question, whether the asymmetric character of letting markets bubble up without restraint, but rescuing them when they come down, “may lay the ground for the next bubble and crisis”. With an inflation target of 2%, nominal interest rates below this benchmark are not sustainable, because they would imply the expectation of negative real interest rates. In the short run crisis management, interest rates near zero may be justifiable, because they respond to the liquidity preferences of banks operating in an uncertain environment. But sooner or later, the ECB must start raising interest rates. The question is when?

<sup>2</sup> Blinder and Reis (2005: 70) have called the 2000-2002 crash “the biggest bubble in history, vaporizing some \$ 8 trillion in wealth in the process. By contrast, the 2008 crisis has destroyed some \$ 50 trillion. See Loser, 2008.

<sup>3</sup> Interest rates were again lowered in 2001 after the September 11 attacks on the World Trade Centre.

**Figure 3.**

The overall policy objective must be to transform the policy-induced rebound into self-sustaining market dynamics. But Europe's policy environment is characterized by a double dilemma: If monetary policy is accommodative for too long, it could generate inflation; if it is tightened too early, the Euro Area may fall into a second recession with serious consequences for unemployment and social peace. Government spending could generate effective demand, but excessive government debt may destabilize financial markets and undermine the welfare state.

The ECB has come under attack from two angles: some critics expect excessive liquidity creation will generate future inflation; others observe the emergence of a new asset bubble and fear it may cause a new recession in the not so distant future. Both camps recommend a fairly rapid exit from accommodative monetary policies. Against this view, the ECB has repeatedly argued that current low interest rates are appropriate in the present environment of uncertainty, while the Euro Area economy is gradually recovering and the medium to long term inflation expectations remain firmly anchored in line with the ECB's target (Monthly Bulletin, October 2009). I will now look at the theoretical foundations of the ECB-criticism, then at the empirical evidence and conclude on some implications for policy.

## A QUICK MONETARIST REFRESHER COURSE

A fundamental axiom of modern economics is that in the long run all inflation is determined by monetary causes. The statement is derived from monetarist theory that uses the so-called quantity equation

$$(1) \quad Py = MV$$

where  $P$  is the price level,  $y$  output,  $M$  money supply and  $V$  the velocity of money transactions. From this equation, Milton Friedman derived the price level equation

$$(2) \quad P = M/y * V$$

by arguing that in the long run supply of output  $y$  is only determined by "real" factors like labour supply and productivity, while the velocity of circulation  $V$  is a technical relation related to technology. Basically, equation (2) says that the price level is proportional to money supply or that the rate of inflation is proportional to the rate of money creation.

In practical terms, there are some complicating factors: short term supply and demand shocks can cause deviations from long term trends. Also, it is not clear, which monetary aggregate measures money supply best.<sup>4</sup> Base money ( $M_0$ ) is supplied by the central bank, but the ECB, following a long tradition from the Bundesbank, argues that  $M_3$  (which includes several kinds of bank deposits) represents the means of payment more appropriately. There is, however, also a theoretical objection to this monetarist explanation.

Keynes (1936: 199) pointed out that money is not only used to pay for goods and services, but also to purchase financial assets. He called this the *speculative motive* of holding money. As a consequence, he split the quantity of money into two compartments or so-called liquidity functions. The *transaction motive* depends on the level of income, the speculative motive on the current rate of interest and the state of expectation

$$(3) \quad M = M_1 + M_2 = L_1(y) + L_2(r)$$

Given these assumptions, the traditional quantity theory breaks down: money supply will change the rate of interest and this will affect not only the propensity to invest, and therefore output and employment, but also the motivation of speculatively holding money for the purpose of acquiring financial assets. How are prices anchored in this case? The Keynesian explanation is that goods' prices consist of unit labour costs plus profit margins, so that in the long run wage developments will determine inflation. Provided nominal wages increase at the rate of productivity, so that unit labour costs remain stable, a reduction in interest rates will appreciate asset prices, but not the prices for goods and services. Excessively loose monetary policy might then create an asset bubble, but not inflation.

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<sup>4</sup> Goodhart's Law famously states that "any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes." In a recent paper, Goodhart (2006) found some evidence that this law may also operate in the Euro Area.

## EMPIRICAL EVIDENCE

This is not the place to assess the merits of monetarist and Keynesian theories. However, the financial crisis has thrown a new light on the issues, because overvalued asset prices played such a crucial role in the crisis. Most economists now argue that the crisis followed the classical pattern of credit boom and bust: by keeping interest rates too low for too long the Fed generated and accommodated a huge asset bubble.<sup>5</sup> After the bubble burst, huge losses in the balance sheets of financial institutions caused massive deleveraging, a stop of lending, faltering demand, lower output and employment, and ultimately negative consumer price inflation. This sequence of events is much closer to the Keynesian explanation than the monetarist model.

The policy response to the crisis was therefore correctly Keynesian: (1) Central banks cut interest rates and provided huge amounts of liquidity to secure banks. Without this intervention, a negative feedback cycle of falling asset prices leading to emergency sales, which further reduced prices, could have wiped out the banking system. (2) Governments compensated for collapsing private demand through public spending, thereby limiting the fall of output and employment. (3) There was no danger of inflation as wage costs were contained. The question is now: is it time to withdraw these stimulating measures?

### Monetary policy and asset prices

The problem with asset prices is that a mild increase may stimulate economic growth and job creation, while a self-perpetuating price bubble can have devastating effects. There are two approaches how central banks should respond to the emergence of asset bubbles.<sup>6</sup> The *conventional or indirect strategy*, which was pursued by the Fed prior to the crisis, called for central banks to focus exclusively on the stability of prices and economic activity over the foreseeable future. Central bank should respond to stock prices, home values and other asset prices *only insofar as they have implications for future output and inflation*. Central banks should not attempt to influence the speculative component of asset prices. This strategy is supported by the so-called Efficient Market Hypothesis, which claims that profit-oriented rational agents would sell their inflated asset short, thereby arbitraging bubbles away. In reality, such behaviour has not been observed to a significant degree (ECB, 2005), although it is true that detecting an asset bubble (often defined as the price gap between the observed level of asset prices and the level that would prevail in a frictionless economy) is extremely difficult (Campbell, 2008).

The second approach to asset bubbles is the *activist or direct strategy*, which is closer to the ECB thinking (ECB, 2005; Issing, 2009; Stark, 2009). It responds to a perceived speculative bubble by tightening monetary policy with the explicit intention of puncturing the bubble (“leaning against the wind”). It thereby accepts lower output and inflation in the short term, because it expects mitigating the potential fallout from a possible future bust (Kohn, 2008). This strategy is potentially risky, as it is difficult to identify asset price bubbles in real time. The ECB has emphasized that it does not *target* asset prices, although it *pays close attention* to asset price movements with a view to preserving the stability of consumer prices over longer horizons.<sup>7</sup> With hindsight, it seems that the ECB strategy was

<sup>5</sup> It started after the US economy was hit in 2000 by the bursting dot.com bubble and by the September 11 attack in 2001. Lower interest rates caused initial capital gains, which attracted growing numbers of investors, and this pushed asset prices further up. The Fed started to raise interest rates in mid 2004, but because, in a speculative bubble, large increases in interest rates are required to stop the frenzy, asset prices only started to slow down when policy rates had reached relatively high levels in 2007. However, once the bubble burst, asset prices went into reverse and this caused the financial crisis. Compare figure 3 and 5.

<sup>6</sup> See the contributions by Kohn, Meyer and Dudley in Campbell, 2008

<sup>7</sup> Goodhart and Hoffman (2000) have presented evidence that that asset prices contain useful information about future demand conditions and that ignoring asset prices may give rise to considerable biases in empirical models used for the analysis of monetary policy.

more responsible over the last decade: it may have sacrificed some short term growth, but it also did not generate significant asset price inflation, although there were some regional booms especially in Spain, Ireland and Greece.<sup>8</sup> I will now look at the accommodative policies pursued over the last year and assess whether they increase risks for inflation or a new bubble.

### **Are we already generating the next bubble – and crash?**

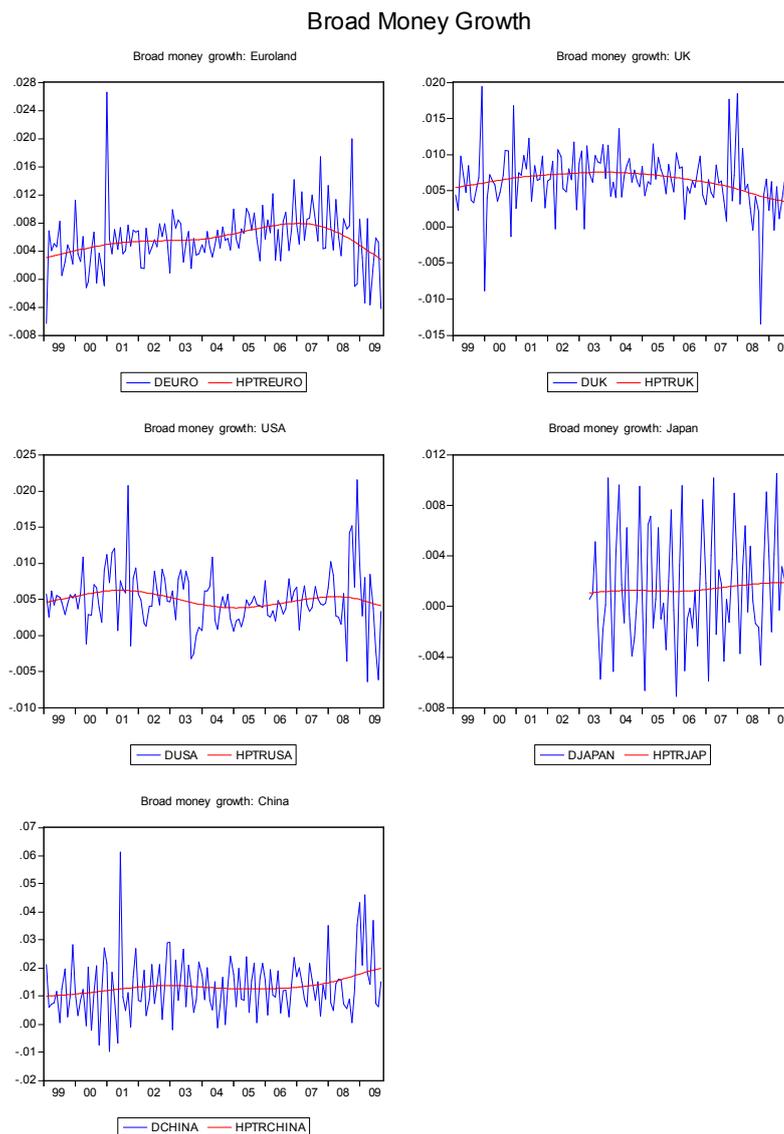
The ECB's primary objective is to "maintain price stability and, without prejudice to this objective, to support the general economic policies in the Union" (Art. 119.2 Lisbon Treaty). The economic objectives of the Union are set in Article 3 of the Treaty: as "the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment". It follows that the ECB would have to raise interest rates if the large provision of liquidity during the crisis has created risks to price stability or if it has ignited a new bubble. So where do we stand?

From a monetarist point of view, excessive liquidity will create inflation. However this argument applies to broad money aggregates (M3 or M2), and not to narrow money. If narrow money increases relative to broad aggregates, this may simply be a reflection of high liquidity preference in a general environment of uncertainty. Figure 4 shows that broad money growth has fallen strongly in the Euro Area, in the UK, and also in the USA. It has remained fairly stable in Japan and increased strongly in China.<sup>9</sup>

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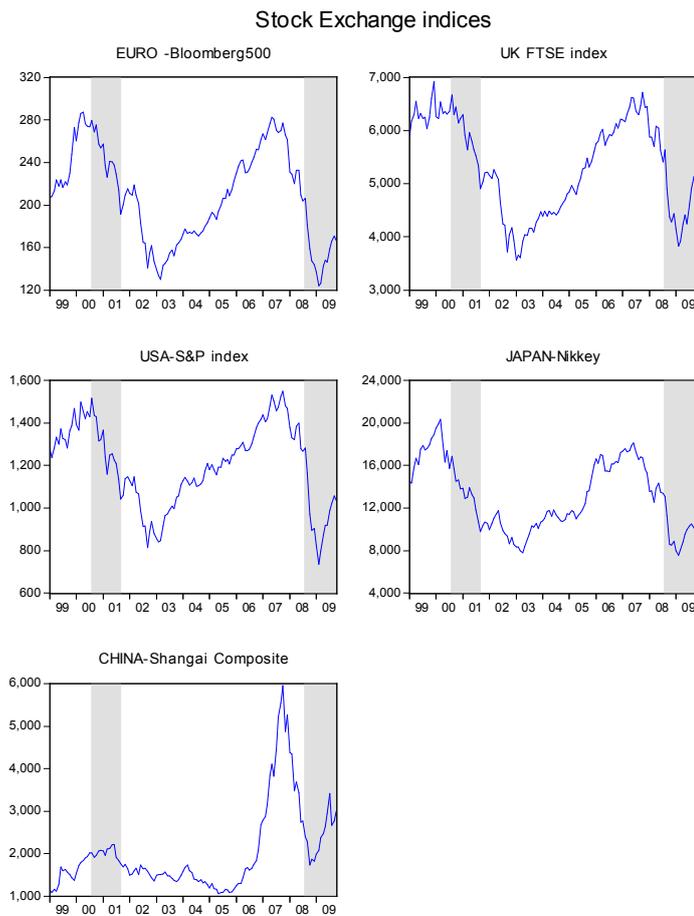
<sup>8</sup> The financial crisis was generated in the USA, and it spilled over into Europe, because European banks had acquired a substantial share in the American bubble, given the high integration of financial markets.

<sup>9</sup> Figure 5 shows the growth rates month on month and the HP-filtered trend. Data from Bloomberg.

**Figure 4.**

Hence, there is little support from a purely monetarist point of view to tighten ECB policy at this moment. The situation may, however, be different in China.

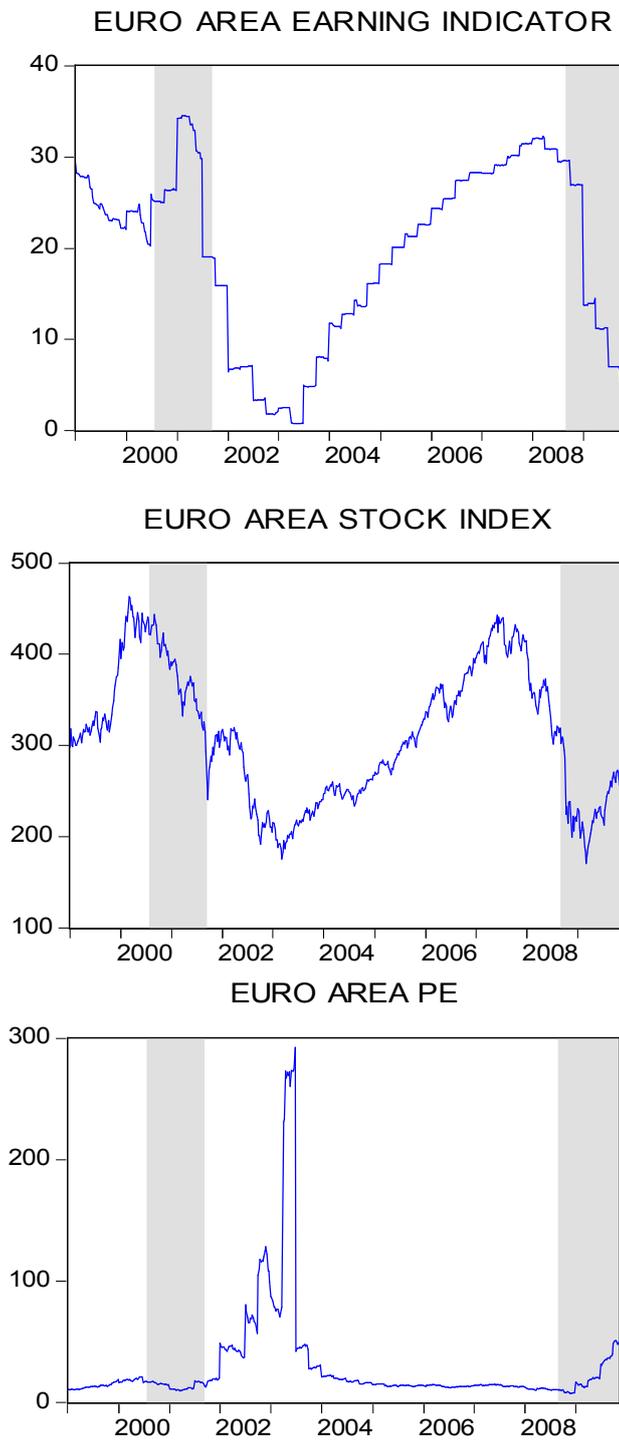
Are there any signs for a re-emerging asset bubble? The stock exchanges have recuperated some of their previous losses (see Figure 5). Between the end of February and October 2009, they gained 41% in the US, 34% in Euroland, 32% in Japan and 43.8% in Shanghai. Some observers interpret this as the making of a new bubble. But property markets remain subdued in Europe and the US, although not in East Asia.

**Figure 5.**

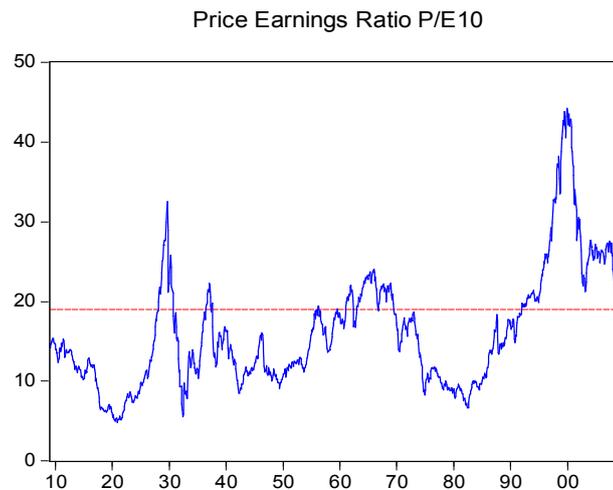
Identifying a market bubble is no trivial task. One has to assess, first, the correct fundamental asset price value, and then evaluate the excess in market valuations. In today's environment of uncertainty, it is difficult to determine fundamental values of many financial assets. However, broad indices for price-earnings can give some idea how markets assess the value of financial assets. Figure 6 shows that the earning capacity of quoted companies has crashed since the financial crisis, although stock prices and therefore price-earning ratios have gone up. This may be an indicator that the rebound of the stock markets is liquidity driven. But in the USA, price earning ratios are standing at the average level of the last 100 years even after the recent 41% appreciation (see Figure 7).

**Figure 6.**

### Euro Area stock prices and earning



source: Bloomberg

**Figure 7.**

Source: Robert Shiller, *Stock Market Data Used in "Irrational Exuberance"* Princeton University Press, 2000, 2005, updated

## POLICY RECOMMENDATIONS

To summarize, there is no clear cut evidence for immediate monetary tightening in Europe. The ECB may just be doing the right thing: muddling through by looking at a very broad range of indicators, which include asset prices besides inflation, output, and employment. But an important factor of successful monetary policy is that it is understood. In a climate of general uncertainty, the clarity of the banks communication is paramount.

By contrast in China and some other East Asian countries, a new financial bubble may be in the making. A large contribution to renewed growth in the world economy comes from emerging Asia, in particular from China. China's contribution to global GDP growth is of a similar size as the United States and all other advanced economies together (IMF, 2009). Chinese growth rates have returned to pre-crisis levels. This rapid growth is a consequence of the huge monetary stimulus by which Chinese authorities have responded to the world financial crisis. The massive liquidity creation has sustained investment and output without causing excessive inflation,<sup>10</sup> but it has also re-ignited asset price inflation. The World Bank (2009) has now warned that credit conditions are fuelling new asset bubbles in East Asia.

Chinese authorities may respond by raising interest rates and this could induce destabilizing exchange rate movements in the world. Even worse, if it came to a crash, European exports and employment would be affected negatively and spillover effects on the financial system cannot be excluded. By that time, the ECB and fiscal authorities would need to have regained some margins of manoeuvre, which they do not have at this moment. However, a coordinated strategy in the G20, or bilaterally in ASEM, to manage exchange rates and global macroeconomic policies would be the best way to prevent a future crisis.

<sup>10</sup> China's development is founded on "unlimited supply of labour" (Lewis, 1954) and the resulting wage stability. With the opening of world markets, Chinese wages put restraint on wages world-wide. See Bean, 2006 and Collignon, 2009.

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