

**Report for the Committee on Economic and Monetary Affairs meeting,
preparatory of the Monetary Dialogue with the ECB President (December 2007)**

Developments in the real estate sector in relation with monetary policy

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We have been asked to ascertain whether monetary policy should not only consider the path of the Harmonised Consumer Price Index (HCPI) but also the evolution of asset prices. The answer to such a question has an important bearing on the way the European Central Bank (ECB) fulfils its role as a guardian of the value of the euro.

Real estate prices have increased sharply in the last years in the Euro area at a 6.5% average rate from 1999 to 2006. Such price increases may, in countries that were not considered safe before adoption of the Euro area, reflect a levelling up of real estate prices to the Euroland average. But it is our thesis that most of this increase is not the consequence of a once and for all equilibrating of real estate price *levels* but to sustained price *expansion* due to high rates of monetary growth. In the last decade, monetary aggregates have grown significantly in Europe and the world, leading to excess market liquidity. Market participants, when liquidity expands beyond their desired liquidity ratio, adjust their portfolios and remove excess money holdings by increasing their investments and their demand for final goods and services. Real estate is one of those investment options. Hence, mainly due to monetary *largesse* in Europe and in the rest of the world, real estate demand and prices have registered quite significant rises.

In our view, there is a clear link between monetary expansion and real estate prices: an excess of liquidity in financial markets (excess money supply) will be followed by excess demand for financial and property assets. At some point, the erosion of the profitability of such assets will put a stop to continued investment even if easy monetary conditions continue. By that time, the increase in liquidity will have given rise to inflationary expectations, as the wealth effects of asset inflation give rise to inflationary expectations in the markets for goods and services and start to become headline inflation. When monetary authorities are forced to operate an anti-inflationary policy, a recession will set in.

In this report we will try to determine (1) whether property price increases can in a large part be explained by a loose monetary policy in the Euro area; (2) whether asset price inflation has spilled over into inflationary expectations; and (3) if such is the case, how should the ECB take the potential effects of monetary expansion on asset markets into account in its long term monetary policy decisions.

Two ways of calculating excess M3 growth

1. *Price Stability Rule*. One way to gauge whether M3 is growing too fast, even if consumer prices are behaving well, is the one the ECB applied when it used M3 as its main indicator. It could be labelled “Price stability desired monetary growth”. It

consists in calculating a *reference value* for the desired growth of this broad monetary aggregate and then compare it with the actual path of M3.

This is what the ECB used when, from 1999 to 2003, it took the M3 moving average as a reliable leading indicator of inflationary pressures in the long run¹. In those years, the ECB even announced a *per annum* rate desired rate of M3 growth, to wit, 4.5 per cent. This concrete *reference value* of 4.5 per cent was arrived at by running the so-called *Quantity Theory Equation*,

$$M = Y + P - V \quad (1)$$

expressed in rates of growth². M3 growth is compared with what actually happened it becomes clear that M3 has expanded too quickly - at an average rate of 7% per year since 1999 (and at an even higher average 8% rate from 2003 onwards).

Due to the persistent gap of the actual growth of M3 and the *reference value* so calculated, the ECB decided to stop publishing this yearly value (see Schwartz and Castañeda (2006) and ECB (2003 a)). Rather, the ECB now takes into account both money growth (which it calls the *first pillar* of its monetary policy) and the rest of financial and real indicators (the *second pillar*) to make an overall analysis of expected inflationary pressures in the Euro area (see ECB (2003 b)). In our opinion, however, that persistent gap between desired and actual M3 growth was not a statistical aberration but an indication of truly excessive monetary expansion, whose long delayed effects we are now beginning to experience (See Charts 1 and 2, Annex).

2. *Nominal Income Rule*. Another way of measuring excessive M3 growth is to use the so-called “nominal income rule”³. This is used to calculate the monetary growth rate consistent with the path followed by nominal income. Rather than the inflation target of 2%, actual inflation figures are used in running the *Quantity Theory Equation*. Since nominal income (Y+P, P here being GDP deflator) has grown at an average rate of 4.1% per year since 1999 in the Euro area and the estimated decline in money velocity lies between 0.5 and 1% per year, the money growth rate consistent with the evolution of nominal income in the Euro area should have been in the range of 4.5% - 5% per year (see Charts 1 and 2).

However, money growth figures in the Euro area have been much higher than this, close to three percentage points more per year. Private loans have grown at an even greater speed.

In sum, M3 growth has been excessive by both benchmarks. This is a worrying development if one accepts that eventually M3 seeps into asset prices and then into the prices of goods and services.

Money conundrums

True, the connection between M3 growth and the HCPI price index turns out to be rather remote. As can be seen in Chart 3, both series diverge over a long period, as consumer inflation has been rather more benign than expected. Whether this may be a delay due to low import prices or simply to a lag in perception by consumers and suppliers is a moot question. Imports have stayed rather cheap, thanks to the entry of China in world markets and to the appreciation of the Euro. But we argue that, whatever the cause of this short and medium term lack of connection between M3 and the HCPI,

¹ This is what the ECB calls the *first pillar* of its monetary policy decisions.

the monetary pigeon will come home to roost: first in asset prices and later in current goods and services.

Moreover, calculated M3 projections and actual M3 figures show quite different cyclical and trend patterns. The dispersion in Chart 1 is striking; and the trends shown in Chart 2 follow clearly separate paths. What the explanation is for such medium term divergence we do not know, though we suspect that free capital movements and monetary substitution contribute to the instability of the monetary multiplier .

We are confident, despite all this, that M3 will first push asset prices up in the medium term and then spill over into consumption prices in the longer term. In fact, the excess liquidity in the financial markets has caused significant price increases in financial and real assets (see Charts 4 and 5) but is now causing an inflation in goods and services markets (see HCPI growth from September 2007 onwards, Chart 3). We are confirmed in our belief by the conclusions of the Milton Friedman ‘natural experiment’ that he analysed in the last scientific paper he wrote in his life.

Milton Friedman’s ‘natural experiment’

Friedman’s paper (2005) is a striking validation of the effect of monetary growth on asset prices. In a short study of three episodes of growth and decline of nominal income and stock prices, Friedman defended that his prediction that money creation would explain secular movements in nominal asset prices had survived a strong historical test. He studied the behaviour of M2, money GDP and Stock Market indices: in the US in the 1920ies and 30ies; in Japan in the 1980ies and 90ies; and in the US in the 1990ies and 2000s. The correlation between money creation and those nominal prices seems to be quite clear and free of econometric juggling. Friedman went so far as to speak of a “natural experiment” akin to what takes place in a laboratory. This underpins our confidence in money growth as a consistent indicator of asset markets developments.

It is our strongly held belief that excess cash balances in the economy are followed by a higher demand for financial and real estate assets. This is what we think has happened in recent years, as can be seen in Charts 4 and 5. However, portfolio adjustments brought about by excess liquidity do not end here: unwanted cash balances will also be channelled to final goods and services markets. A plethora of historical studies shows that the connection between money creation and consumer prices holds in the long run.

Price indices and monetary policy indicators

Financial assets and real estate are not included in the consumer price index of the Euro area because they are not final goods and services. We therefore believe that the HCPI is not the best measure of the value of money (the inverse of the price level) in the European economy. The HCPI captures the evolution of a standard basket of goods and

² M being broad money growth, V money velocity, P prices and Y real income. Logarithms were taken of this equation, which equivalent to expressing all these variables in rates of growth:

$$\log M = \log Y + \log P - \log V \quad (2)$$

The desired growth of M is calculated by plugging in the actual data of Y (real income) and the expected secular decline in V (velocity), after setting a target for P (the HCPI) at 2%. In effect, the prescribed money growth is the result of adding output growth to the ECB inflation target:

$$M_{\text{Stable Prices}} = \text{GDP} + \text{HCPI target} - V \quad (3)$$

³ This *nominal income* rule in fact sets the joint evolution of the rate of growth of prices and output, money growth as a benchmark for M3 is the result of:

$$M_{\text{Nominal Income}} = \text{GDP} + \text{Deflator} - V \quad (4)$$

services consumed by a “representative agent” in the Euro area. Though one of the components of this price index is “housing services” this only measures the changing cost of lettings, but not the price of new or second-used residential properties; and, of course, there is not even a remote proxy for the price of securities. It could be argued that the central bank should watch asset price changes intently, because such changes seem to be an early indicator of long run consumer price effects.

In order to capture asset price changes the policy maker could either (1) incorporate a specific financial and property price index in the monetary policy-making-process; or (2) follow the example of the Federal Reserve and use the GDP deflator instead of the HICP; or (3) rely on the rather remote connection between M3 and the general price level, even if there are different time lags between money creation, on the one hand, and asset prices and consumer prices, on the other.

There is a strong reason for disregarding the first option: the ECB would have to decide whether asset price hikes are unhealthy or due to changes in the real economy, something much more difficult to do than watching consumer price increases. This would imply that the central bank is able both to monitor the financial markets developments and, if required, use the interest rate to smooth or rein in asset price fluctuations. However, deciding whether financial markets are overheated or not is subject to a high degree of uncertainty and error (see Domingo Solans (2000)). A potential mistake in the identification process of the so-called financial markets *bubbles* may lead to a non-desirable intervention of the central bank in the financial markets with destabilising effects both in the financial markets and in the rest of the economy. Even if there is an unanimous opinion supporting the existence of a so-called financial *bubble*, the central bank neither has the information nor the knowledge needed to intervene in financial markets: financial markets indicators immediately respond to changes in monetary policy, so it is not easy to isolate the market information not affected by the own central bank monetary decisions. Finally, this suggested new stabilising role of the financial markets is clearly out of the scope of the central bank: as a monetary institution, the ECB must not be directly responsible for “fine tuning” financial markets.

Alternately, the ECB could try and test the reliability of an inclusive GDP deflator. This suggestion would need careful study, since the introduction of the Euro and the running of the single monetary policy are quite recent events, makes it that we do not have enough historical data to test the usefulness of this indicator in the Euro area reliably.

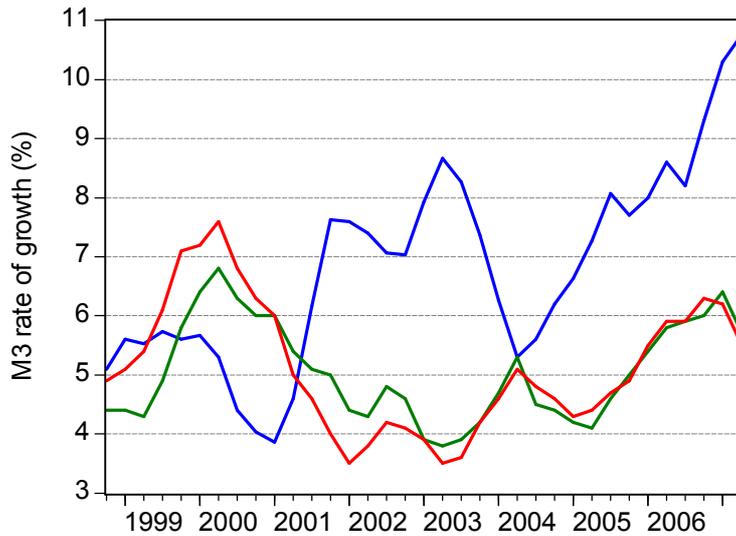
In parallel, the ECB could go back to assigning a more explicit role to M3 growth in assessing future price developments of all kinds. It is true that monetary substitution and free capital movements make the connection between domestic money supply and the general price level more uncertain, but there appears to be a mid- and long term connection between broad monetary aggregates such as M3 and nominal asset prices, first, and with consumer prices, later. The ECB should therefore reconsider enhancing the role of M3 as a leading indicator of the overall price developments in the middle and long term; and thus assigning again a more explicit role for M3 in the monetary strategy of the ECB.

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Chart 1

**Money growth in the Euro area:
Rates of growth implied by alternative monetary rules**

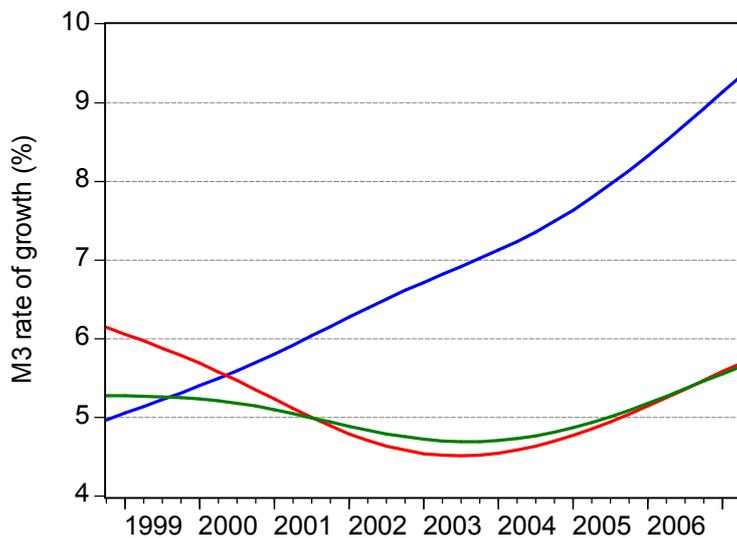


— M3 registered — M3 Nominal Income Rule — M3 Price Stability Rule

Source: Data from the ECB and the Bank of Spain.

Chart 2

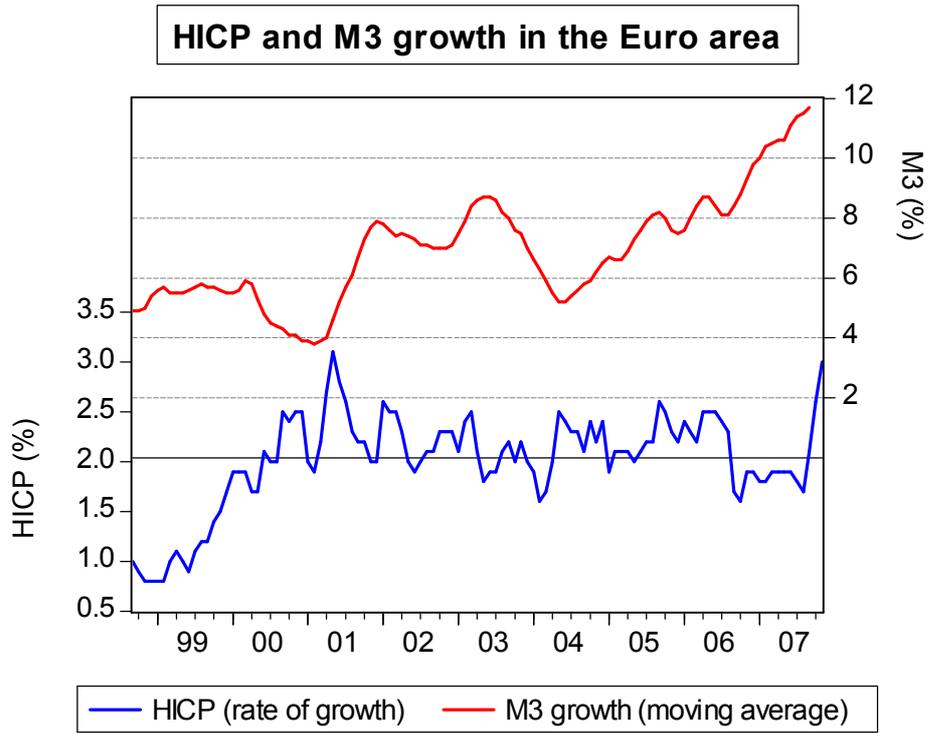
**Money growth in the Euro area:
Trends implied by alternative monetary rules**



— M3 registered — M3 Price Stability Rule — M3 Nominal Income Rule

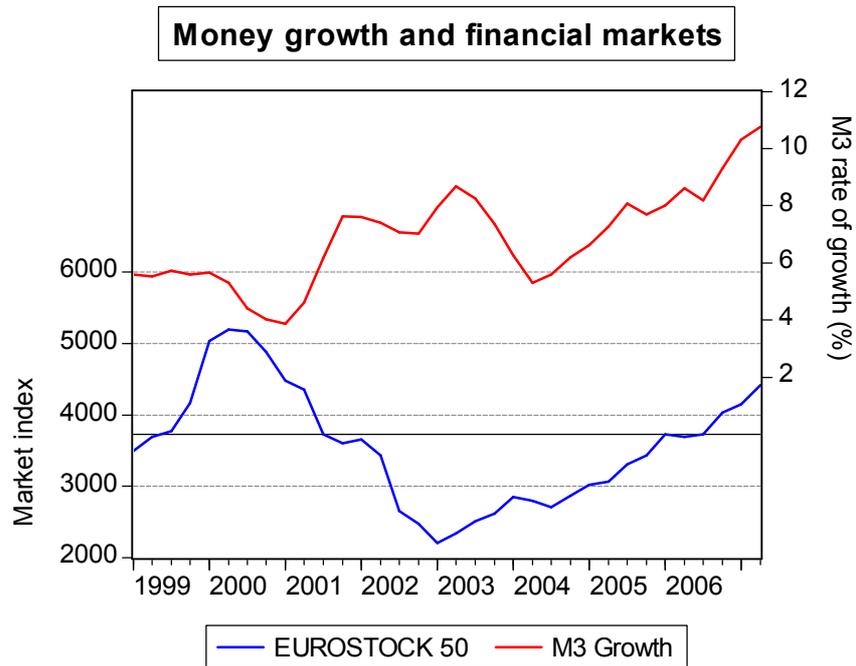
Source: Data from the ECB and the Bank of Spain.
All trends are the result of using the Hodrick-Prescott filter.

Chart 3



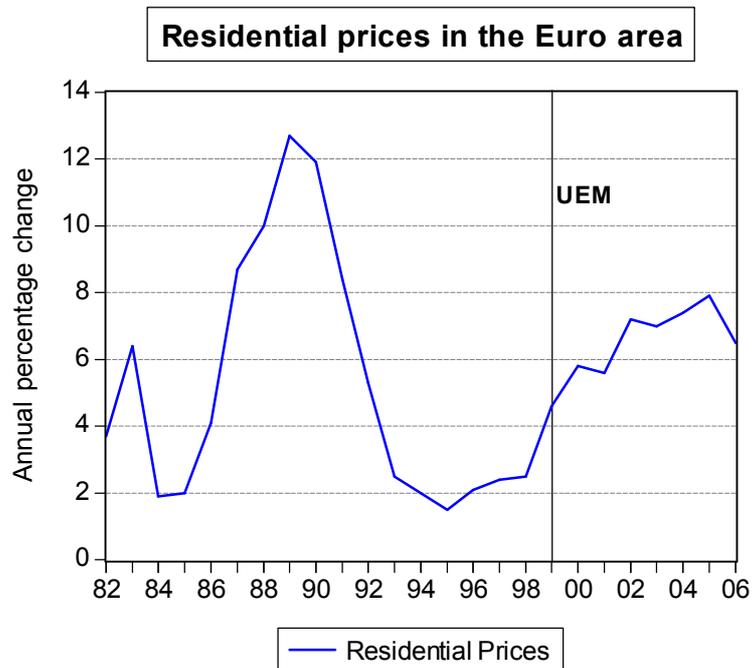
Source: Data from the ECB website

Chart 4



Source: Data from the ECB website

Chart 5



Source: Data from the ECB website