CENTRAL BANK MONITORING – SEPTEMBER 2008

Monetary and Statistics Department
Monetary Policy and Fiscal Analyses Division

CNB CZECH NATIONAL BANK

In this issue

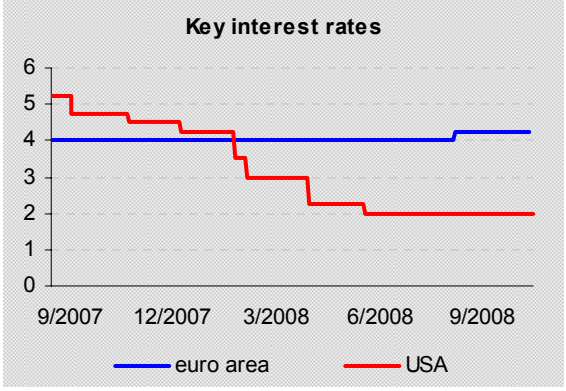
The past three months have seen the financial crisis subsiding only slowly, as well as corrections to the prices of oil and some agricultural commodities. In Spotlight *we take a look at the importance of house prices for monetary policy and their practical treatment in some central banks. Our selected speech is RBNZ Governor Alan Bollard's address on flexibility and the limits of inflation targeting.*

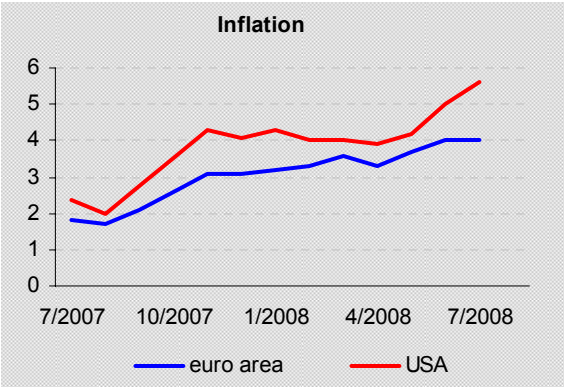
1. Latest monetary policy developments at selected central banks

ECB and Fed

	Euro area (ECB)	USA (Fed)
Inflation target	< 2%[1]	n.a.
MP meetings (rate changes)	3 Jul (+0.25) 7 Aug (0.00) 4 Sep (0.00)	24–25 Jun (0.00) 5 Aug (0.00)
Current basic rate	4.25%	2.00%
Latest inflation	3.8% (Aug 2008)[2]	5.6% (Jul 2008)
Expected MP meetings	2 Oct 6 Nov 4 Dec	16 Sep 28–29 Oct
Other expected events	4 Dec: publication of forecast	15 Oct, 3 Dec: publication of Beige Book
Expected rate movements[3]	→	→

- The ECB raised its rate by 0.25 p.p. to 4.25% in July over concerns about the potential second-round effects of higher inflation, resulting mainly from rising food and energy prices, and in an attempt to keep inflation expectations anchored.
- The Fed left its key rate unchanged at 2%.

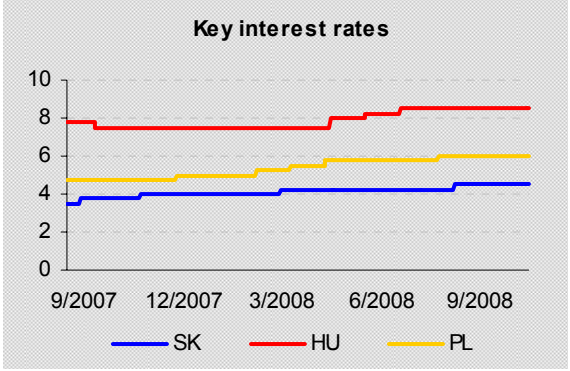


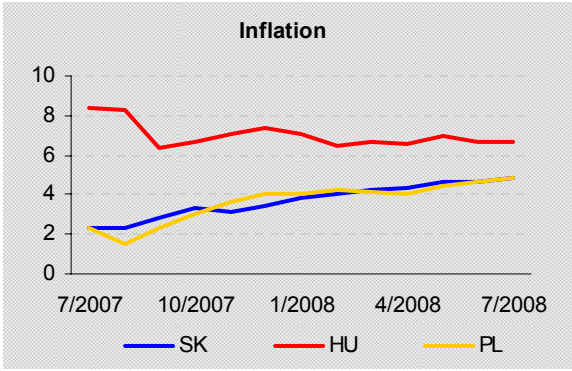


[1] ECB definition of price stability; [2] preliminary estimate; [3] direction of expected change in rates in coming quarter taken from Consensus Forecasts survey

Central European economies

	Slovakia (NBS)	Hungary (MNB)	Poland (NBP)
Inflation target	<2%	3.0%	2.5%
MP meetings (rate changes)	24 Jun (0.00)[4] 29 Jul (0.00) 26 Aug (0.00)	23 Jun (0.00) 21 Jul (0.00) 25 Aug (0.00)	24–25 Jun (+0.25) 29–30 Jul (0.00) 26–27 Aug (0.00)
Current basic rate	4.25%	8.50%	6.00%
Latest inflation	4.8% (Jul 2008)	6.7% (Jul 2008)	4.8% (Jul 2008)
Expected MP meetings	30 Sep 28 Oct 25 Nov	29 Sep 20 Oct 24 Nov	23–24 Sep 28–29 Oct 25–26 Nov
Other expected events	23 Sep: Report on Monetary Developments for 2008 H1	24 Nov: publication of IR[5]	30 Oct: publication of IR[5]
Expected rate movements[3]	→	→	→



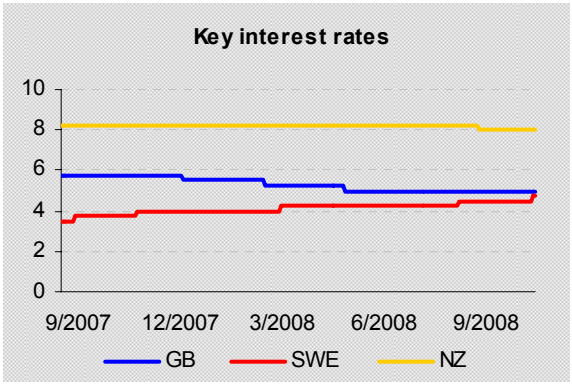


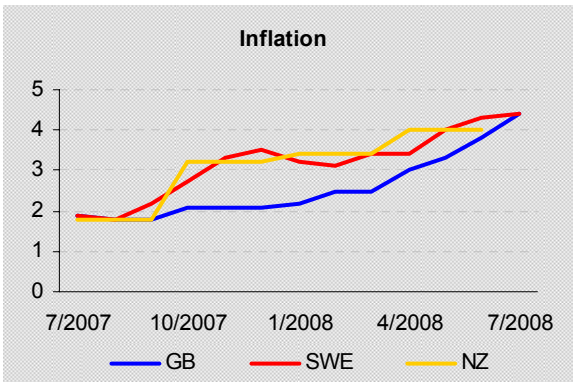
[4] The NBS decides on rates once a week; the dates given correspond to the expected dates of discussion of the Situation Report; [5] Inflation Report

The NBP raised its key rate by 0.25 p.p. to 6.00% in reaction to a rising inflation rate (driven by wage-cost pressures) and on fears of inflation expectations staying high. The MNB stopped tightening monetary policy for the time being, i.e. it did not add to its previous three rate increases and left its key rate at 8.50%. The NBS also left its rates unchanged at 4.25%; given the 0.25 p.p. rate increase in the euro area, the rates in these two monetary areas are now the same.

Other selected inflation-targeting countries

	United Kingdom (BoE)	Sweden (Riksbank)	New Zealand (RBNZ)
Inflation target	2%	2%	2%
MP meetings (rate changes)	9–10 Jul (0.00) 6–7 Aug (0.00) 3–4 Sep (0.00)	2 Jul (+0.25) 3 Sep (+0.25)	24 Jul (-0.25)
Current basic rate	5.00%	4.75%	8.00%
Latest inflation	4.4% (Jul 2008)	4.4% (Jul 2008)	4.0% (2008 Q2)
Expected MP meetings	8–9 Oct 5–6 Nov 3–4 Dec	22 Oct	11 Sep 4 Dec
Other expected events	12 Nov: publication of IR[5]	23 Oct: publication of Monetary Policy Report	11 Sep and 4 Dec: publication of Monetary Policy Statement
Expected rate movements[3]	→	→	→





The Riksbank tightened its key rate twice by 0.25 p.p. to 4.75% in response to persisting high inflation pressures (food and energy prices and wages) and higher inflation expectations and in an effort to steer inflation back on target in the medium term. By contrast, the RBNZ lowered its rate by 0.25 p.p. in an attempt to avoid a downswing in economic growth, against a backdrop of adverse global economic growth prospects. The BoE left its rate unchanged at 5.00%.

2. News

ECB issues review of international role of euro

The ECB on 9 July published its seventh annual review of the international use of the euro in financial markets and the banking sector in 2007. The review analyses trends in the use of the euro by non-residents, covering its role in the global economy and in individual countries outside the euro area. The report confirms the declining share of euro-denominated instruments in debt securities markets and in international bank deposits. The situation in foreign exchange markets is stable, while a rising tendency was found in the use of the euro in international bank loans and foreign exchange reserves. The review also presents information on the origins of the turmoil in global financial markets since mid-2007, adding that this may partly explain the decline in the international debt securities market.

Fed takes more actions to support financial markets…

The Fed continued taking actions to foster the functioning of financial markets and to enhance the liquidity and balance sheets of commercial banks. In addition, it introduced two new instruments. The first is an auction of options on $50 billion of draws on the Term Security Lending Facility (**TSLF**), and the second is an 84-day Term Auction Facility (**TAF**) as a complement to 28-day TAF loans.

…and introduces new face on Board of Governors…

In the last issue of *Monitoring* we reported Frederic S. Mishkin's departure from the Board of Governors of the Federal Reserve System. Now we can give you information on his successor, Elizabeth A. Duke, who has been formally sworn in as a member of the Board of Governors. Governor Duke assumed her position on 5 August 2008 and her term expires on 31 January 2012. A short biography of Governor Duke is available **here**.

…and jointly organises traditional Jackson Hole symposium

The annual Jackson Hole symposium is highly popular with economists. The theme of this year's event, which took place on 21–23 August, was "Maintaining Stability in a Changing Financial System". The focus was on financial crises, with a particular emphasis on recent events. The opening remarks were given by Ben Bernanke, who spoke about regulation as a tool for preventing financial crises. Other speakers dwelt on the history of financial crises, asymmetric information, liquidity problems and the credit cycle. Concluding remarks were made by Bank of Israel Governor Stanley Fischer.

NBP analysts unveil new model

On 30 June 2008, the Polish central bank presented its new forecasting model NECMOD. Based on the bank's previous model, NECMOD better reflects the structural and economic changes in the Polish economy over the past few years. It has a richer supply side structure and has been extended and elaborated in the labour and housing market areas in particular. The new model allows the influence of EU structural funds to be incorporated and commodity shocks to be modelled. It also enables the appreciation trend of the Polish zloty to be treated in the light of changes in the real equilibrium exchange rate.

Swedish central bank increases size of repo…

As from 8 September, the Riksbank will over the course of approximately one month make purchases of SEK to the value of SEK 5 billion on the foreign exchange market to increase the volume of lending to commercial banks in its weekly repo transactions. The Riksbank's purchase of SEK will increase the banks' need to borrow SEK in repo transactions. The bank says this measure does not have any monetary policy consequences. It merely has practical reasons for supporting the activity of commercial banks in its repos.

…and its economists examine relationship between house prices and economy

This study focused on the Swedish economy (1986–2007). For the empirical testing the authors used a model that differs somewhat from the Riksbank's main forecasting model for the Swedish economy, Ramses. The paper concludes that changes in the housing market have only a small effect on inflation and GDP. These effects and their significance for monetary policy are reinforced in cases where housing is used as collateral for mortgage loans. In *Spotlight* we look at the importance of house prices for monetary policy and their practical treatment in some central banks.

3. Spotlight: The importance of house prices for monetary policy and their practical treatment in selected central banks

In this issue of Monitoring *we examine the importance of house prices for monetary policy. After briefly defining the position of house prices in the monetary policy transmission mechanism, we look at individual aspects of the practical treatment of house prices in monetary policy-making at selected central banks. In particular, we discuss the issue of the inclusion of housing-related expenditure in consumer price indices.*

House prices enter the monetary policy transmission mechanism primarily through the **wealth channel** (the value of the net equity of households and firms being of key importance) and via the **balance sheet of the banking sector**. Specifically, then, this effect can go via: (i) household consumption through the wealth channel, as a rise in house prices is perceived as a rise in wealth and a source of consumption financing, and/or (ii) the balance sheet of the banking sector, as house prices often act in the role of collateral in lending transactions.[1] Although these two channels are not the only, or probably even the dominant, channels of monetary policy transmission (exchange rate, interest rate[2] and credit channels also operate), it is the interconnections between all these channels from which the power of monetary policy stems. It is obvious, meanwhile, that these channels vary in strength from one economy to another in terms of their effects on the real economy, and it is this that determines whether or not asset prices are incorporated into the forecasting system (for example, the BoE takes into account both asset prices and house prices). The table below shows the position of housing and related expenditures in the monetary policies of selected central banks.

How can central banks take house prices into account? The **first** way is merely to track the housing market and house prices, and not to react to or interfere with them, even when imbalances arise. The **second** way is exactly the opposite: to include house prices directly in the central bank's decision (interest rate) rule or "reaction function" as another component over and above the deviation of inflation from the inflation target, etc. However, this approach is also inappropriate, as dual targets introduce further volatility into the economy. This is probably why none of the central banks we monitor targets or reacts directly to house prices. The other options lie somewhere between these two extremes. The **third** approach consists in taking house prices, or their aforementioned transmission channel, explicitly into account in the central bank's analytical and forecasting system and in the related source materials for monetary policy decision-making. The **fourth** option is to include expenditure related to the use of housing in consumer price indices, for example using the concept of imputed rent. In this case, consumer prices do not reflect house prices directly, but reflect the prices of services consumed or the utility hypothetically realised by property owners, in line with the fundamental CPI methodology. The **fifth** approach is a methodological extension of the CPI concept directly to include asset prices (including house prices) so that the indices measure the cost of living via the prices of present and future goods.[3] The last two techniques assume that CPIs have the relevant content, i.e. that there is some degree of coordination between the central bank and the statistics office responsible for the methodology, collection and publication of consumer price data.

All this means, among other things, that the conceptual differentiation of whether housing is being purchased/used for investment or consumption is important in terms of the inclusion of housing-related prices in the CPI. Housing can be viewed on the one hand as a durable good that provides a service to households. One the other hand, a property purchase can be regarded as an investment. It is solely up to the owner to decide whether to realise his potential profit by selling in the future and

[1] If house prices rise, the probable loss arising from the sale of mortgage loan collateral decreases, which notionally increases the bank's capital and allows it to increase the volume of its investments and loans. A sharp fall in house prices, however, can lead to major credit constraints, a credit crunch and a downswing in economic activity.
[2] This includes the effect of the interest rate level on housing financing costs. Low rates increase the demand for and price of residential property. The rising price of housing relative to construction and other production costs leads, in turn, to rising construction activity. This increases aggregate demand and overall economic activity.
[3] Such measurement runs into the problem of the approximation of future goods prices in the form of asset prices.

how to handle the investment while it is in his possession (whether to collect returns in the form of rents, etc.). However, if we take into account the expenditure associated with the use of housing (maintenance, wear and tear, etc.), such expenditure can be counted as consumption. This is how statistics offices usually treat it when designing consumer price indices.

The aforementioned concept of imputed rent captures the prices of the hypothetical flow of services which houses provide to their owners and seems to be generally acceptable and widely used. When this concept is applied, house prices can directly influence the prices of consumer expenditure, primarily via the costs associated with owner-occupancy. These include property purchase costs, costs linked with financing the purchase (e.g. insurance), routine maintenance, reconstruction costs and so on.

Four methods are commonly used to determine imputed rent in statistical practice. The methodological differences between them stem from the extent to which real property transaction prices are reflected in the CPI. Unlike the other methods (the *user cost, rental equivalence* and *payment* approaches), the *net acquisition approach* calculates imputed rent on the basis of the housing acquisition and maintenance expenditures of new owners at the time the expenditures are actually made. This method thus reflects real transaction prices. The *user cost* and *payment* methods compute the imputed rent by including, among other things, interest on mortgage loans, mortgage payments (the *payment approach* only), opportunity costs – future interest income forgone, and amortisation (the *user cost approach* only). These items represent components with high potential volatility. A drawback with the *rental equivalence approach* is that the imputed rent index can deviate substantially from the residential property price index, because changes in rent tend to be slower as a result of long-term rental contracts and market regulation.

Table: Approaches of selected central banks to the position of house prices in monetary policy

	Fed	ECB	NBS	MNB	NBP	BoE	Riksbank	RBNZ
Inflation target or monitored aggregate	PCE[1]	HICP	HICP	CPI	CPI	CPI (conceptually HICP)	CPI	CPI
Housing explicitly in analytical and forecasting system	n.a.	NO	NO	YES[2]	YES[3]	YES[4]	NO[5]	NO[6]
Imputed rent part of targeted or monitored price index	YES[7] rental equivalence	NO attempting to introduce	NO attempting to introduce	YES rental equivalence	NO	NO	YES user costs	YES net acquisition
Housing maintenance and repair costs and financial costs[8] part of price index	YES	YES	YES	YES	YES	YES	YES	YES
Mortgage interest included in targeted inflation	NO	NO	NO	NO	NO	NO	YES	NO[9]
Market/regulated rent (*actual rentals for housing*) in targeted inflation	YES	YES	YES	YES	YES	YES	YES	YES
House prices directly in targeted inflation	NO	NO	NO	NO	NO	NO	YES[10]	YES[11]

Sources: Official websites of selected central banks and statistics offices
Notes: All the above banks monitor house prices, but none of them includes house prices in its decision rule (if such a rule is included in the modelling system per se); n.a. information not available.
[1] The inflation rate in the USA is measured using PCE (*personal consumption expenditure*), a concept that is broader in

[4] The Riksbank announced on 9 June 2008 that it had decided to phase out the CPIX inflation measure.

some areas than the CPI.
[2] The Hungarian QPM (*Quarterly Projection Model*) contains a consumption function that also models property wealth (the *housing effect*); property investment and house prices also enter the model.
[3] The Polish central bank on 30 June 2008 unveiled its new macroeconomic model NECMOD, which incorporates the housing market and models both the supply and demand sides of that market.
[4] The main model (BEQM) directly includes an asset price channel, which models the wealth effect and includes housing in addition to financial assets.
[5] The Riksbank's main model (RAMSES) does not include house prices, but an ancillary analytical tool focused on the housing sector is under development.
[6] In the model, the household expenditure gap strongly affects the output gap owing to the strong representation of households in total income (around 66%). The effect on household expenditure goes via interest rate changes to mortgage interest rates and property investment. Neither house prices nor property market developments are included. However, financial wealth and household debt are modelled.
[7] Owner-occupied housing is treated in PCE as if the owner charged himself rent.
[8] i.e. prices of financial services such as insurance, fees and some property-related taxes.
[9] Mortgage interest and other financing costs are not included in the CPI but are monitored and reported as "CPI All Groups plus Interest".
[10] Via the capital stock index, which captures the acquisition value of housing; a change in the price of a dwelling will affect the index only if there is a change of owner.
[11] Included in the CPI in the home ownership subcategory as "purchase of housing". The weight of the item was 50% lower in 2006 (4.66%) than in 1999 (9.85%). Moreover, the three-year average is used for smoothing cyclicality. The purchase value of housing is not included directly; rather, the net increase (change) in the stock of owner-occupied housing is included.

Also relevant, above and beyond the information given in the table, is the fact that the United Kingdom also reports a retail price index (RPI), which differs methodologically and in terms of composition and coverage from the CPI (which conforms to the HICP concept). The user cost approach is used to include imputed rent in the RPI. The RPI is then used to derive the RPIX index, which, unlike the RPI, does not take into account mortgage interest payments. The BoE's inflation target was defined in terms of this index until December 2003. Sweden also uses[4] an ancillary price index, the CPIX, which excludes mortgage interest expenditure and other components from the CPI. Although the CPIX has never been targeted, it has served as an additional source of information regarding the development of inflation.

The inclusion/exclusion of mortgage repayment expenditure from the targeted index is important mainly because if interest payments were a part of inflation, the central bank, in the event of raising nominal rates to combat rising inflation, would paradoxically and counterproductively cause the targeted price index to increase. The magnitude of this increase would depend on the weight of this item in the total index, which is related to the importance of mortgage payments in total household expenditure. The indirect inclusion of house prices via the imputed rent of property owners in standard consumer price indices is currently considered appropriate in the central bank community, as it sends signals to the central bank regarding property market developments. An ECB/ESCB initiative supporting the plan to include private owners' costs associated with the use of dwellings in the HICP goes in this direction. A pilot project to test this approach is currently in progress.

To sum up, most of the banks we monitor pay attention to developments in the housing area. House prices rarely enter consumer price indices directly; they are usually substituted by the imputed rent concept. Likewise, direct inclusion of house prices in analytical and forecasting systems is in the minority. Nonetheless, house purchase expenditure in relation to the consumption of economic entities and the investment decisions of agents is often contained in central banks' macroeconomic models. House prices do not play a very important role explicitly in central bank decision-making, but the related consumer spending is in many cases captured in the monetary policy relevant consumer price indices.

4. Selected speech: Alan Bollard on flexibility and the limits to inflation targeting

In this part we summarise the speech "Flexibility and the Limits to Inflation Targeting" given by Alan Bollard, Governor of the Reserve Bank of New Zealand, in Auckland on 30 June 2008.

Alan Bollard's speech focused primarily on the past application of inflation targeting in the context of current developments in the global and New Zealand economy. Dr Bollard began by noting that a CPI-based inflation target is now a mainstream way for central banks to express a commitment to price stability. Inflation targeting is one of New Zealand's successful exports, as 26 countries have followed its lead in adopting it. The diversity of this group of countries suggests strongly that inflation targeting is a monetary policy strategy that can handle a wide range of circumstances and shocks.

Dr Bollard went on to affirm that price stability is the best contribution monetary policy can make to economic growth and prosperity. Wide-ranging empirical evidence and research in this area has established three key lessons about the interaction of growth and inflation: (i) there are many determinants of long-run economic growth, i.e. the level of inflation is not the only relevant variable; (ii) to try persistently to promote growth with loose monetary policy will in all likelihood generate a higher level of inflation, which will damage growth prospects in the long term; (iii) a monetary policy that loses sight of the importance of price stability will probably contribute to large economic cycles. Overall macroeconomic stability, however, also depends on a sound government policy that does not itself contribute to economic fluctuations and introduce distortions.

The above lessons are supported by the results of comparing average inflation with average economic growth per capita and the volatility thereof in selected OECD countries. All the OECD countries monitored have reduced inflation from the high levels of the 1970s and 1980s to the low levels of the past couple of decades, but only some of them have simultaneously succeeded in maintaining or increasing their rate of economic growth. Likewise, in all cases except Sweden, lower inflation has been associated with less volatile growth performance. All these countries except the USA and Japan have followed New Zealand in becoming inflation targeters.

Dr Bollard examined the issue of economic shocks and the inflation targeting options in this area. Unpredicted and temporary price shocks, such as a rise in vegetable prices due to bad weather, are relatively easy for monetary policy to deal with. They happen quickly and are short in duration, which lessens the risk that they will destabilise the economy. But for persistent shocks, such as the currently fading oil price shock, it is much more difficult to judge the appropriate monetary policy response. In these circumstances, we can either let the shocks impact on inflation, or try to offset them with tighter policy. For a net oil importer such as New Zealand, the oil price shock reduces disposable incomes and demand (suggesting looser policy is appropriate), but also has a direct upward impact on inflation and presents upward inflation expectations risks (suggesting tighter policy is appropriate). Dr Bollard then discussed some of the challenges for inflation targeting. He identified the effect of asset price cycles on macroeconomic stability as a general challenge. A specific challenge for small, open economies is their dependence on developments offshore.

Dr Bollard concluded by saying, among other things, that monetary and exchange rate targeting regimes tend to be very inflexible. Targeting multiple objectives (such as growth, employment, export and the balance of payments) is also inappropriate, as one instrument (the interest rate) cannot succeed in achieving all these objectives. In Dr Bollard's view, the inflation targeting framework, by contrast, has been relatively successful and is the best monetary policy regime ever to have been applied in New Zealand and elsewhere.

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