

Box 2

RECENT DEVELOPMENTS IN THE RETAIL BANK INTEREST RATE PASS-THROUGH IN THE EURO AREA

Actual and expected changes in the ECB's key policy interest rates are normally immediately reflected in market interest rates such as the EURIBOR or in short-term bond yields, and are also transmitted to other market rates across the maturity spectrum. Movements in market interest rates, in turn, should be expected to affect MFI loan and deposit rates. This is the so-called interest rate pass-through process that, given the importance of the banking sector in the euro area financial system, is of particular relevance for the euro area economy.

This box provides a general analytical background on the interest rate pass-through process.¹ It then takes a closer look at the increases in retail bank interest rates since the end of 2005, the period marked by the progressive withdrawal of monetary policy accommodation, and compares them with adjustments to interest rate changes as estimated for the period 1994-2005, focusing on loans to non-financial corporations and loans to households for house purchase.

Some elements of the bank interest rate pass-through in the euro area

One robust standard empirical result across different estimation techniques in literature on the interest rate pass-through is that different bank products react differently to changes in market

¹ Analytical work focusing on MFI interest rates from the perspective of monetary policy was presented at the ECB Workshop on "Interest rates in retail banking markets and monetary policy" that took place on 5 February 2007 in Frankfurt am Main. The papers can be accessed via the following link: <http://www.ecb.int/events/conferences/html/mir.en.html>

rates.² Generally, bank interest rates on loans to non-financial corporations, on loans to households for house purchase and on time deposits tend to adjust quicker and more fully than those on loans to households for consumption purposes (including bank overdrafts), overnight deposits and savings deposits.

The interest rate pass-through process is affected by many factors, including various risk premia, competition in the banking industry and bank-specific features such as capital, liquidity and rate adjustment costs. In addition, banks may offer their long-term borrowers “implicit interest rate insurance” by smoothing bank loan rates over the business cycle, which could contribute to some sluggishness in the interest rate pass-through to loan rates.³ Standard models of banking behaviour also point to the fact that the lower the elasticity of the demand for loans, or the supply of deposits, the higher the premium the bank will be able to apply if it exercises market power.⁴ This, in turn, suggests that bank spreads – i.e. the difference between bank rates and market rates – are affected by financial innovation and changes in competitive conditions that shape the market environment in which banks operate.

One aspect of financial innovation is the degree to which substitutes for bank products are available in the financial markets. Bank spreads are likely to be affected by higher competition from non-bank financial products and from intermediaries that provide a wider choice of financing and investment possibilities. For example, it appears that the presence of a relatively large corporate bond market, in which non-financial corporations can borrow funds directly through the issuance of debt securities, exerts pressure on banks to narrow their lending spreads. Similarly, the presence of non-bank lenders tends to amplify the pass-through to interest rates on loans to households. In the case of deposits, easier access to direct investment in securities or to indirect investment through money market funds and investment funds (especially by households) tends to put pressure on banks to price their deposit rates more competitively.

The pass-through is also affected by other types of financial innovation such as advances in the management of risk, in addressing agency cost and information asymmetries and in minimising transaction or search costs. Thus, financial innovation and developments in banking activities towards more market-oriented instruments may potentially alter the pricing mechanisms related to traditional bank loans and deposits (as illustrated in the study by Gropp et al.). For example, there is some evidence that the rates on long-term loans to non-financial corporations and on mortgages tend to adjust quicker and more completely wherever turnover in interest rate derivatives is relatively high. Moreover, the prevalence of securitisation is found to increase the extent of the pass-through of market rates both to long-term rates on loans to non-financial corporations and to mortgage rates.

Pass-through of retail banking interest rates since late 2005

To test whether banks’ adjustment of their interest rates in the current period differs from that in previous periods of interest rate changes, one-month-ahead out-of-sample forecasts for the

2 For an overview of recent findings on the basis of different types of estimation methods, see, for example, G. de Bondt, “Interest rate pass-through: Empirical results for the euro area”, *German Economic Review*, Vol. 6 (1), February 2005, pp. 37-78, and C. Kok Sørensen and T. Werner, “Bank interest rate pass-through in the euro area: a cross country comparison”, ECB Working Paper No 580, 2006, or R. Gropp, C. Kok Sørensen and J. Lichtenberger, “The dynamics of bank spreads and financial structure”, ECB Working Paper No 714, 2007.

3 See A. N. Berger and G. F. Udell, “Some evidence on the empirical significance of credit rationing”, *The Journal of Political Economy*, Vol. 100, No. 5, October 1992, pp. 1047-1077.

4 See the Monti-Klein and the Ho-Saunders models described in, for example, X. Freixas and J.-C. Rochet, *Microeconomics of Banking*, The MIT Press, 1997, and R. Gropp, C. Kok Sørensen and J. Lichtenberger (op. cit.), and the references therein.

period from December 2005 to March 2007 were performed using a univariate error-correction model based on euro area aggregate retail bank interest rate data for the period from January 1994 to November 2005.⁵ One-month-ahead out-of-sample forecasts were used in order to reflect that banks are assumed to take into account past changes to their loan and deposit rates when reacting to movements in market rates.

In order to obtain sufficiently long time series of bank interest rates, the non-harmonised retail bank interest rate statistics were “chain-linked” with corresponding MFI interest rate statistics.⁶ For certain product types, the methodological differences between the series on retail interest rates and those on MFI interest rates are relatively limited, which allows a simple level-adjustment in January 2003, the date of the switch to MFI interest rate statistics. This holds true, for example, of short-term loans to enterprises. For other products, however, the linking of the series is less straightforward. This applies, for example, to loans to households for house purchase where the euro area aggregate mortgage rate that is based on the retail interest rate statistics does not distinguish between short and long-term rate fixation. For this reason, with respect to rates on loans to households for house purchase, euro area aggregate back series constructed on the basis of corresponding loans “with a floating rate and an initial rate fixation of up to one year” and “with an initial rate fixation of over five and up to ten years” were applied in the model estimation.

The results suggest that bank interest rate pass-through since late 2005 – a period in which key ECB interest rates increased gradually – is not substantially different from what had been observed during past episodes of rising policy rates (see panels (i)-(iv) in the chart below). Hence, the transmission of monetary policy through the channel of bank interest rates generally seems to work as it has in the past.

At the same time, a few small differences can be noted. Banks have generally adjusted their short-term rates on loans to non-financial corporations (panel (i)) and short-term rates on mortgage loans (panel (iii)) slightly more rapidly than would have been expected from the model based on past behaviour. This could partly reflect a relatively strong demand for these types of loans in the most recent period and partly a more efficient pass-through process possibly echoing recent financial innovations, such as improvements in the pricing of risks. By contrast, the pass-through of longer-term rates on mortgage loans to changes in corresponding long-term market rates (panel (iv)) seems to have been somewhat more sluggish than was observed in the past, especially with regard to the immediate adjustment. This could reflect current strong competitive pressures in this market segment.⁷ While competition generally ensures that products are priced efficiently, it may also induce banks to reduce their spreads when interest rates are rising. Moreover, it may also reflect banks’ uncertainties regarding the anticipated direction of long-term market rates over the period considered.⁸

5 The modelling approach is based on G. de Bondt (op. cit.). This approach is standard in the bank interest rate pass-through literature and allows an identification of both the short-run dynamics and the long-run relationship between retail bank interest rates and corresponding market rates.

6 These short-cuts imply that the interpretation of the estimation results has to be taken with some caution.

7 This could be related to the implementation of Basel II as mortgage lending is one of the areas that gains most in terms of capital relief from the envisaged change of the capital adequacy framework (see F. Dierick, F. Pires, M. Scheicher and K.G. Spitzer, “The new Basel Capital Framework and its implementation in the European Union”, ECB Occasional Paper No 42, December 2005).

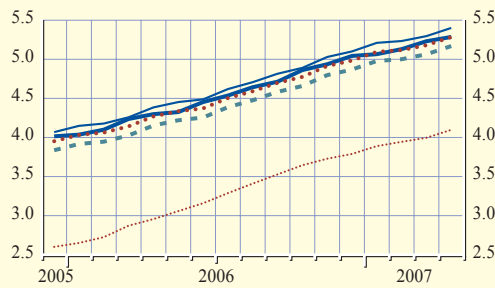
8 If there are costs related to the adjustment of bank interest rates, banks may be reluctant to change their rates if they are uncertain about the future direction and size of movements in corresponding market rates; see e.g. P. Mizen and B. Hofmann, “Base rate pass-through: evidence from banks’ and building societies’ retail rates”, Bank of England Working Paper No. 170, 2002.

One-month-ahead forecasts of the pass-through of retail bank interest rates to changes in corresponding market rates for the period from December 2005 to April 2007

(percentages per annum)

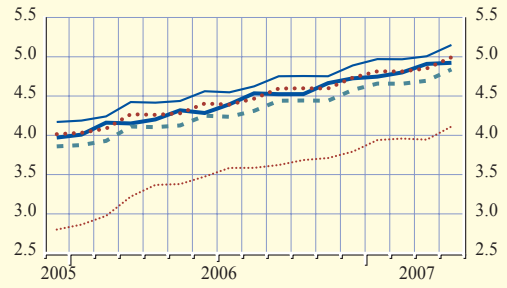
(i) Interest rates on loans to non-financial corporations for up to one year

— realised
 forecast
 - - - - lower bound
 — upper bound
 six-month EURIBOR



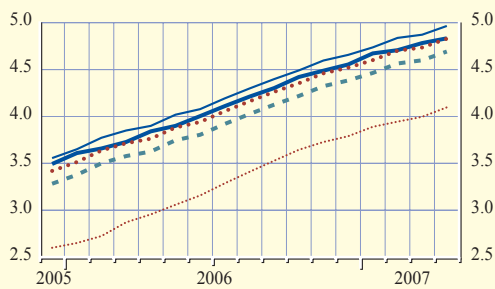
(ii) Interest rates on loans to non-financial corporations for over one year

— realised
 forecast
 - - - - lower bound
 — upper bound
 two-year government bond yield



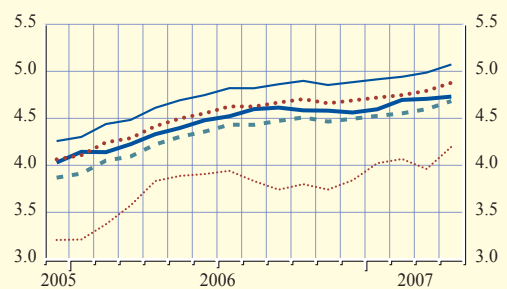
(iii) Interest rates on loans to households for house purchase with a floating rate and an initial rate fixation of up to one year

— realised
 forecast
 - - - - lower bound
 — upper bound
 six-month EURIBOR



(iv) Interest rates on loans to households for house purchase with an initial rate fixation of over five and up to ten years

— realised
 forecast
 - - - - lower bound
 — upper bound
 seven-year government bond yield



Sources: ECB, G. de Bondt (op. cit., for the description of the error-correction model), Reuters and ECB estimations.

Notes: The forecasts are based on the estimated adjustment of bank rates to changes in market rates of corresponding rate fixation in the period from January 1994 to November 2005. The lines denote one-month ahead forecasts based on the sample (thick red dotted line) and the realisations (thick blue line) for that period; the thin blue lines and the green dashed lines give the 95% forecast intervals.