INTEREST RATE PASS-THROUGH IN MALTA

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Introduction

The transmission of changes in the policy rates set by central banks to retail bank rates applied to loans and deposits is an essential link in the monetary policy transmission mechanism. This is especially important in Malta where the overwhelming majority of businesses are small and medium-sized enterprises (SME), which are typically more dependent on bank financing than larger firms.[2]

This article presents econometric estimates of the pass-through from changes in official interest rates to retail bank lending and deposit rates in Malta between 2000 and 2012. Prior to 2008, the Central Bank of Malta was responsible for the conduct of monetary policy, with a pegged exchange rate serving as the nominal anchor. Following Malta's entry into the euro area on 1 January 2008, monetary policy is set by the Governing Council of the European Central bank (ECB) with the primary objective of maintaining price stability in the euro area as a whole over the medium term.

A number of studies have investigated the role of structural variables in determining the strength of the interest rate pass-through mechanism. Most of these studies document a high degree of heterogeneity across countries, with a generally higher pass-through in advanced economies than in emerging or low income ones. The literature finds that both an economy's financial framework and other structural characteristics, like regulatory institutions and exchange rate regime, influence the speed and magnitude of the interest rate pass-through.[3] In the banking sector, low asset quality (measured by the share of non-performing loans in total assets), high concentration in the banking sector and banks' holdings of ample liquidity are found to be important factors that limit the transmission of policy to retail rates. A weak regulatory environment and a high share of foreign currency loans in total loans also tend to weaken the pass-through. In addition, countries with fixed exchange rates and small island states are inclined to have weak pass-through compared with countries with a flexible exchange rate regime and with larger, more developed economies.[4]

Although the immediate pass-through of market interest rates to bank retail rates is incomplete in the euro area, in the long run the pass-through is higher.[5] The pass-through differs across bank products, as well as across euro area countries, even prior to the financial crisis. One study finds that bank rates on corporate loans appear to adjust more fully, followed by rates on mortgage

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loans and time deposits. On the contrary, the adjustment of rates on consumer loans and on current account deposits seems to work less efficiently.[6]

The financial crisis has led to a fragmentation of financial markets in the euro area, driving retail rates in stressed economies above those in unstressed countries. The transmission from policy to money market rates in some countries has been weakened owing to increases in risk premia. These also had an adverse impact on the pass-through to rates on retail bank products.[7] In addition, interest rates on loans to non-financial corporations (NFC) were found to be more affected by changes in the interbank rate than loans to households, both in times of high volatility and in normal market conditions.[8]

The relatively few studies about Malta suggest that interest rate pass-through is incomplete. For instance, the International Monetary Fund (IMF) points out that the transmission of ECB policy rates to domestic housing interest rates is sluggish and incomplete.[9] According to the Central Bank of Malta's macro-econometric model, the long-run pass-through from policy rates to lending rates ranges from around 60% to 70%.[10]

The contribution of this article is twofold. First, we present econometric evidence of pass-through from policy rates to bank lending and deposit rates for households and NFCs in Malta. To do this, we develop a monthly database of policy, money market and retail domestic bank lending and deposit rates from 2000. In this database, we use both retail interest rates published by the Central Bank of Malta and those harmonised among the euro area countries - monetary financial institutions' interest rates.[11] For Malta, the latter set of statistics is only available since 2008; the series was extended backwards using information about retail rates published by the Bank, which, in some cases, extend to 1999.

We find evidence of incomplete pass-through in Malta, even in the long run. Estimates point to a reduction in the pass-through for deposit rates and lending rates to NFCs since the onset of the financial crisis. The long-run pass-through from policy to household lending rates was, however, hardly affected by the crisis.

Only around 60% of the interest rate cuts by the ECB since September 2008 were passed on to lending rates to NFCs and households by the end of 2012. The pass-through to deposit rates ranges from 40% to 80%, though it has slightly declined after 2010, reflecting also a drop in the responsiveness of local deposit rates to the monetary easing by the ECB in 2012.

Second, we compare developments in the domestic pass-through to retail rates since the onset of the financial crisis with those in other euro area countries. Cross-country comparisons reveal

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[6]   Sorensen, C.K. and Werner, T., "Bank interest rate pass-through in the euro area: A cross country comparison", *Working Paper* No. 580, ECB, 2006.

[7]   Hristov, N., Hülsewig, O. and Wollmershäuser, T., "The interest rate pass-through in the euro area during the global financial crisis", *CESifo Working Paper Series* 3964, 2012.

[8]   Aristei, D and Gallo, M., "Interest rate pass-through in the euro area during the financial crisis: a multivariate regime-switching approach", *Working Paper* 107, University of Perugia, 2012.

[9]   "Malta: 2013 Article IV Consultation", *Country Report* No. 13/2013, IMF, 2013.

[10]   Grech, O., Micallef, B., Rapa, N., Grech, G. A. and Gatt, W., "A structural macro-econometric model of the Maltese economy", *Working Paper* WP/02/2013, Central Bank of Malta, 2013.

[11]   Monetary financial institutions' interest rates (MIR) statistics on outstanding amounts are used in the analysis. This is because statistics on new business exhibit a high degree of volatility in the case of monetary financial institutions (MFI) resident in Malta. Interest rates on outstanding amounts cover resident MFI euro-denominated deposits belonging to households and NFCs resident in Malta and loans extended to them. The household sector includes also non-profit institutions serving households.

a substantial degree of heterogeneity in terms of the pass-through since the onset of the financial crisis.

Domestic interest rate developments between 2000 and 2013

Chart 1 shows the policy rates set by the Central Bank of Malta and the ECB since 2000. Within the context of the fixed exchange rate regime prior to the adoption of the euro, the central intervention rate in Malta was set at a premium compared with the rate on the main refinancing operations (MRO) set by the ECB. In the

Chart 1
POLICY INTEREST RATES
(percentages per annum)

Source: Central Bank of Malta.

run-up to euro adoption, the spread between the two gradually narrowed. From 2008 onwards, official interest rates were set by the Governing Council of the ECB.
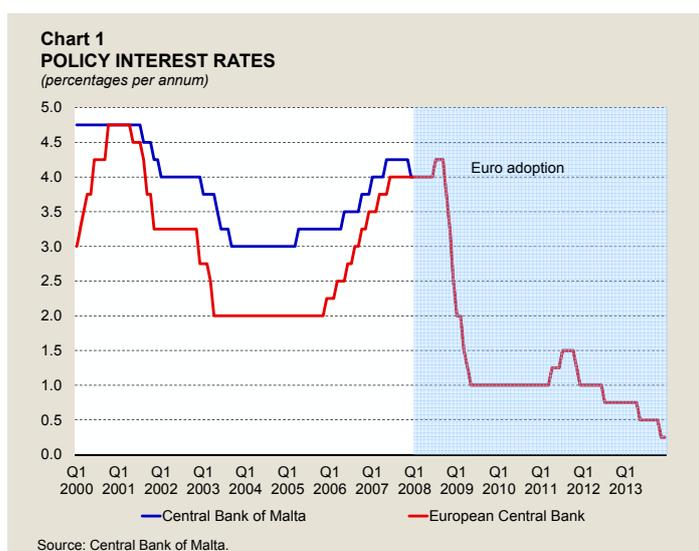
Following the collapse of Lehman Brothers in the latter half of 2008, the ECB, among other measures, cut interest rates sharply. It lowered the MRO rate by 325 basis points to 1.00% by May 2009. By mid-2012, the ECB had reduced it to 0.75%, with two further cuts in 2013 taking the rate down to 0.25% by the end of the year.

The money market plays an important role in the transmission of policy rates to retail rates, particularly because of the role of the interbank market in the allocation of funds. In normal times changes in the policy rate are transmitted, almost one-to-one, to money market rates, such as the EONIA and the EURIBOR (see Chart 2).[12] Money market rates in Malta for pre-2008 are based on interbank market offered rates. In the pre-euro period, the interbank market in Malta was characterised by thin trading, with interbank rates set by the Central Bank of Malta on the basis of quotes received from the participating banks. From January 2008 onwards, the

Chart 2
MONEY MARKET INTEREST RATES
(percentages per annum)

Source: Central Bank of Malta.

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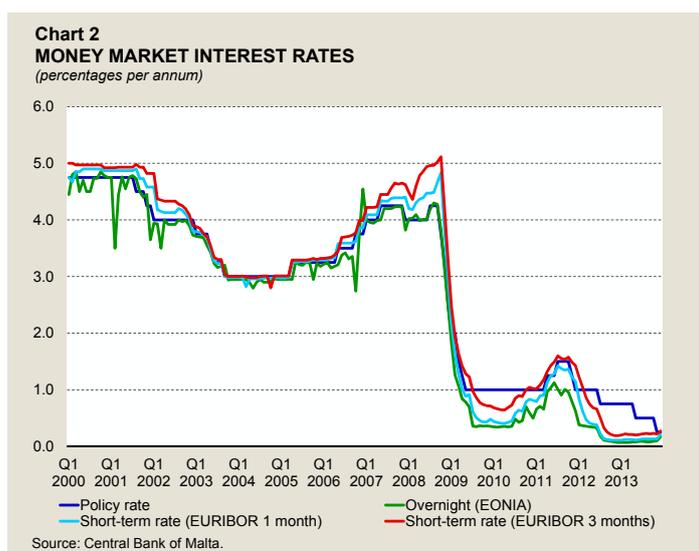
[12]   EONIA is the benchmark interbank reference rate computed on the basis of interest rates applied to the overnight transactions denominated in euro between banks in the European Union and European Free Trade Association countries. EURIBOR is calculated for interbank deposits, with a maturity ranging from one week and 12 months, as the average of the daily offer rates of a representative panel of prime banks.

overnight, one-month and three-month rates consist of the EONIA, one-month EURIBOR and three-month EURIBOR, respectively.
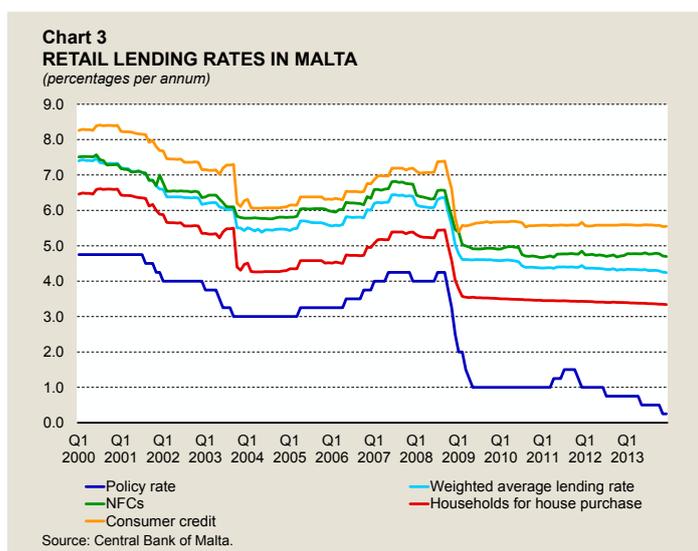
The widening spread between official rates and EURIBOR from mid-2007 onward indicates the loss of confidence in the banking system within the euro area, with banks becoming more reluctant to lend to each other in the interbank market. The ECB responded to these market tensions by injecting liquidity into the markets through conventional and unconventional measures.[13] In particular, the ECB provided longer-term liquidity in the amounts required by bidding banks at exceptionally low costs in an attempt to facilitate the transmission of credit to the real economy. Reflecting this high level of liquidity, money market rates tended to be lower than the policy rate.

Given the thinness of the interbank market in Malta and in the light of the collapse of interbank activity across the euro area during the crisis, this article will shift focus away from money market rates, and instead study the relationship between policy rates, on the one hand, and retail bank rates on the other. Changes in policy rates ultimately affect interest rates that are relevant for households and businesses, which eventually, and along with a number of other channels, influence consumption, savings and investment decisions of economic agents.[14] In turn, these decisions affect aggregate demand and, eventually, consumer prices.

Chart 3 illustrates the policy rate and four different lending rates in Malta. The latter include the bank lending rate to NFCs, to households for house purchases, to households for consumer credit and a weighted average lending rate covering all lending to corporates and households. Since 2008, these rates are represented by MFI interest rates. The series was extended backwards prior to 2008, using the corresponding bank lending rates compiled by the Central Bank of Malta.

Retail lending rates in Malta tend to move in line with the policy rate set by the central bank. During the period reviewed, the lending rates charged by resident banks to households for house purchases were always the lowest among the various lending rates, followed by lending to NFCs and consumer credit rates. Since the start of the financial crisis and the associated monetary easing by the ECB, the spread between the policy rate and various bank lending rates has widened significantly, suggesting a weakening in the transmission mechanism.

The spread between the lending rate to NFCs and that on

Chart 3
RETAIL LENDING RATES IN MALTA
(percentages per annum)

Legend:
- Policy rate
- NFCs
- Consumer credit
- Weighted average lending rate
- Households for house purchase

Source: Central Bank of Malta.

consumer credit, which was relatively stable at around 30 basis points between 2004 and 2007, increased to around 80 basis points since 2008, suggesting that banks have reassessed upwards the risks associated with consumer credit to households compared with lending to NFCs.

Chart 4 illustrates the policy rate and four different deposit rates in Malta. The retail rates refer to those on current deposits, savings deposits, time deposits and a weighted average of these three rates.[15] These rates are extracted from the Bank's retail

Chart 4
RETAIL DEPOSIT RATES IN MALTA
(percentages per annum)

Source: Central Bank of Malta.

interest rate statistics.[16] Like lending rates, deposit rates tend to move in line with the policy rate, though to a somewhat lesser extent.
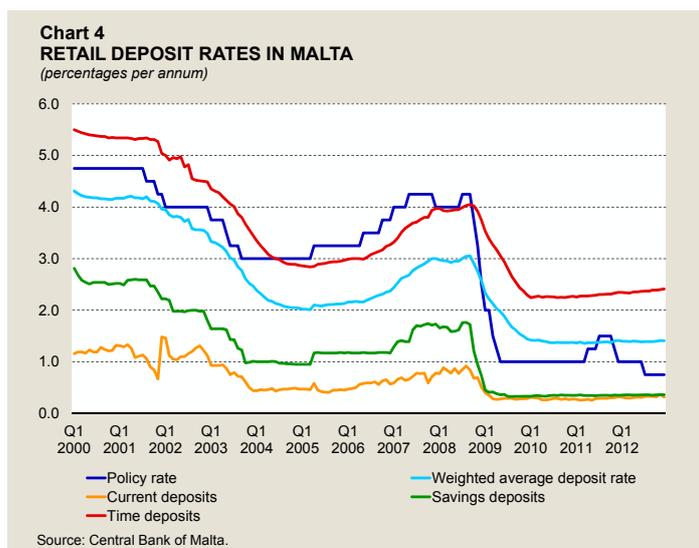
Chart 4 shows that in the pre-crisis period, the weighted average deposit rate in Malta was always below the policy rate. Since 2009, however, the weighted average deposit rate has been above the policy rate (with the exception of a short period of time in 2011), and this is mainly owing to the evolution of the rate on time deposits. The spread between the rate on time deposits and the policy rate has widened to an average of 140 basis points since 2009, compared with a slightly negative spread in the three years preceding the financial crisis. On the contrary, the rates on current and savings deposits have remained below the official policy rate throughout the entire period. The spread between the rates offered on current and savings deposits, which averaged around 70 basis points between 2004 and 2007, closed by the end of 2012.

Econometric estimates of interest rate pass-through
The previous section has shown that retail rates tend to move with the policy rate but not necessarily proportionally. In this section, we investigate this claim in more detail, focusing on the post-financial crisis period for which evidence suggests that banks in Malta have responded to policy rate changes in a different manner compared with the pre-crisis period.

Empirical studies on the transmission from changes in the policy or money market rates to retail rates are usually based on a marginal cost pricing model equation:

$$rr = \beta_0 + \beta_1 pr$$

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[15] Current deposits refer to deposits which are convertible into currency and/or which are transferable on demand without significant delay, restriction or penalty. Savings deposits refer to balances placed without a fixed maturity that can be withdrawn only subject to prior notice or the imposition of a penalty. Time deposits refer to fixed-term deposits that cannot be withdrawn prior to maturity unless a penalty is incurred.
[16] The collection of these deposit rates was terminated by the Central Bank of Malta in December 2012. Published interest rates are since referring to MFI interest rates. Contrary to lending rates, it is not straightforward to disentangle backwards MFI deposit rates in order to distinguish between households and NFCs. Whereas MFI interest rates, both on lending and on deposits, are categorized between households and NFCs, only the lending rates of the Bank's retail rates follow this classification. The Central Bank of Malta's deposit rates are classified according to whether they are current, savings or time deposits. From this classification, it is very difficult to identify an appropriate deposit rate to households and NFCs from the Bank's statistics for the pre-2008 period.

where *rr* and *pr* stand for retail and policy rates, respectively. The equation indicates that changes in policy rates are transmitted to retail rates. The long-run pass-through coefficient is represented by β_1 and β_0 refers to a mark-up. Pass-through would be complete if β_1 = 1. This, however, would require full information and perfect competition in the banking sector as well as risk-neutral banks. Empirical studies typically find that the pass-through is incomplete, i.e. β_1 < 1, implying that banks have some degree of market power and the demand for bank products is inelastic with respect to retail rates. That is, a reduction, say, in deposit rates brings about a less than proportionate drop in deposits. This could result, for instance, from asymmetric information costs and the existence of switching costs, which make it harder for bank customers to move their business from one bank to another.[17]

The above equation refers to the long-run equilibrium relationship. However, the short-run relationship between policy rates and market rates is subject to lags relating to rigidities. The latter could be related to adjustment costs or to the uncertainty faced by banks about the future development of market interest rates. The dynamic adjustment is usually described by an error correction process, or alternatively, by an autoregressive distributed lag (ARDL) model. This paper applies the latter method and the results are applied to the estimation of the pass-through. Our estimates of interest rate pass-through are based on an ARDL model presented by Cottarelli and Kourelis, which takes the following form:

$$rr_t = \alpha + \sum_{j=1}^{j^*} \varphi_j \, rr_{t-j} + \sum_{k=0}^{k^*} \gamma_k \, pr_{t-k} + \varepsilon_t$$

where *rr* and *pr* stand for retail and policy rates, respectively; *j** and *k** indicate the optimal lag lengths, α is the constant term, γ_0 measures the short-term pass-through and ε_t is the error term.[18] According to this model, retail rates are determined by their own past values and by contemporaneous and lagged values of the policy rate. A value less than 1 for γ_0 indicates a sluggish adjustment. The coefficients φ_j and γ_k can be used to compute the long-run pass-through:

$$\beta = \left. \sum_{k=0}^{k^*} \gamma_k \middle/ \left(1 - \sum_{j=1}^{j^*} \varphi_j \right) \right.$$

with β measuring the long-run pass-through. The long-run pass-through will be complete if β =1, implying that changes in the policy rate are fully transmitted to retail rates.

Since all interest rate series are integrated of order 1, the model is estimated in first differences to avoid spurious estimates. The data set includes monthly observations from January 2000 to December 2012.[19] We consider four different lending rates: those charged to NFCs, to households for mortgages, to households for consumer credit and a weighted average lending rate. Data on MFI deposit rates distinguish between households and NFCs and also include a weighted average series. In addition, we also consider four different bank rates: on current deposits, savings deposits, time deposits along with a weighted average of those three rates.

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[17]   Aristei, D and Gallo, M., "Interest rate pass-through in the euro area during the financial crisis: a multivariate regime-switching approach", *Working Paper* 107, University of Perugia, 2012.
[18]   See Cottarelli, C. and Kourelis, A., "Financial structure, bank lending rates and the transmission mechanism of monetary policy", *Working Paper,* IMF, 1994.
[19]   The estimation is based on "Outstanding Amounts" statistics. While "New Business" statistics are in several respects more appropriate, they exhibit a high degree of volatility, which would adversely affect the estimation of the pass-through coefficients.

Table 1
ESTIMATION RESULTS
EXPLANATORY VARIABLE: POLICY RATE

	Full sample 2000-2012		Pre-crisis period 2000-2007	
	Impact[1]	Long-run	Impact	Long-run
MFI interest rates on loans				
Weighted average	0.31	0.55	0.27	0.58
NFCs	0.21	0.46	0.34	0.70
Mortgages	0.26	0.50	0.22	0.47
Consumer credit	0.31	0.44	0.22	0.47
MFI interest rates on deposits				
Weighted average	0.07	0.37	0.12	0.63
Households	0.06	0.37	0.12	0.63
NFCs	0.12	0.39	0.14	0.58
Central Bank of Malta deposit rates				
Weighted average	0.09	0.41	0.09	0.72
Current	0.17	0.17	0.24	0.49
Savings	0.17	0.36	0.23	0.56
Time	0.06	0.46	0.07	0.57

[1] The impact multiplier estimates the short-term pass-through. For example, an impact multiplier of 0.5, implies that if the policy rate changes by 1 percentage point, the bank retail rate will change by 0.5 percentage point within the same month (i.e. a pass-through of 50%).

Note: MFI deposit rates in the pre-crisis period were extended backwards using the average weighted deposit rate published by the Central Bank of Malta.

The use of the policy rate as the explanatory variable in the estimation is more appropriate than the money market rate. This follows from thin trading in the Maltese interbank market during the pre-2008 period (as already mentioned), with published interbank rates not always representing actual transactions.

The equations are estimated using ordinary least squares and the number of lags is chosen to ensure the absence of serial correlation in the residuals.[20] The results are summarized in Table 1.

To assess the possible impact of the financial crisis on the pass-through, the equations are estimated over two different samples, one covering the full period and another restricted to the pre-crisis period (i.e. until end-2007). Estimates are presented for both the impact and the long-run multiplier. A coefficient equal to 1 implies that all changes in the policy rate are transmitted fully to the retail rate.

The econometric analysis indicates that the long-run pass-through is less than 1 in both periods. This is consistent with the literature, which finds that small countries with fixed exchange rate regimes, high banking sector concentration and ample liquidity in the banking system tend to have a lower pass-through.[21] As expected, the pass-through from policy to retail rates is not instantaneous, with impact multipliers being lower than the long-run multipliers in all cases.

Impact multipliers are generally higher for lending rates than for deposit rates. This result could be driven by institutional factors, because domestic loans are normally contracted at variable rates,

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[20] Dummy variables were inserted in a number of equations to capture possible breaks in the series mostly in 2002 and 2003.
[21] See references in footnote 3.

whereas term deposit rates can only be altered for new business or when existing deposits are renewed.

We observe a decline in the pass-through to NFCs with regard to lending rates when the financial crisis is included in the sample. This applies both to the impact and the long-run pass-through coefficients. The long-run pass-through declined from 70% in the pre-crisis period to less than 50% in the full sample. The long-run pass-through from policy to household lending rates, both for house purchases and consumer credit, was almost unaffected by the financial crisis. For these categories, the long-run pass-through is estimated between 40% and 50%.

Turning to deposit rates, the long-run pass-through also declined when post-2008 data were included in the sample. This was valid for all three categories of deposits considered. Impact multipliers for deposit rates are generally quite low, standing around 10% to 20%.

The long-run pass-through to deposit rates depends on the maturity: deposits with longer maturities tend to exhibit a higher pass-through than those with shorter maturities. Before the financial crisis, the long-term pass-through to savings and time deposits was around 60% but declined to around 40% in the full sample. The corresponding pass-through for current deposits dropped from around 50% to 20%. Given that interest rates on current deposits were already low, there was little room for them to fall further in response to the decline in the policy rate.

The decline in the long-run pass-through of bank deposits can be partly explained by the behaviour of time deposits, which have not only been less responsive in the 2008-2009 monetary easing compared with previous monetary cycles but then rose despite the monetary easing by the ECB. This behaviour could be driven by the practice of some domestic banks to offer higher deposit rates in their bid to attract deposits.

Comparison with other euro area countries after the financial crisis

We now compare developments in interest rate pass-through in Malta since the start of the financial crisis with those in other euro area countries. We compare two different estimates of pass-through: the first calculates the pass-through on bank lending and deposit rates from September 2008, when the MRO rate stood at 4.25%, until December 2010, by which time the rate had been standing at 1.00% for 20 months. The second comparison calculates the pass-through until December 2012, thus encompassing the 50 basis point tightening in 2011 and the subsequent reversal that brought the MRO rate down to 0.75%. The choice of this time period is intended to cover a sufficient length of time for changes in policy rates to be transmitted to retail rates.
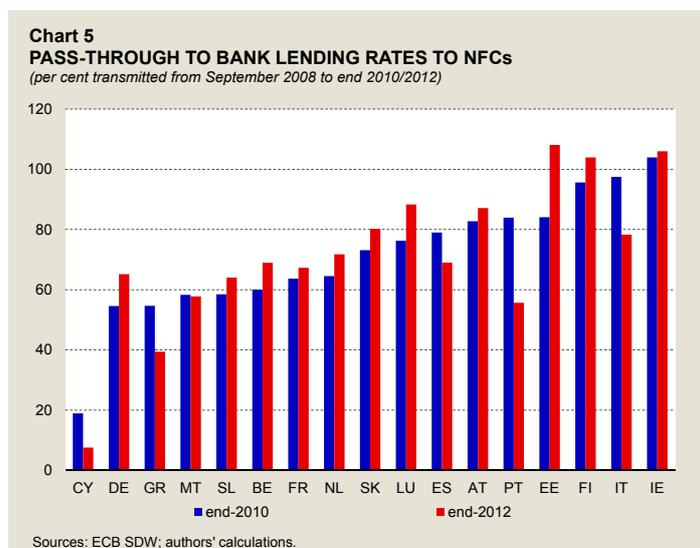
The pass-through coefficients in this section are calculated by comparing the change in the relevant retail rate from September 2008 until end-2010 and end-2012, respectively, with the change in the policy rate during the same period. For example, the domestic lending rate to NFCs on outstanding amounts was reduced by 189 basis points between September 2008 until the end of 2010, compared with a 325 basis point reduction in the policy rate. In this case, the pass-through is equal to 0.58 or 58.0%.

As expected, we observe a high degree of heterogeneity among euro area countries, as many factors could have influenced cross-country differences in interest rates.[22] Hence, the identification of

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[22] Cross-country differences may arise from different collateral practices, non-interest expenses and differences in the fiscal and regulatory frameworks. For more details, see the report entitled "Differences in MFI interest rates across euro area countries", *ECB publication*, 2006.

a limited set of factors explaining these differences is not straightforward. This is important to keep in mind when making cross-country comparisons.

Moreover, the analysis in this article is only limited to the pass-through from the policy rate to retail rates. A more in-depth treatment of the subject would also focus on and compare the level of retail interest rates charged in each country. For instance, as at end-2010, interest rates on outstanding amounts to NFCs charged by banks in Slovenia and Belgium stood at 4.5% and 3.5%, respectively, despite these two countries having broadly similar pass-through estimates.[23]

Chart 5
PASS-THROUGH TO BANK LENDING RATES TO NFCs
(per cent transmitted from September 2008 to end 2010/2012)

■ end-2010 ■ end-2012
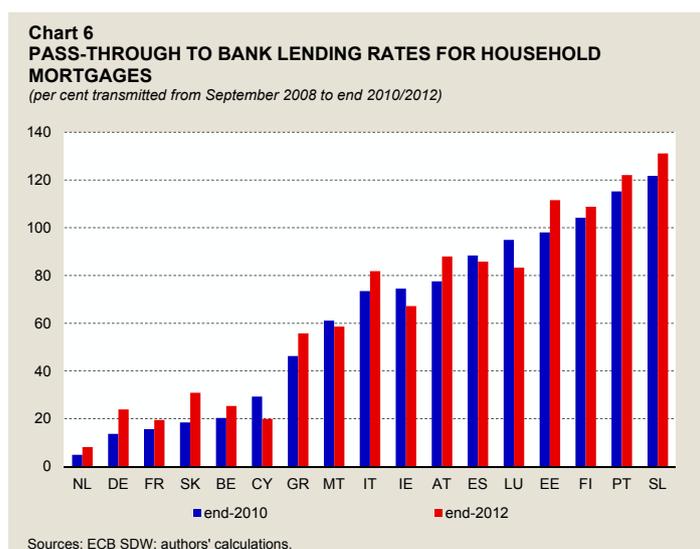
Sources: ECB SDW; authors' calculations.

Charts 5 to 9 are based on MFI interest rates on total outstanding amounts across euro area countries. These rates cover MFI interest rates on deposits from, and loans to, euro area residents. Data were obtained from the ECB's Statistical Data Warehouse.

Chart 5 compares the proportion of the change in the MRO that was transmitted to the rates charged on loans to NFCs. The figure shows an estimated pass-through of slightly less than 60% for Malta. Though not directly comparable, this is broadly in line with the econometric results presented in the previous section, with the pass-through being lower post-2008 compared with that prevailing before the crisis. The pass-through for Malta stands out as being one of the lowest in the euro area.

Pass-through estimates for the stressed economies, including Cyprus, Italy, Greece, Portugal and Spain were found to be lower when computed for the period ending in 2012 as compared with the period ending in 2010, suggesting that the ECB rate cuts in 2012 were not transmitted to NFCs.

Chart 6 plots the pass-through for the lending rate to households for mortgages. Again, the pass-through in Malta stands at around 60%, broadly in line with

Chart 6
PASS-THROUGH TO BANK LENDING RATES FOR HOUSEHOLD MORTGAGES
(per cent transmitted from September 2008 to end 2010/2012)

■ end-2010 ■ end-2012
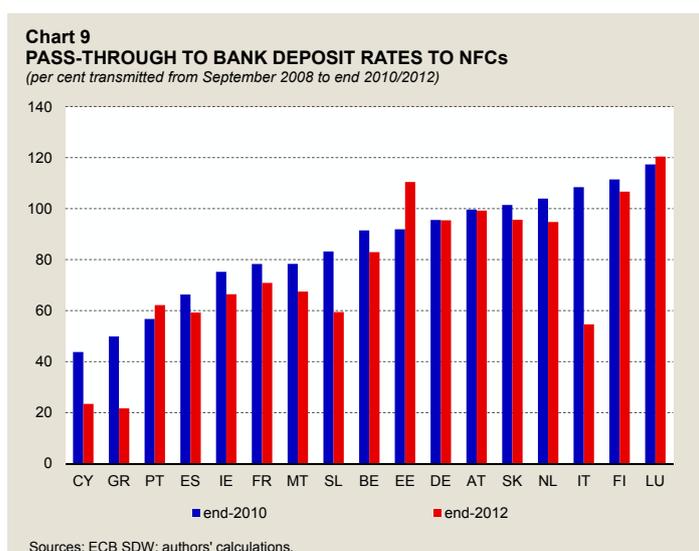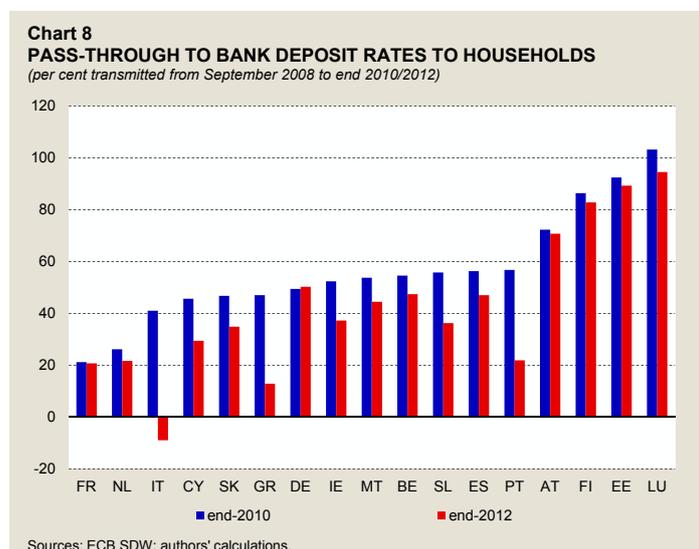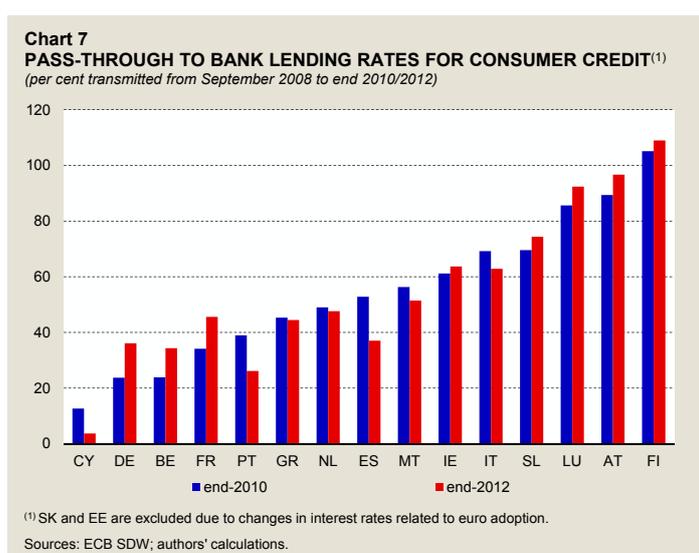
Sources: ECB SDW; authors' calculations.

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[23]   A deeper analysis on this subject is available in Bonnici, J., "Achieving Malta's growth potential in challenging times", *Speech* delivered at the annual dinner of IFS Malta on 29 November 2013.

the median for the euro area countries. This Chart reveals substantially more heterogeneity among euro area countries, highlighting possible differences in the housing market. These include varying preferences for owner-occupancy against renting, or the nature of mortgages offered, like fixed versus floating rates. On one hand, the pass-through to mortgage interest rates in countries like Germany, France and the Netherlands was very sluggish, standing at less than 20%. This is to be expected given that most mortgages are of a fixed rate nature in these countries.[24] At the other end of the spectrum, the pass-through in countries like Finland, Portugal and Slovenia exceeded 100%.

Chart 7 plots the pass-through from policy rates to lending for consumer credit. As in the previous case, the pass-through in Malta stands at slightly less than 60%, broadly in the middle of the range for euro area countries. Again, pass-through in this lending category exhibits significant heterogeneity among euro area countries, with Cyprus and Finland standing at the extremes, with a pass-through below 20% and exceeding 100%, respectively.

Charts 8 and 9 plot the pass-through to rates on bank deposits belonging to households and NFCs, respectively. As with lending rates, we observe a substantial degree of heterogeneity among euro area countries. In Malta's case, the pass-through

Chart 7
PASS-THROUGH TO BANK LENDING RATES FOR CONSUMER CREDIT[1]
(per cent transmitted from September 2008 to end 2010/2012)

[1] SK and EE are excluded due to changes in interest rates related to euro adoption.
Sources: ECB SDW; authors' calculations.

Chart 8
PASS-THROUGH TO BANK DEPOSIT RATES TO HOUSEHOLDS
(per cent transmitted from September 2008 to end 2010/2012)

Sources: ECB SDW; authors' calculations.

Chart 9
PASS-THROUGH TO BANK DEPOSIT RATES TO NFCs
(per cent transmitted from September 2008 to end 2010/2012)

Sources: ECB SDW; authors' calculations.

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24   Lea, M., "International comparison of mortgage product offerings", *Special Report*, Research Institute for Housing America, 2010.

from the policy rate to the deposit rates amounted to around 54% for households and 78% for NFCs, when calculated until the end of 2010. However, we observe a slight decline in the pass-through in both rates when the sample is extended to the end of 2012, suggesting a drop in the responsiveness of domestic deposit rates to monetary easing by the ECB in 2012.

The pass-through to deposit rates in stressed economies declined considerably when calculated until the end of 2012. For instance, the pass-through to the deposit rate to NFCs halved in Greece, Cyprus and Italy. More pronounced changes were witnessed in rates paid on households' deposits. In Italy the pass-through was even negative, implying that the deposit rate to households at the end of 2012 was higher than in September 2008, despite the monetary easing by the ECB. Large reductions in the pass-through were also seen in Greece and Portugal and, to a lesser extent, in Slovenia and Ireland. It is likely that, in spite of falling policy rates, banks in these countries had to raise deposit rates to limit outflows and to secure a stable source of funding, as wholesale funding became more difficult to obtain.

Conclusion

The pass-through constitutes an essential link in the monetary policy transmission mechanism through which changes in policy rates set by central banks affect economic activity, and ultimately prices. This article has presented econometric estimates of the pass-through from policy rates to bank lending and deposit rates in Malta.

We found evidence of incomplete pass-through from policy to retail rates in Malta, both in the short and long run. As expected, this pass-through takes time and impact multipliers were lower than the long-run multipliers. Impact multipliers were generally higher for lending rates than for deposit rates, reflecting institutional factors. Econometric estimates point to a reduction in the interest rate pass-through when the financial crisis period is included in the sample for deposit rates as well as for lending rates charged to NFCs. The long-run pass-through to household lending rates, however, was hardly affected.

Comparison across euro area countries revealed a substantial degree of heterogeneity in the pass-through of policy changes to retail rates after the onset of the financial crisis. In Malta only around 60% of rate cuts by the ECB since September 2008 were transmitted to lending rates to NFCs and households by the end of 2012.

Focusing on lending rates charged to NFCs, the estimated pass-through for Malta is one of the lowest in the euro area. The sluggish pass-through both for small and large business loans, and the relatively high borrowing costs for domestic NFCs, could adversely affect the borrowing and investment decisions of firms, notably SMEs, for which bank lending constitutes an important funding source. The pass-through for household mortgage loans, as well as consumer credit, is broadly in line with the median for the euro area countries.

The pass-through for deposit rates was higher for NFCs than households, although there were indications of a slight decline when extending the sample to the end of 2012, suggesting a drop in the responsiveness of deposit rates to the monetary easing of the ECB in 2012. The latter behaviour is, however, not restricted solely to Malta but is observed in almost all euro area countries, being especially pronounced in stressed economies. Overall, the pass-through to deposit rates in Malta was close to the median in the euro area.

Further research in this area is warranted. An interesting avenue would be to control for additional factors, for instance, structural features of the banking sector or the balance sheets of credit institutions and of borrowing firms. These considerations could influence the strength and degree of interest rate pass-through. They could also help to explain the reduction in the interest rate pass-through during the financial crisis and, more generally, the observed heterogeneity in the pass-through in euro area countries.