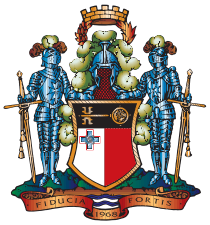

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SPECIAL FEATURE: BANKS' EXPOSURE TO REAL ESTATE MARKET AND THE CENTRAL BANK OF MALTA'S MACROPRUDENTIAL POLICY RESPONSE

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SPECIAL FEATURE: BANKS' EXPOSURE TO REAL ESTATE MARKET AND THE CENTRAL BANK OF MALTA'S MACROPRUDENTIAL POLICY RESPONSE

This special feature provides an evaluation of potential risks and vulnerabilities emanating from the residential real estate market in Malta which could have an impact on the banking sector; and the Central Bank of Malta's policy response as the relevant macroprudential authority. The feature is divided into three parts: Panel A describes the general trends in the property market and banks' lending behaviour towards this segment of the market. It indicates that whilst house prices have picked up recently, monthly average repayment to average wage ratios remain well below the mid-2000s. Banks' exposure to the property market may have risen but it is mainly through mortgages, as lending to developers has fallen.

The second panel discusses the theoretical and empirical case for the implementation of borrower-based measures, based on international evidence. Its main conclusion is that empirical evidence suggests that macroprudential instruments are effective in smoothing cyclical fluctuations. Establishing a macroprudential framework allows policy-makers to anticipate and act in the build-up phase of the credit cycle.

Panel C, in turn, gives a detailed overview of the borrower-based measures introduced in Malta through the Central Bank of Malta Directive No. 16 published in March 2019. This panel also features an impact assessment of these policy measures on the economy and households in particular. It indicates that the reduction in mortgage credit due to these measures should have a negligible impact on the domestic economy in the short term, whilst improving its resilience to any future shocks.

Panel A: Trends in the Real Estate Market and Banks' Lending Practices in Malta[1]

Introduction

A well-functioning property market is important for economic and financial stability. Apart from being the prime component of households' wealth where homeownership is prevalent, real estate also influences the accommodative capacity of any given economy as well as being an important source of investment. Thus, large and volatile house price fluctuations tend to adversely affect a country's economic performance and consequently threaten financial stability. These adverse effects were laid bare during the global financial crisis of 2008. Specifically, falling property prices exerted a negative wealth effect on households, resulting in lower private consumption. Meanwhile, the construction sector experienced a contraction, with ripple effects on other economic sectors affecting their profitability and in turn wages. This led to increased defaults for the banking sector, which impacted their asset quality and profitability. Firms' borrowing capabilities also declined, as the value of their collateral decreased.

According to provisional data from the third wave of the Household Finance and Consumption Survey in Malta, 86.7% of households' total assets in 2016 were predominantly in the form of real assets, around 80% of which were in the form of real estate.[2] Malta boasts a high homeownership rate with 81.3% of households owning their own property in 2017, significantly surpassing the euro area average of 66.1%.[3] Real estate also serves as collateral for households and corporates to obtain their financing needs. Indeed, by end 2018 immovable property represented 87.4% of total extendable collateral on the core domestic banks' balance sheets. This covered almost two-thirds of the loans granted by this group of banks, in turn highlighting the importance of collateral as a credit risk mitigation policy.

Property Price Developments

Though they went through various phases in the last three decades, house prices have historically withstood adverse economic developments in Malta. Between 1985 and 2007, house prices grew almost uninterrupted. This, amongst other factors, reflected limited alternative investment opportunities due to exchange

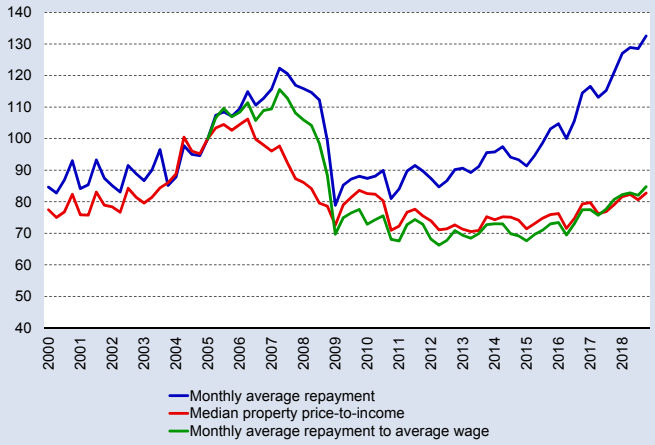
[1] Prepared by Andrew Spiteri, a Senior Expert within the Financial Stability Surveillance and Assessment Office of the Central Bank of Malta.

[2] The third wave of the Household Finance and Consumption Survey is the latest survey available which was conducted in the first half of 2017, with reference date of 2016.

[3] Source: Eurostat, Financial Balance Sheets

controls in place, which were completely abolished in 2004, and the steady growth of income which was channelled to the property market. Furthermore, the liberalisation of the banking sector in the early 1990s ended an era of financial repression which led to declines in interest rates, fuelling demand further. In addition, the repatriation schemes adopted between 2001 and 2005 diverted significant funds towards the property market. Malta's accession in the EU in 2004 also led to improved expectations of economic prospects, driving house prices further up.[4] As a result both the average monthly repayments – based on an assumed maturity period of 40 years to purchase a median property – and the median property price-to-income – which measures housing affordability – increased significantly, peaking in 2007 and 2006 respectively (see Chart 1).[5]

Chart 1
PROPERTY FINANCING COSTS AND AFFORDABILITY
(Index. 2005Q1 = 100)

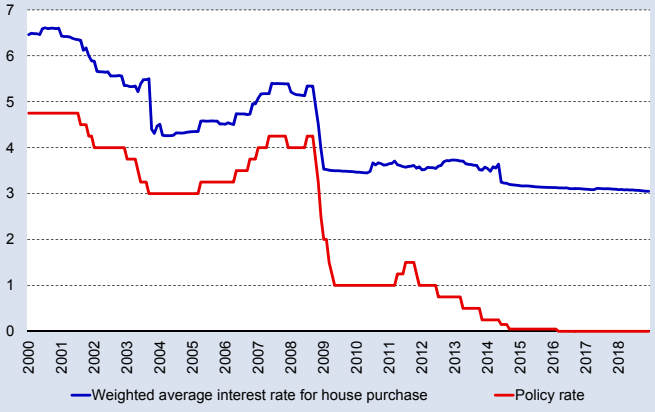


Source: Central Bank of Malta.

"The low interest rate environment ... contributed to drum up housing demand as borrowers could finance the acquisition of property at a relatively cheaper rate"

Thereafter, house price growth slowed down with drops recorded in 2009, 2011 and 2013 as the global financial crisis resulted in some spill-over effects. The accommodative monetary policy response by the European Central Bank pushed down the weighted average interest rate on loans for house purchase from more than 5% in 2007 to just above 3% in 2010 and remained relatively stable thereafter (see Chart 2). Lending rates in Malta are based on the banks' base rate which in turn tend to follow – albeit sometimes with a lag – developments in the ECB's main refinancing operations rate.[6] As a result both the average monthly repayments and the median property price-to-income ratio declined to levels generally in line with those reported in 2000 and remained generally stable until 2014.

Chart 2
WEIGHTED AVERAGE INTEREST RATE ON LOANS FOR HOUSE PURCHASE
(EUR billions; % of GDP)



Source: Central Bank of Malta.
Note: Policy rate reflects the CBM rate up until 2007. Thereafter it reflects the ECB main refinancing rate.

Since 2014, house price growth gathered momentum, averaging at around 5.8% in 2018. Various factors can be attributable for this increase including the low interest rate environment which contributed to drum up housing demand

[4] Source: Central Bank of Malta, Annual Report 2016, Box 3: An assessment of the Maltese Housing Market

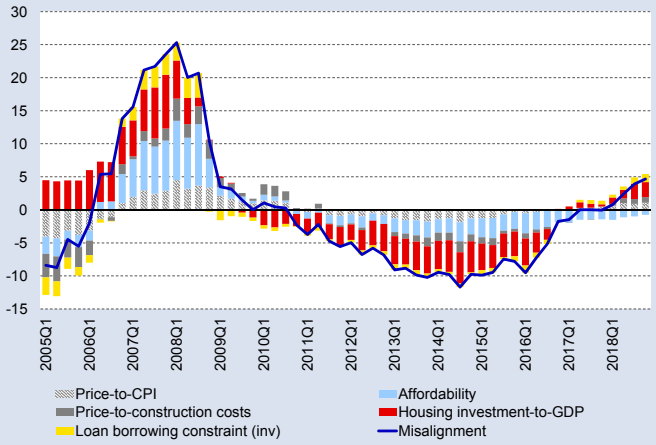
[5] The average monthly repayment is based assuming a down-payment of 10% and a mortgage with a term of 40 years. A shorter maturity would result in a larger monthly average repayment.

[6] Source: Interest rate pass-through in Malta, Central Bank of Malta, 2014. The responsiveness of lending rates in Malta to changes in the ECB's main refinancing rate decreased in recent years as observed by the increased spread between the two rates.

as borrowers could finance the acquisition of property at a relatively cheaper rate. Demand was further incentivised via budgetary measures first announced in November 2013 aimed at first-time buyers and, more recently, also for second-time buyers.

Inward migration also drove up demand, together with a flourishing tourism industry which has seen a greater share of tourists staying in rented private accommodation.

Chart 3
HOUSE PRICE MISALIGNMENT INDEX
(percentage points; based on transaction prices)



Source: Central Bank of Malta.

At the same time, robust job-rich economic growth has led to increases in disposable income, supporting borrowers to climb up the property ladder. Female participation in the labour market also increased significantly, from just 37.7% in 2007 to 63.4% in 2018, boosting households' income, which in turn may have cushioned the impact of higher property prices. Indeed, whilst the average monthly repayments increased significantly in recent years surpassing the peak in 2007, the increase in the monthly average repayment compared to the average wage was much more contained and below the levels reported in 2006-2007. This development is also mirrored in the median price-to-income ratio.

"This represented the highest number of dwelling permits issued in one year, compared to the previous high of 11,343 units reported in 2007"

Demand pressures led supply to respond, with the number of permits for the construction of dwellings increasing by more than 30% annually in these last four years, to reach 12,885 in 2018. This represented the highest number of dwelling permits issued in one year, compared to the previous high of 11,343 units reported in 2007.[7]

Such house price increases in part corrected for past price misalignments, though in recent quarters the Central Bank of Malta's house price misalignment index showed house prices to be slightly above the level consistent with fundamentals. Still, this level remains significantly contained when compared to the level reported prior to the intensification of the global financial crisis (see Chart 3).

Banks' Exposure to other Property-related Loans

Resident credit by the core domestic banks was predominantly driven by mortgage lending, which picked up further in 2018, growing by 8.8%, 0.6 percentage point higher than in the previous year. Despite this increase, growth was still significantly lower than the double-digit growth rates recorded pre-2008, and it was still proportionate to nominal GDP growth. The share of resident mortgages to total resident lending rose to account for almost half of the banks' lending portfolio compared to around 32% a decade before. Meanwhile, lending to resident construction and real estate rose by 7.0% during 2018, following a number of years of anaemic or negative growth as supply was correcting for previous imbalances in the market.

"The share of property-related lending in the banks' loan portfolio increased from 52.2% in 2008 to about 63% in 2018"

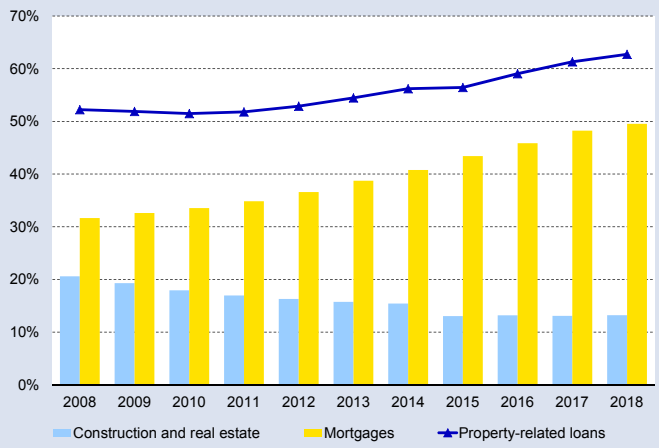
Overall, the share of property-related lending in the banks' loan portfolio increased from 52.2% in 2008 to about 63% in 2018 (see Chart 4).

[7] Other measures include a relaxation of height restrictions in highly urbanised areas and amendments to the legal framework of the rental market, increasing the supply of properties for rent.

As can be seen in the chart, the composition of banks' exposure to the real estate market shifted considerably in the last ten years, away from the construction and real estate sector towards mortgages. From a risk-based perspective, this translates into lower concentration risk as lending is increasingly spread among a larger number of small borrowers rather than concentrated on a small number of large borrowers. This is more so since households' balance sheets have remained generally resilient in the past decade. In fact, despite the increase in borrowing by households, household debt-to-GDP continued to decrease to just below 50% in 2018, whilst household debt-to-disposable income stood at 89.8% in 2018, below the euro average of 93.5% (see Chart 5).[8] Furthermore, households continued to accumulate wealth, with their net financial wealth expanding by 4.6% in 2018 to around 158% of GDP. This growth mainly stemmed from higher holdings of currency and deposits which accounted for more than half of their financial wealth.

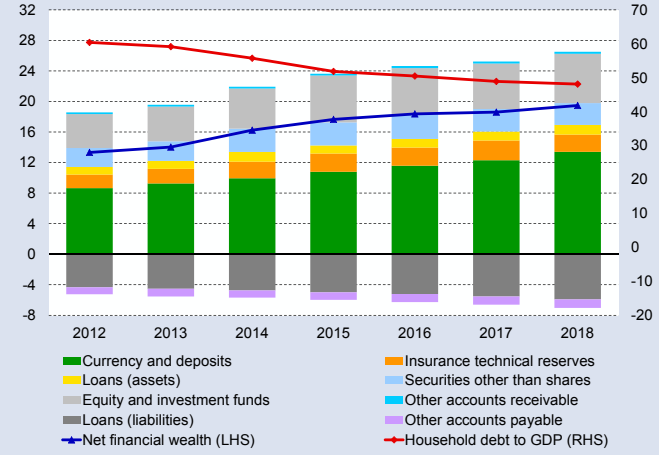
"Lending is increasingly spread among a larger number of small borrowers rather than concentrated on a small number of large borrowers"

Chart 4
SHARE OF PROPERTY-RELATED LOANS
(per cent of total resident loans)



Source: Central Bank of Malta.

Chart 5
NET HOUSEHOLD FINANCIAL WEALTH
(EUR billions; % of GDP)



Source: Central Bank of Malta.

Lending Practices by Core Domestic Banks

To better assess developments in banks' lending behaviour towards real estate, in 2015, the Central Bank of Malta launched a Real Estate Lending Practices Survey (RELPS) among the core domestic banks to gather granular information on their lending policies. The survey distinguishes between first-time buyers and other buyers, the latter further split between those upgrading their primary residence and others purchasing their second property. This survey was supplemented with a one-time exercise to collect a sample of loans granted between 2011 and 2015.

Survey results indicated that the overall weighted loan-to-value (LTV), loan-to-income (LTI) and loan-service-to-income (LSTI) ratios for residential real estate loans at origination remained conservative at an aggregate level.[9] In 2018, the overall weighted average residential LTV stood at 72.7%, with a LTI and LSTI of about

[8] Source: ECB Household sector report, 2018 Q4.

[9] For each bank, the LTI and LTV, ratios are weighted on the credit limit whilst the LSTI is weighted on the debt servicing (annual repayment) of the residential real estate loan. Subsequently the individual banks' ratios are weighted according to the respective bank's market share to arrive at the overall weighted average ratios.

Table 1
CORE DOMESTIC BANKS' LENDING PRACTICES − 2018

RRE Market	LTV *(per cent)*	LTI *(per cent)*	LSTI *(per cent)*	Maturity *(years)*
90th percentile	90.0	606.7	30.0	39.0
75th percentile	88.2	517.3	26.3	35.0
Median	77.3	400.7	21.3	30.0
Average	69.4	392.1	20.9	28.6
Weighted average	72.7	423.3	23.3	27.7

Source: Central Bank of Malta.

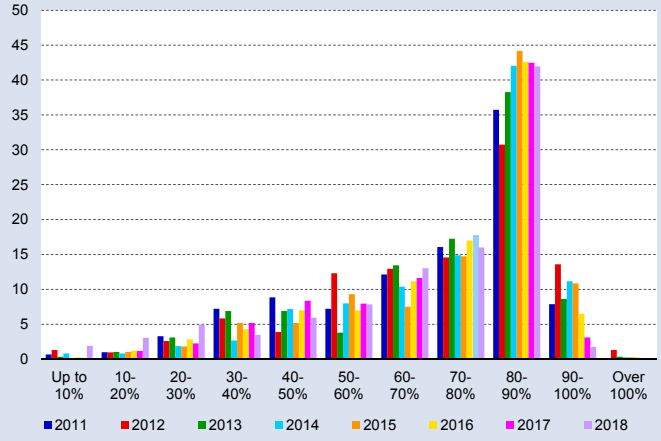
4.2 times and 23.3%, respectively. The average maturity of such loans stood at just under 28 years (see Appendix 1).

Aggregate levels, however, hide dispersions in the data, with some pockets of vulnerabilities existing at the tail ends of the distribution (see Table 1). At the 90th percentile, the LTV ratio was 90%, in line with the internal banks' policy which generally requires a minimum down-payment of 10%. Residential real estate (RRE) loans remained mainly concentrated in the 80-90% LTV bucket (see Chart 6). The share of loans exceeding 90% has decreased throughout the years assessed, indicating that tail end risks declined. Indeed in 2018, only 1.9% of total RRE loans exceeded the 90% LTV ratio in 2018, compared to a high of almost 15% in 2012, some of which are backed by additional collateral.

"Borrowers are increasingly required to borrow more compared to their income, resulting in higher loan repayments, possibly indicating increasing pockets of vulnerability should there be a downturn"

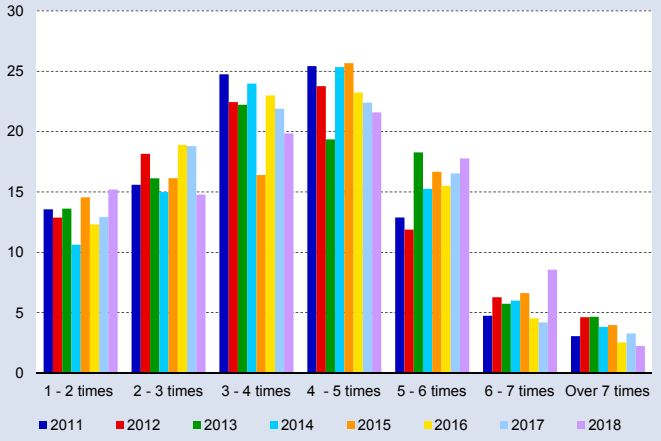
Almost half of loans are concentrated within the three to five times the gross income. However, the share of loans within the 5-6 times bucket increased throughout the periods assessed (see Chart 7). Similarly, a shift was observed in the LSTI which moved from 15%

Chart 6
LTV − DISTRIBUTION TIME SERIES
(per cent)



Source: Central Bank of Malta.

Chart 7
LTI − DISTRIBUTION TIME SERIES
(per cent)



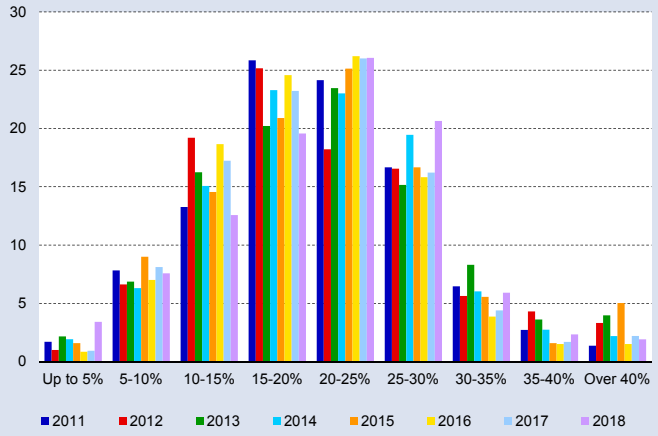
Source: Central Bank of Malta.

to 20% between 2011 and 2014 to 20% and 25% bucket in recent years (see Chart 8). This indicates that borrowers are increasingly required to borrow more compared to their income, resulting in higher loan repayments, possibly indicating increasing pockets of vulnerability should there be a downturn.

Some differences are also observable between categories of borrowers. First-time buyers tend to be younger, taking loans with a longer term-to-maturity generally until retirement age. Indeed, during the period under review, the weighted average term-to-maturity stood at an average of 32 years, about six years longer than loans taken up by other buyers. First-time buyers also tend to have a lower down payment which is reflected in a higher average LTV. On average it stood at 77.3%, again noticeably higher than for other buyers, particularly for those purchasing their primary residences which, in turn, tend to have a lower LTV, as the down payment is generally available from the sale of their previous primary property. Indeed, on average almost half of first-time buyers were granted a LTV of between 80 to 90%, with the share increasing during the period assessed, whilst loans with LTVs in excess of 90% declined. Meanwhile, the share of loans within the 80 – 90% bucket are lower for the two groups within the non-first time buyers segment, particularly those purchasing a new primary residence (see Chart 9).

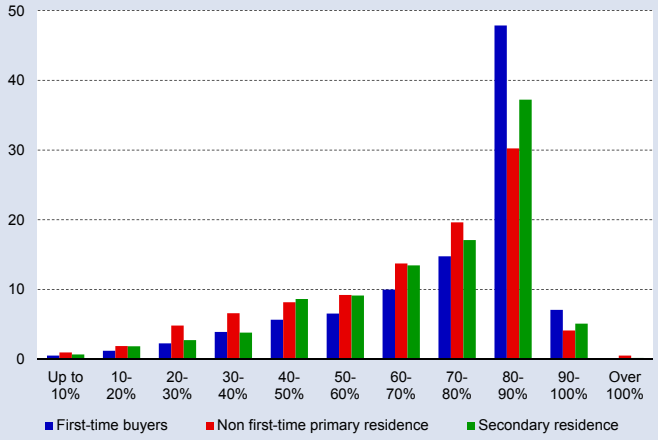
The LTI for first-time buyers stood on average at 4.3 times the gross income, higher than the 4.1 times reported by other buyers. The higher average LTI ratio for first-time buyers is attributable to the larger number of loans within the '4 to 5' and '5 to 6' times the gross income (see Chart 10).[10] In

Chart 8
LSTI – DISTRIBUTION TIME SERIES
(per cent)



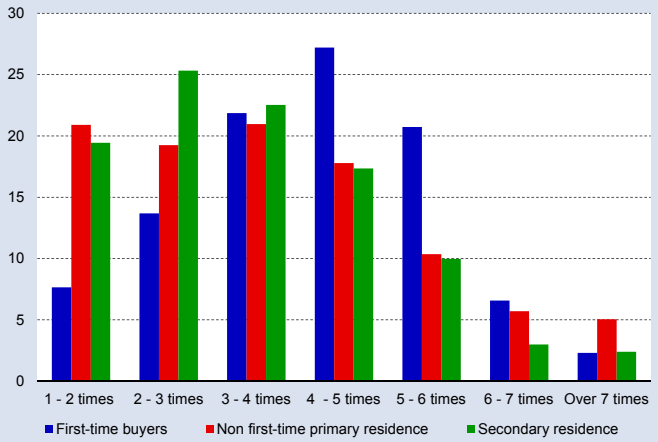
Source: Central Bank of Malta.

Chart 9
LTV – DISTRIBUTION BY CATEGORY
(per cent)



Source: Central Bank of Malta.

Chart 10
LTI – DISTRIBUTION BY CATEGORY
(per cent)

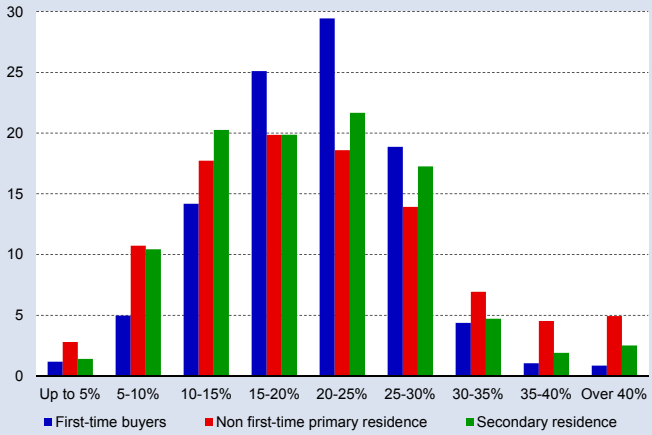


Source: Central Bank of Malta.

[10] A substitution effect was observed where loans within the 3-4 times the gross income decreased throughout the period assessed and instead more borrowers were granted loans of 5-6 times their gross income.

contrast, second-time buyers are more inclined to have lower LTI ratios. Nevertheless, given the longer maturity, the debt repayment burden for first-time buyers tends to be somewhat lower at 21.8%, as repayments are spread across a longer timeframe, compared to 26% for other buyers. Indeed, most first-time buyers have an LSTI in the 15%-25% buckets with only 6.3% of loans exceeding the 30% level. Non-first time buyers have a larger number of loans in the tail ends, with 16.4% of loans for primary residence exceeding an LSTI of 30% whilst 9.1% of the loans for secondary residences exceeded this limit (see Chart 11).

Chart 11
LSTI – DISTRIBUTION BY CATEGORY
(per cent)



Source: Central Bank of Malta.

Characteristics of Mortgage Loans

Based on information obtained from the RELPS, the vast majority of mortgage loans granted in Malta are amortising variable rate loans. Drawing from the banks' regulatory reporting in 2018, 62.1% of the loans for house purchase were granted at variable rates or at a fixed rate for up to one year; compared with 74.3% in 2017. Almost all of the remaining mortgage lending was granted with an initial interest rate fixation period of between one and five years. These are typically loans granted with a fixed interest rate period of between two to three years, at a rate which is somewhat lower than that for variable rate loans. When the fixed interest rate period expires, these loans become variable rate loans in line with the normal practice in Malta. The share of such loans increased in 2018, amounting to 37.7% of total loans granted, compared with 25.4% granted in 2017. Meanwhile, only 0.2% of the total mortgages have a fixed interest rate for over five years.

"Tests show that on the back of already conservative lending practices, the debt service burden is estimated to remain sustainable under a stressed scenario, though pockets of vulnerabilities do exist"

Variable rate loans contribute to mitigate interest rate risk for banks but may be considered as riskier from a borrowers' perspective – particularly in the event of rising interest rates, leading to higher debt servicing costs and potentially higher credit risk. For this reason, the Central Bank of Malta runs regular stress tests on households' ability to pay, sampled from the RELPS simulating a scenario in which interest rates increase by 150 basis points. These tests show that on the back of already conservative lending practices, the debt service burden is estimated to remain sustainable under a stressed scenario, though pockets of vulnerabilities do exist given households' income heterogeneity. Indeed, in such a stressed scenario, based on the 2018 sample of mortgage loans, the share of all exposures to exceed a LSTI of 40% would increase by only 2.5 percentage points to 4.4%. Given the small magnitude of resulting distressed households, these are not expected to be systemic in nature. Meanwhile, only 0.8% of first-time buyers exceeded the 40% LSTI threshold when shocked, with only 10.1% and 5.3% for non first-time primary residence and secondary residence, respectively.

Panel B: Borrower-based Measures – Theory and Practice[11]

The Case for Borrower-based Macroprudential Policy

Borrower-based measures, such as Loan-to-Value (LTV), Loan-to-Income (LTI) and Debt-Service-to-Income (DSTI) ratio restrictions, operate on households which seek to part-finance the purchase of residential property through a bank loan. In the case of LTV ratio restrictions, a bank typically offers to lend up to a maximum fraction of the value of the property under consideration. This fraction is the maximum LTV ratio, and the relationship between the loan offer, the property value and the maximum LTV ratio can be represented by the inequality:

$$\textbf{Loan offer} \leq LTV^{max} \times \textbf{Property Value} \quad (1)$$

Prospective buyers decide how much of the property value they can finance using own funds, and determine the funding gap that needs to be filled through a bank loan.[12] If the loan offer is just enough to satisfy this funding gap, then the borrower is said to be *constrained* by the borrowing limit implied by the maximum LTV ratio. If, on the other hand, the funding requirements are lower than the limit, then the borrower is unconstrained. A high maximum LTV ratio allows potential buyers to leverage up their purchase of the property, reducing their reliance on internal funds.

In the case of LTI ratio restrictions, the bank lends up to a multiple of one's annual income, whilst a limit on the DSTI ratio aims to keep the servicing requirements manageable, such that the loan is less likely to become 'non-performing' in the event of an economic slowdown.[13]

Note that in inequality (1) above, the maximum loan that is offered is affected by both the maximum LTV ratio and the value of the property. In theory, a rise in property prices could, all else equal, lead to a rise in mortgage credit if borrowers are unable to finance the increase in price using own funds.

In this scenario, property demand may keep on rising despite the increase in prices, and banks may continue to extend high LTV loans which are backed by the rising collateral value of housing.[14] Left unchecked, this process can spiral off to unsustainable trends and may even lead to a financial crisis that is followed by a recession, similar to the events that unfolded across several advanced economies in 2007/2008.[15]

> *"Highly leveraged house purchases across a large cross section of households in the economy can lead to an overheated property market and ultimately increased systemic risk"*

Whilst a single 'high LTV' transaction may not pose any risks to the individual or to the financial system as a whole, highly leveraged house purchases across a large cross section of households in the economy can lead to an overheated property market and ultimately increased systemic risk.[16] This is because high indebtedness makes households more vulnerable to negative shocks, such as rising interest rates or a fall in asset prices. Indeed, high economy-wide leverage in the real estate market is shown to be the single most important predictor of financial crisis across many countries (Jorda et al. 2016; Schularik and Taylor, 2012). Maintaining financial stability by, *inter alia*, limiting vulnerabilities brought on by excessive credit growth is therefore a prime objective of macroprudential policy (ECB, 2016). To this end, policy tools which aim to limit a rise in leverage such as maximum LTV, LTI and DSTI ratios are needed.

[11] Prepared by William Gatt, Principal Research Economist in the Research Department of the Central Bank of Malta, and Ph.D. Candidate, School of Economics, University of Nottingham. I would like to thank Brian Micallef for valuable comments and suggestions.

[12] Note that $(1 - LTV^{max})\%$ is the down payment made on a mortgage.

[13] Mortgage payments would subsequently reduce the level of disposable income the borrower has available to finance other expenditure. If the monthly payment eats up a big chunk of the borrower's salary, then it is likely that the borrower becomes unable to meet the monthly obligations if hit by an adverse shock, such as unemployment.

[14] This phenomenon is referred to as the financial accelerator; see Kiyotaki & Moore (1997) and Iacoviello (2005).

[15] Whilst a financial accelerator can also take place due to an LTI constraint, empirically property prices are much more volatile than income, and therefore the key link is between credit and house prices.

[16] It is for this reason that some countries have opted for a 'speed limit' approach, allowing some individuals to take on higher leverage than the regulatory threshold. See below for further details.

Introducing lower LTV and LTI ratio requirements during real estate booms would limit an economy-wide rise in mortgage credit.[17] In this case, a prospective borrower who was previously unconstrained but is now up against either the LTV or LTI limit would need to accumulate more internal funds. To this end, such macroprudential policies not only reduce leverage but also encourage household saving.[18] Furthermore, proactive policy establishes the regulatory framework ahead of a rise in systemic risk, introducing leverage limits which are not presently constraining, but readily available for any anticipated rise in vulnerability.

Whilst some countries have been using borrower-based macroprudential tools for several years, many more have established such policies in the wake of the financial crisis of 2008. Cerutti et al. (2017) use the Global Macroprudential Policy Instruments survey database compiled by the IMF and document that, in 2000, 9% of countries from a sample of 119 had at least one borrower-based policy in place. This rose to 34% by 2013. The authors find that the implementation of borrower-based tools had a negative and statistically significant effect on household credit in advanced economies.[19] Although the success or lack thereof of these policies is not conditional on which institution implements these policies, the authors document that 70% of all policy tools across the 119 countries are implemented by the central banks of these countries.

Selected Case Studies

We now look at a few case studies of countries which adopted one or several of these borrower-based tools for macroprudential considerations since the financial crises.[20] In practice, there is a general tendency to treat differently the purchase of a house for own residency, and that for rental investment purposes (henceforth buy-to-let). The latter is typically subject to tighter restrictions as such loans are regarded as riskier and more prone to speculation (Bank of England, 2015; Cassidy and Hallissey, 2016).

Sweden was amongst the first in Europe to introduce a maximum LTV requirement of 85% in October 2010, and at the time it was estimated to have affected one in every five new buyers (Andersson et al., 2018). This measure was introduced by Finansinspektionen, the financial supervisory authority in Sweden, during a time of rising household leverage. Andersson et al. (2018) conducted formal analysis based on survey data and showed that the introduction of the mortgage cap in Sweden lowered borrowing by households who were constrained by the limit and led them to purchase less expensive houses. Additionally, this policy affected mostly borrowers younger than 30 and older than 65 years, lowering the debt they took on by about 20%. Meanwhile, mortgage applicants aged between 31 and 65 lowered their total debt by around 10%. In June 2016, an additional amortisation requirement was imposed for households taking on mortgages with an LTV ratio greater than 50%. This causes households to repay the principal component of the loan quicker, thus reducing household indebtedness and increasing household resilience.[21] The authors show that these policies have played a role in further reducing household indebtedness by leading households to take on smaller mortgages.

The Reserve Bank of New Zealand introduced its macroprudential policy framework in October 2013, when the property market in New Zealand was running hot and both interest rates and inflation were very low. Instead of imposing a maximum LTV limit across the board, it adopted a so-called ‘speed limit’ approach, in which banks can issue a small fixed share of new loans at an LTV greater than the maximum (Hargreaves, 2016). Therefore, although this policy set the maximum LTV ratio for house loans at 80%, it allowed banks the possibility to write up to 10% of new loans for a higher share of the total value of the property to be purchased. It revised these thresholds a few times since 2013. In November 2015, the Reserve Bank of New Zealand relaxed the speed limit to 15% for mortgages across all cities except for Auckland, which was rather

[17] Crowe et al. (2013) find a positive relationship between the maximum LTV in an economy and the extent of house price appreciation. Although not necessarily causal, it illustrates an important link between these two variables. Alam et al. (2019) recently provide evidence in favour of a causal relationship from a reduction in LTV limits to lower credit growth, especially when maximum LTV regulation is introduced in an environment of a generally loose LTV cap.

[18] A smaller loan with the same maturity for the same property also implies lower mortgage payments relative to income.

[19] See also Kuttner and Shim (2016), who find that DSTI ratio reductions slow down growth in housing credit.

[20] It is worthwhile noting that the Hong Kong Monetary Authority has been using maximum LTV ratio policy since 1991.

[21] Households with LTV ratio greater than 70% must amortise at least 2% of the loan each year, whilst those with an LTV between 50% and 70% must amortise at least 1%. These requirements were tightened further in March 2018 for households with an LTI ratio greater than 4.5, which must amortise an additional 1% a year; see Finansinspektionen (2018).

uniquely experiencing strong house price and credit growth. Furthermore, it introduced lower limits for buy-to-let loans at 70% (with a speed limit of 5%).[22]

The Reserve Bank of New Zealand does not stick to any formal policy rules to re-assess these thresholds but instead opts for "guided discretion" by looking at several indicators and publishes these considerations in its Financial Stability Reports (Rogers, 2014, p. 7). It has described its experience so far with this borrower-based macroprudential policy as a "qualified success" (Spencer, 2018, p. 4).

The Central Bank of Ireland introduced maximum LTV and LTI ratios in February 2015, during a period of strong house price growth, following a two-month consultation process. The aim of these mortgage market measures is "to mitigate the risks of credit-house price spirals emerging" (Central Bank of Ireland; 2017, p. 4). However, the objective of these policies is not to influence house prices directly. The policy set an LTV ratio limit of 90% on loans for first-time buyers on the first €220,000, and 80% for values above this, whilst second and subsequent buyers faced a maximum LTV ratio of 80% on the full amount. A speed limit of 15% for both categories applies.[23] On the other hand, buy-to-let borrowers were subject to a 70% LTV ratio limit, with a 10% speed limit allowance. The Central Bank of Ireland also introduced complementary maximum LTI ratios of 3.5 of borrowers' combined gross annual income, with a speed limit of 20% for primary dwelling homes.[24] In January 2018, it tightened policy by revising the LTI ratio speed limit down to 10% for second and subsequent buyers. However, it kept the speed limit for first-time buyers unchanged since most borrowers in this category tend to be young and therefore are more likely to experience strong income growth until the loan matures.[25]

The Bank of Portugal very recently introduced three borrower-based macroprudential measures in the form of maximum LTV ratios, DSTI limits and limits on term-to-maturity. Maximum LTV limits of 90% and 80% apply for the purchase or construction of one's residence and for purposes other than own residence, respectively. At the same time, most loans must carry a DSTI ratio of up to 50%, with up to 20% of new loans limited to a 60% DSTI ratio, and a further 5% with no limit. Furthermore, the term-to-maturity of these mortgages is limited to 40 years, with an aim to reduce the average maturity of new mortgages to 30 years by 2022. The DSTI limits are 'stressed' limits, in the sense that the debt servicing calculation for variable rate mortgages takes into account the effect of a potential future rise in the interest rate. This approach makes borrowers more resilient to a higher cost of borrowing brought on by monetary policy tightening, reducing the potential for non-performing loans.

[22] In October 2016 the speed limit for residential mortgage loans was again tightened to 10%, and the maximum LTV ratio for buy-to-let loans was further reduced to 60% at the same speed limit of 5%. This was due to continued strong activity in the housing market. After signs of a moderation in the housing market, in January 2018 the Reserve Bank of New Zealand relaxed the speed limit on residential mortgages to 15%, and raised the maximum LTV ratio on buy-to-let loans to 65%.

[23] To reflect developments in house prices, the Central Bank of Ireland removed the property value threshold and allowed all borrowing to first time buyers to be capped at a 90% of the total value of the property. At the same time, it reduced the speed limit to 5% for loans above this ratio, and raised the speed limit for non-first time buyers to 20%. See Central Bank of Ireland (2016).

[24] Some borrowers were exempted from these measures; see Cassidy and Hallissey (2016) for further details.

[25] See Central Bank of Ireland (2017).

Panel C: The Policy Response[26]

Real estate lending is prone to cyclical fluctuations. In the booming phase, strong labour markets, optimistic economic outlook and abundant credit feed into high demand, which tends to push property prices up. This pro-cyclicality may be further exacerbated if credit standards are eased during an upswing. Such risky behaviour may lead to a deterioration in the resilience of both borrowers and lenders to potential future shocks. Empirical evidence suggests that macroprudential instruments are effective in smoothing cyclical fluctuations (Panel B). The introduction of pre-emptive borrower-based measures (BBMs) reduces the need for further policy measures in case of a turning point in the domestic real estate market and concurrently preserves the current prudent and sound lending standards. To reach this objective, the Bank issued Directive No. 16 on the Regulation on Borrower-Based Measures. Measures had already been taken by domestic authorities to mitigate vulnerabilities in the RRE market, including:

(i) the adoption by the MFSA since 2008 of more stringent measures than those specified in Article 124 of the Capital Requirements Regulation (CRR).[27] In this respect, mortgages secured by residential property attract a higher risk-weight of 35% for that part of the loan where the loan-to-value (LTV) does not exceed the 70% compared to 80% stipulated in the CRR, and a 100% risk-weight is applied for the remaining part of the loan where the LTV exceeds 70%;[28]

(ii) the revised Banking Rule No. 9 – to ensure that domestic banks hold adequate reserves as a buffer against the stock of non-performing loans (NPLs) to strengthen the banks' loss absorbing capacity.[29] This measure acts as an incentive for credit institutions to grant loans in a prudent manner. The Rule also requires the Board of Directors and senior management of a credit institution to implement a robust impairment loss measurement policy and valuation policy as part of its credit risk management framework. The collateral valuation policy should at least comprise the following: (a) the criteria for expertise and independence of the appraiser; (b) the determination of fair value; (c) the determination of costs to sell, if applicable; (d) the assumed time line for recovery; (e) clear instructions to appraisers for the evaluation; and (f) the allocation of fees; and

(iii) the MFSA publication of Banking Notice on the Management of Credit Risk by Credit Institutions, provides best practice guidelines on effective management of credit risk. This Notice is modelled on the main requisites of the document dated September 2000 entitled Principles for the Management of Credit Risk issued by the Basel Committee on Banking Supervision (BCBS).

> *"Such risky behaviour may lead to a deterioration in the resilience of both borrowers and lenders to potential future shocks"*

These policy measures contribute to ensuring financial stability, with capital-based tools targeting lenders' resilience and borrower-based tools strengthening borrowers' resilience and households' financial sustainability. Simultaneously, such tools help protect the banks' balance sheets against any cyclical fluctuations in the property market.

The Bank, as the macroprudential authority, is responsible for formulating and implementing macroprudential policy through a number of tools aimed at containing the build-up of systemic risk. In line with its macroprudential mandate set out in Directive No. 11 and following a recommendation by the Joint Financial Stability Board (JFSB), on 1 October 2018, the Bank launched a public consultation on the proposed regulation on BBMs (see Figure 1).[30]

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[26] Prepared by Svetlana Privitelli, Senior Economist within the Policy and Crisis Management Office of the Central Bank of Malta.

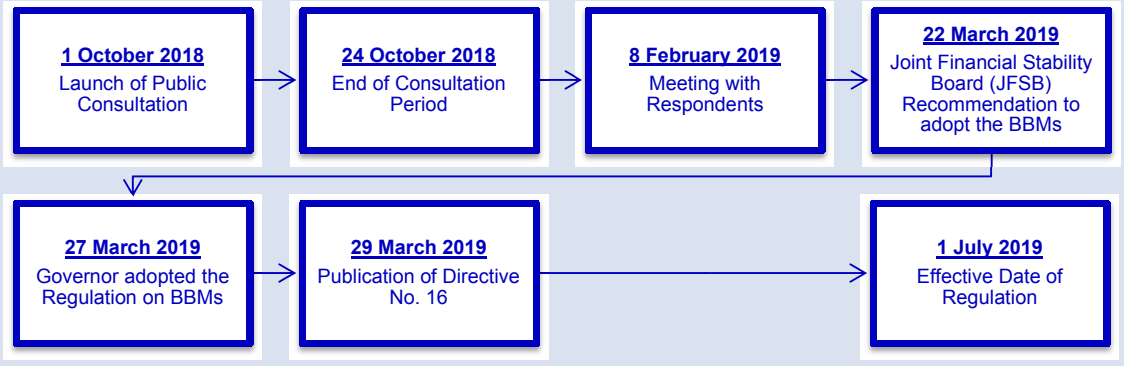
[27] Capital Requirements Regulation https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R0575&from=EN

[28] As per the current Article 124 of the CRR, domestic authorities have the power to set a risk weight of up to 150% or stricter criteria with respect to the LTV level.

[29] BR/09/2013 (Measures Addressing Credit Risks Arising from the Assessment of the Quality of Asset Portfolios of Credit Institutions Authorised under the Banking Act 1994) was revised in December 2016. Credit Institutions with NPL levels higher than the stipulated threshold of 6% would be required to implement an NPL Reduction plan.

[30] Consultation on the Proposed Directive on Borrower-Based Measures
Draft Directive on the Regulation of Borrower-Based Measures

Figure 1
TIMELINE OF BBMs



The Bank received feedback from the Malta Bankers' Association, credit institutions and advisory service firms. On 8 February 2019, the Bank jointly with the MFSA held a meeting with the respondents to discuss the main amendments applied to the proposed Directive following the analysis of the feedback received. Apart from meeting with the banks and their representative bodies, the Bank and the MFSA discussed the proposed Directive with IMF and ECB experts. Following these consultations, on 29 March 2019, the Bank published Directive No. 16 on the regulation of BBMs with an effective date of 1 July 2019. The publication of the Directive was accompanied by a post-consultation feedback statement.

The policy measure introduces limits on specific lending criteria adopted by lenders, including the (i) Loan-to-Value at Origination (LTV-O) ratio, (ii) stressed Debt-Service-to-Income at Origination (DSTI-O) ratio and (iii) maturity (see Table 1). Restricting RRE lending volumes at high LTV-O ratios, DSTI-O ratios and maturities contributes to safeguard the current prudent lending standards adopted by domestic lenders. It is also important to highlight that these measures are not intended to replace lenders' existing internal credit risk assessment policies but rather to strengthen the existing menu of credit risk mitigation tools adopted by domestic lenders. In addition, the limits imposed in the Directive act as a minimum standard and lenders may adopt stricter limits according to their existing internal credit risk assessment policies provided that these are not in breach of the Directive.

In this regard, the measures introduced by the Directive cover all lenders engaged in the granting of domestic new RRE loans secured by RRE to both resident and non-resident borrowers.[31] This means that the Directive does not limit its scope to credit institutions but covers also any potential financial institutions that could grant RRE loans. Such a wider scope, in turn, addresses any potential risk of policy circumvention or regulatory arbitrage.

In terms of the targeted borrowers, the measures distinguish between two categories referred to as Category I and Category II Borrowers in the Directive based on their respective risk profile.

Category I Borrowers includes first-time buyers (FTBs) and non-FTBs purchasing their primary residence who do not have outstanding RRE loans upon the signing of the deed. It also includes borrowers who already own or have owned a primary residence and at the origination of the mortgage loan such primary residence has either already been sold or is covered by a promise of sale agreement. This category also includes borrowers who have pending proceedings before the Civil Court (Family Section) which are hindering the sale of their primary residence. Category I Borrowers purchasing RRE with a collateral market value below €175,000 (excluding haircuts) are exempted from the LTV-O and DSTI-O limits specified in the Directive.[32] Notwithstanding this exemption, loans falling below this threshold are still subject to prudent lending policies

[31] New RRE loans granted to a natural and/or legal person/s from 1 July 2019 are subject to the limits specified in the Directive.
[32] There are no exemptions on the maturity limits.

in terms of the MFSA Banking Notice on the Management of Credit Risk by Credit Institutions authorised under the Banking Act 1994 (BN/01/2002).

On the other hand, Category II borrowers includes any other RRE loan not classified under Category I, including Buy-to-Let (BTL) lending and purchases of summer residences. When compared to Category I borrowers, the borrowers in this category are deemed as exhibiting a higher risk profile and hence merit tighter policy parameters.

In the process of designing the macroprudential measure, the Bank deemed that a combination of borrower-based tools is the most appropriate technique to fulfil the outlined objective of the policy measure. Caps on the LTV-O are considered to lower the potential loss-given default (LGD) for borrowers and banks, whilst income-related caps (e.g. DSTI-O caps) lower the probability of default (PD) of the borrowers (see Panel B). Several EU countries have decided to jointly activate LTV and income-related quantitative restrictions as the joint activation of borrower-based tools prevents the potential circumvention of the policy measure. Whilst on one hand the LTV can directly lower LGD and also the PD of the exposures, the valuation of collateral can be procyclical and less binding in boom periods. Conversely, income limits act as automatic stabilisers as they are less sensitive to the credit cycle.[33]

"A less accommodative monetary policy stance may exacerbate these risks, particularly in the domestic context where mortgage credit is granted at variable interest rates"

During the calibration process, the Bank analysed data on the current lending standards applied by domestic lenders and assessed the potential impact of the BBMs on total credit, house prices and the macroeconomy.[34] The limits were calibrated in a manner to impact loans for borrowers with a riskier profile without significantly affecting lending to households in general as explained above. Furthermore, financial stability risks posed by the current monetary policy stance were also taken into account throughout the calibration process. The current low interest rate environment may act as an incentive for higher leverage and risk-taking as very low interest rates contribute to lower debt servicing and credit risk. Against this background, a less accommodative monetary policy stance may exacerbate these risks, particularly in the domestic context where mortgage credit is granted at variable interest rates. Accordingly, to mitigate these risks, an interest rate shock of 150bps was included in the DSTI-O calculation. The stress test assesses the borrower's ability to repay in the case of an adverse interest rate shock and simultaneously generates a buffer to withstand a

Table 1
SUMMARY OF BORROWER-BASED MEASURES

	LTV-O	DSTI-O	Maturity
Category I Borrowers	90% LTV-O cap with a '*speed limit*' of 10% on the volume of loans, for loans with a market value in excess of EUR175,000	A stressed DSTI-O of 40% for loans with a market value in excess of EUR175,000 with a shock to interest rates of 150 bps	A maturity term of 40 years or the official retirement age – whichever occurs first: 1952-1955: 62 years 1956-1958: 63 years 1959-1961: 64 years Born after 1961: 65 years
Category II Borrowers	Gradual Phase-in: 1st year: 85% LTV-O cap with a '*speed limit*' of 20% on the volume of loans 2nd year: 75% LTV-O cap with a '*speed limit*' of 20% on the volume of loans	A stressed DSTI-O of 40% with a shock to interest rates of 150 bps	A maturity term of 25 years or the official retirement age – whichever occurs first: 1952-1955: 62 years 1956-1958: 63 years 1959-1961: 64 years Born after 1961: 65 years

[33] ESRB – Notifications of Other National Macroprudential Measures https://www.esrb.europa.eu/national_policy/other/html/index.en.html
[34] Data was extracted from the Quarterly Survey on Mortgage and Commercial Lending Practices.

potential future increases in the level of interest rates. The Central Bank of Malta and MFSA have the discretion to adjust the extent of the interest rate shock if prevailing conditions in the RRE market change.

The definitions adopted in the Directive are significantly in line with the ESRB Recommendation on Closing Real-Estate Data Gaps. For the purposes of the Directive, the LTV-O should encompass the sum of all loans or loan tranches secured by the borrower/s on the immovable property at the moment of loan origination relative to the market value of the property at that time. The collateral value should be determined in a prudent and conservative manner, in accordance with the collateral valuation policy criteria set out in Banking Rule No. 9. Only the RRE backing the loan should be included in the calculation of the LTV-O.

The Directive provides the right flexibility to lenders in granting a proportion of their RRE lending volume with higher LTVs, and hence a lower deposit via what this Directive calls 'speed limits'. In other words, lenders will have the discretion to waive the limits and grant loans with an LTV-O ratio of more than 90% (i.e. a required deposit of less 10 %) for 10% of clients classified as Category I borrowers. Similarly, for the case of Category II borrowers, banks will have the leeway to set an LTV-O ratio higher than 75%, hence an upfront deposit of less than 25%, for 20% of their clients in this category. However, when the lender exercises its discretion for a higher LTV-O ratio within the speed limits prescribed in the Directive, additional collateral (both financial and non-financial) ought to be included. Such additional collateral should be in compliance with the internal policies of the lender. Given that the speed limit is based on a semi-annual basis, lenders have adequate time to compensate for any divergences.

The Directive also stipulates that the DSTI-O should include the annual total debt service relative to the total annual gross income of the borrower/s at the moment of loan origination, whilst the annual total debt should cover the total committed secured and unsecured borrowing of the borrower/s. Furthermore, the Directive states that the stressed DSTI-O should be calculated as follows:

$$\text{DSTI-O}_{\text{stressed}} = \frac{(\text{Annual Repayment} \mid \Delta r_{\text{stressed}})}{\text{Gross Income}}$$

$$\Delta r_{\text{stressed}} = +150 \text{ bps}$$

As explained earlier, this is in essence an affordability test which is done both in the interest of the borrowers and the banks. What this means in practice is that the banks will still charge borrowers their current mortgage interest rate when applying for a new loan and beyond. However, since mortgage loans are granted at variable rates and for a long period of time, interest rates may vary and increase over the period of the loan. To ensure that borrowers will afford to repay the principle including the interest over the term of the loan, the Directive obliges banks to add 150 bps to the current interest rate when calculating borrowers' affordability. The Directive stipulates that the stressed loan repayments cannot exceed 40% of gross income of the borrower. As also mentioned earlier this does not mean that the rate that the client would be required to pay as interest would increase by 150 bps. On the contrary, the interest rate offered to the client will remain the same as that agreed with the bank.

The Directive gives direction on the definition of gross income, namely the inclusion of the total annual monetary income received by the borrower/s, which is stable and recurrent, before any tax deductions. For joint loans, this should also include the joint gross income. With regard to BTL loans, gross income should also comprise the prospective rental income to be derived from the mortgage-backed property. However, the projected rental income should be subject to adequate haircuts in accordance with the internal policy of the lender. As for corporates, gross income should be calculated on the basis of Earning Before Interest, Tax and Depreciation and Amortisation (EBITDA).

The effectiveness and efficacy of the BBMs depend on the extent of compliance by lenders, and hence one of the keys to success for such measures is effective monitoring. Accordingly, the Bank granted a three-month transition period between the announcement of the measures and their application to ensure effective

compliance. Lenders are required to assess compliance with the regulation by means of an annual internal audit assessment and through an external audit assessment at the end of the financial year of the third year of application of the Directive. These assessments will, in turn, be forwarded to the Central Bank of Malta and MFSA for review and compliance purposes. Furthermore, these authorities will have the discretion to carry out additional measures beyond the audited assessments such as on-site inspections and the appointment of external auditors. In case of any breaches of the Directive, the Bank has the right to impose sanctions in accordance with Article 56 of the Act and the provision of Directive No 12 on Administrative Measures and Penalties for Infringement under the Central Bank of Malta Act. This macroprudential measure reinforces the importance of promoting an adequate credit risk assessment framework. This has also been addressed at an EU level by means of the Mortgage Credit Directive. The latter was designed to foster a single market for mortgages and to protect consumers.[35]

The macroprudential measures presented above are designed to mitigate risks and vulnerabilities and strengthen the resilience of both lenders and borrowers through the setting of prudent lending standards.

The Central Bank of Malta intends to review this Directive and will seek to assess the impact of the measures introduced therein once enough time elapses to permit the gathering of adequate data. In this regard, the Bank is currently working on the enhancement of RRE data collection to target the requirements set forth in the ESRB Recommendation on Closing Real-Estate Data Gaps and simultaneously monitor compliance with the Directive.

The Impact Assessment[36]

The Bank carried out an impact assessment using its macro-econometric model (STREAM) to quantify the impact of the proposed policy measures on the domestic economy via the credit channel.[37]

Survey data on newly-issued loans submitted by core domestic banks was used to quantify the extent of the potential credit rationing due to the policy alternatives that were contemplated for this exercise. The data was probability-weighted so that survey data was up-scaled to represent the population of new mortgages grouped by ranges of the market value of collateral.

Given that *a priori* the financial conditions of borrowers could not be determined, the impact assessment was conducted under the assumption that, should the policy be in place, a borrower would still be able to purchase the desired property by settling for a lower credit limit that satisfies all applicable caps. This would be achieved either by making up for the difference through a higher initial deposit or by purchasing a cheaper property. For each loan, three new credit limits were calculated taking into account the respective cap on the:

(i) LTV
(ii) the stressed DSTI-O, and
(iii) the maturity term by type of borrower.

Specifically, if in the first case, banks granted loans with an LTV higher than the prescribed LTV cap for Category I or Category II borrowers, the credit limit of these loans would be reduced to satisfy the policy requirement. If instead, loans would not satisfy the latter two caps, the credit limit was reduced on the basis of the revised monthly loan repayments to ensure that the borrowers would satisfy the respective stressed DSTI-O cap at the higher interest rate and the potentially reduced term-to-maturity. The extent of the credit rationing for the respective period could then be determined. The largest reduction for each loan, if any, was aggregated and compared with the total credit granted by core domestic banks for the purchase of a residential property in the absence of a policy. Assuming that the loan portfolio would retain its current composition,

[35] The Mortgage Credit Directive was transposed through Legal Notice 259 of 2016, which amended S.L. 378.10 entitled *'Credit Agreements for Consumers Relating to Residential Immovable Property Regulations.'*

[36] Prepared by Dr Alessandra Donini, Senior Economist and David S. Law, Senior Quantitative Analysis Officer within Stress Testing and Risk Models Office of the Central Bank of Malta.

[37] For further methodological details on the Bank's macroeconometric model, see O. Grech and N. Rapa (2016), *"STREAM: A Structural Macro-Econometric Model of the Maltese Economy – Version 3.0"*, Central Bank of Malta WP/01/2016.

the estimated extent of credit rationing defined the magnitude of the shock to housing credit in STREAM and the resultant impact on domestic macroeconomic variables.

Internal estimates indicate that the extent of credit rationing related to mortgages following the introduction of BBMs would be around 1.74% cumulatively over the three years of the analysis, as per Table 2 below. The estimated credit rationing mostly originates from a reduction in credit limits for loans granted to Category II borrowers, which constituted around a quarter of all new loans granted in a given period. In fact, the BBMs prescribed in Central Bank of Malta's Directive No. 16 are tighter for Category II borrowers when compared with Category I borrowers, i.e. a higher upfront stake would be required when purchasing the second property. By design therefore, Category II borrowers are impacted more heavily than Category I borrowers who in general will continue to face the same parameters existing prior to the Directive. In fact when considering only Category I borrowers, the measures are estimated to impact just 2.7% of this cohort. On the other hand when considering both Category I and II borrowers together, the impact is still limited to 13.2% of borrowers.

"The extent of credit rationing related to mortgages following the introduction of BBMs would be around 1.74% cumulatively over the three years of the analysis"

Under the assumption that the composition of the loan portfolio would remain the same as at the reference date, the *ex-ante* impact assessment reveals a minor impact on the domestic economy over the three-year horizon. Particularly, as displayed in Table 2, real GDP would experience a negligible cumulative drop over three years and unemployment and consumer prices would remain stable, whilst real house prices would drop by around 0.1%.

Thus, the reduction in mortgage credit due to BBMs is expected to have a negligible impact on the domestic economy in the short term, whilst significantly improving its resilience to any future shocks.

Table 2
IMPACT OF BBMs ON CREDIT AND SELECTED MACRO VARIABLES

Percentage deviation from baseline (no BBMs) *(Per cent; *Percentage Points)*	Year 1	Year 2	Year 3
Credit rationing: mortgages	-1.020	-1.740	-1.740
Real GDP	-0.001	-0.003	-0.004
Nominal GDP	-0.001	-0.004	-0.006
Unemployment rate*	-0.001	-0.003	-0.003
Real House Prices	-0.029	-0.074	-0.104
HICP	0.000	0.000	-0.001

Source: Central Bank of Malta calculations.

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Appendix 1

Table A1
CORE DOMESTIC BANKS' LENDING PRACTICES

Core Domestic Banks	Weighted LTV *(per cent)*								
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Average**
Total Residential Real Estate Loans	**72.4**	**73.1**	**72.9**	**73.9**	**77.8**	**75.1**	**73.5**	**72.7**	**73.9**
First-time Buyers	75.3	75.2	76.9	80.2	78.9	77.4	76.5	77.9	77.3
Non-first-time Buyers	70.9	68.0	70.6	68.8	76.6	72.9	71.0	69.0	71.0
Primary Residence (Other)	69.3	71.6	69.6	68.2	77.1	71.4	71.0	67.7	70.7
Secondary Residence	75.1	74.1	82.4	71.4	72.2	75.1	70.9	69.7	73.9
Core Domestic Banks	Weighted LTI *(per cent)*								
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Average**
Total Residential Real Estate Loans	**384.9**	**457.9**	**434.0**	**398.9**	**456.0**	**429.0**	**428.1**	**423.3**	**426.5**
First-time Buyers	388.7	429.7	413.9	397.8	490.9	436.3	437.9	440.8	429.5
Non-first-time Buyers	380.4	443.0	442.0	393.9	429.4	420.4	408.8	401.2	414.9
Primary Residence (Other)	413.9	476.5	456.6	396.5	445.6	442.6	405.3	402.1	429.9
Secondary Residence	277.1	424.0	328.1	368.6	309.9	381.8	388.0	421.8	362.4
Core Domestic Banks	Weighted LSTI *(per cent)*								
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Average**
Total Residential Real Estate Loans	**22.1**	**26.6**	**26.2**	**28.0**	**26.6**	**23.8**	**23.2**	**23.3**	**25.0**
First-time Buyers	20.3	21.1	19.8	20.2	27.9	22.6	21.1	21.6	21.8
Non-first-time Buyers	22.7	26.8	28.4	32.0	25.7	24.8	23.8	24.0	26.0
Primary Residence (Other)	23.6	28.8	29.5	33.1	26.5	26.6	23.8	24.5	27.1
Secondary Residence	19.9	24.8	19.3	22.6	19.4	21.9	23.1	23.3	21.8
Core Domestic Banks	Weighted Maturity *(years)*								
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Average**
Total Residential Real Estate Loans	**28.7**	**28.4**	**27.4**	**27.6**	**28.9**	**28.8**	**28.3**	**27.7**	**28.2**
First-time Buyers	33.2	33.5	34.0	30.8	29.9	31.4	32.0	31.7	32.0
Non-first-time Buyers	26.9	26.0	24.5	25.2	27.8	26.4	25.6	24.3	25.8
Primary Residence (Other)	27.8	25.8	24.3	25.1	28.2	26.5	25.6	24.8	26.0
Secondary Residence	23.7	22.9	26.6	25.2	27.9	26.3	25.6	23.6	25.2

Source: Central Bank of Malta.