FINANCIAL STABILITY BOARD

Thematic Review on Mortgage Underwriting and Origination Practices

Peer Review Report

17 March 2011

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Foreword

The peer review on mortgage underwriting and origination practices is the third thematic review under the Financial Stability Board (FSB) *Framework for Strengthening Adherence to International Standards*.[1]

The Joint Forum, in its January 2010 *Review of the Differentiated Nature and Scope of Financial Regulation*[2], recommended improved oversight of the residential mortgage market, including greater consistency in underwriting standards across different types of originators, and suggested that the FSB consider establishing a process to review sound underwriting practices and disclosing the results. At its January 2010 Plenary meeting, the FSB welcomed the report and said that it would monitor policy development on the issues the report identifies and propose action where issues raised are not yet being addressed. As part of this, in June 2010, the FSB decided to take forward the mortgage origination-related recommendations of the Joint Forum report through a peer review surveying existing practices and drawing internationally applicable lessons.

The peer review compares residential mortgage underwriting and origination practices across the FSB membership, including recent actions taken by national authorities to promote sound practices. Since there are no internationally agreed standards to act as a benchmark, the review provides a comprehensive picture of existing practices in these areas and draws lessons going forward.

This report describes the findings of the review, including the key elements of the discussion in the FSB Standing Committee on Standards Implementation (SCSI). The draft report for discussion was prepared by a team chaired by Guillermo Babatz (Mexico Comisión Nacional Bancaria y de Valores), comprising Luci Ellis (Reserve Bank of Australia), Julio Cesar Paranatinga Carneiro (Banco Central do Brasil), Sören Wieck (Deutsche Bundesbank), Sunny Yung (Hong Kong Monetary Authority), Javier del Rio del Castillo (Banco de España), Lester Miller (US Office of the Comptroller of the Currency) and Olivier Hassler (World Bank). Grace Sone (FSB Secretariat) provided support to the team and contributed to the preparation of the peer review report.

The findings of this review are based on responses to a questionnaire (Annex D) designed to gather information from FSB member jurisdictions on existing underwriting and origination practices. In addition, the review benefited from input from industry associations, financial institutions and other stakeholders on practical experiences regarding residential mortgage underwriting practices and interactions with regulatory and supervisory authorities, as well as discussion in the FSB SCSI and in the FSB Plenary.

1 http://www.financialstabilityboard.org/publications/r_100109a.pdf.

2 http://www.bis.org/publ/joint24.pdf.

FSB thematic peer reviews

The FSB has established a programme of thematic peer reviews of its member jurisdictions. Each review surveys and compares the implementation across the FSB membership of regulatory or supervisory measures in a particular policy area important for financial stability. Thematic peer reviews focus on implementation of international financial standards, policies agreed within the FSB or, where such standards or agreed policies do not exist, a stock taking of existing practices in the policy area. The objectives of the reviews are to encourage consistent cross-country and cross-sector implementation, to evaluate the extent to which standards and policies have had their intended results and, where relevant, to make recommendations for potential follow up by regulators, supervisors and standard setters. They provide an opportunity for FSB members to engage in dialogue with their peers and to share lessons and experiences.

Thematic peer reviews complement FSB country peer reviews, which focus on the progress made by an individual FSB member jurisdiction in implementing IMF-World Bank Financial Sector Assessment Program (FSAP) regulatory and supervisory recommendations.

Executive Summary

The Joint Forum, in its January 2010 *Review of the Differentiated Nature and Scope of Financial Regulation*[3], recommended improved oversight of the residential mortgage market, including greater consistency in underwriting standards across different types of originators, and suggested that the FSB consider establishing a process to review sound underwriting practices and disclosing the results. In June 2010, the FSB decided to take forward the mortgage origination-related recommendations of the Joint Forum report through a peer review surveying existing practices and drawing internationally applicable lessons.

Thematic peer reviews typically aim to focus on the implementation across the FSB membership of agreed policies or standards. Since this peer review did not have the benefit of international standards or best practices to act as a benchmark, it instead provides a comprehensive picture of existing practices and oversight – including recent crisis-induced reforms – and where applicable, identifies sound practices (see section 1). As the global crisis showed, the consequences of weak underwriting practices in one country can be transferred globally through securitisation of mortgages underwritten to weak standards. Thus, it is important to have sound residential mortgage underwriting practices at the point at which a mortgage loan is originally made. Internationally agreed principles that build on the Joint

[3] http://www.bis.org/publ/joint24.pdf.

Forum recommendations could help to strengthen residential mortgage underwriting practices, and the peer review draws lessons from current practices to illustrate some potential principles (see Annex A) that could guide future standard-setting. However, given that the underlying risks can differ across jurisdictions and within countries, the findings of the review suggest that such principles would best be high-level rather than aimed at detailed international standards.

Overall, national authorities are making good progress in following the Joint Forum recommendations to promote consistent and effective underwriting standards for residential mortgage origination. As a result, industry practices are moving in the right direction. The degree of change in each FSB jurisdiction reflects their specific characteristics and initial starting positions.

Although concerns have been expressed in various quarters over gaps in the regulation of residential mortgage lending practices, the peer review found that nearly all mortgage lenders across the FSB membership are prudentially regulated, conduct-regulated by consumer protection authorities, or in some cases both (see section 2). Most FSB member countries have a single regulator overseeing mortgage lenders. Where a few regulators exist in a jurisdiction, their mandates are reportedly clear and coordination and communication between agencies are generally less of an issue than in the few jurisdictions where several regulators exist for mortgage lenders. The US is an example of a jurisdiction in which mortgage lenders can be regulated by multiple authorities, which can differ depending on the type of financial institution. While all US mortgage lenders are subject to one or more federal or state – or both – legal systems, the strength and intensity of oversight of these companies varied prior to the financial crisis, with deposit-taking institutions, bank holding companies and holding company subsidiaries generally subject to more rigorous supervision than many independent mortgage brokers and originators. The initial wave of problem loans that became delinquent before the US economy turned down (and unemployment rose) were disproportionately originated by lightly regulated mortgage companies.

In general, the range of residential mortgage underwriting practices reflects the distinct real estate markets, cultural influences and socioeconomic policies that shape each jurisdiction's mortgage market (see section 3). Oversight and regulation of underwriting practices across the FSB membership are generally motivated by one of three approaches (defined below in terms of degree of intrusiveness) that form part of a broader spectrum of policy measures: [4]

- *Prescriptive approach*: Financial authorities in some jurisdictions establish explicit limits and restrictions by which mortgage lenders must abide, such as caps on LTV ratios, prohibition of certain types of mortgage products, and limits on debt-servicing ratios.
- *Regulatory incentives approach*: Some jurisdictions incentivise prudent underwriting through differentials in risk-weights for the provisioning of loan loss reserves and capital requirements, having adopted the Basel II internal ratings-based (IRB) approach or a national variation on the standardised approach.

[4] Combinations and variations of these approaches are adopted by some FSB members, and certain jurisdictions (e.g. Germany) follow a different approach.

- *Guidelines and market practices*: Several jurisdictions provide a handbook of guidelines for prudent underwriting which establishes general market practices, but regulatory actions are not always considered for mortgage lenders that do not follow the handbook.

Regardless of the approach, assessing a borrower's ability to repay across a range of dimensions is fundamental to sound underwriting practices. Most FSB members have followed or are in the process of following the Joint Forum recommendations. For instance, one of the biggest contributors to the US mortgage losses that precipitated the financial crisis was the inadequate or complete lack of verification of borrowers' income and financial information. Verification of income had long been required prior to the crisis in many FSB jurisdictions, and has been a common practice in most jurisdictions where not required. The exceptions are the UK, where verification was neither required nor recent practice, and the US, where borrowers could apply for a "low doc" loan which does not require verification of income but bears a higher interest rate due to the higher risk of the borrower. Today, verification of income has become a common practice in both the UK and US.[5]

One of the key findings from the review is that most FSB members do not have adequate public disclosure of information concerning the health of their mortgage market, including underwriting practices and market trends, encompassing all mortgage market participants (see section 4). Although limited, disclosure of underwriting practices tends to be more prominent in jurisdictions with developed secondary mortgage markets, such as in the UK and the US in the case of securitisation, and to a lesser extent in a small number of countries with active covered bond markets (e.g. France, Germany). In the case of residential mortgage-backed securities, issuers must state the underwriting criteria with which the underlying loans comply. However, these disclosures are transaction-specific and periodic publication of aggregate trends does not take place. In fact, the jurisdiction that had the most detailed information on loan characteristics available to investors was the one where lending standards eased the most, namely the US. Data and their disclosure do not, in themselves, ensure prudent lending practices, thus underscoring the need for consistent supervision and enforcement of regulation concerning residential mortgage products and activities. Authorities should ensure that incentives for investors to exercise market discipline are in place as they improve the data and disclosure in this area. Additional disclosure, while welcome, is no guarantee of good outcomes.

List of recommendations

1. Supervisors should fully implement the Joint Forum recommendations and develop a framework for sound residential mortgage underwriting standards and practices that is as explicit and specific as possible, and which can be monitored and supervised against according to their particular national circumstances. The adopted framework should be published and maintained in a manner that is readily accessible to all interested parties.

2. The FSB will develop an international principles-based framework for sound underwriting practices. After providing sufficient time for implementation, the FSB will conduct a follow-up review to assess progress made in implementing the framework.

[5] The Dodd-Frank Act's underwriting standards will require income verification for all mortgages in the US.

3. Financial authorities should regularly review their standards on residential mortgage underwriting and adjust them as appropriate to address the build-up of risks in the housing market or to help counteract a lending boom that pose significant risks to financial stability.

4. Policymakers should broaden the regulatory perimeter to ensure all residential mortgage lending activity is supervised and/or regulated to safeguard both borrowers and investors and to promote financial stability.

5. Regulators and supervisors should ensure that mortgage insurers, where active, are appropriately regulated and robustly capitalised in order to avoid regulatory arbitrage. The Basel Committee on Banking Supervision (BCBS) and the International Association of Insurance Supervisors (IAIS) should jointly consider conducting a study of the regulatory framework for mortgage insurers.

6. Authorities should collect and disclose enough detailed data to allow a comprehensive view of residential mortgage lending activities. Regular reporting of developments in the residential property market should be published at least annually, either in a publication devoted entirely to that subject or, where relevant, in a financial stability report.

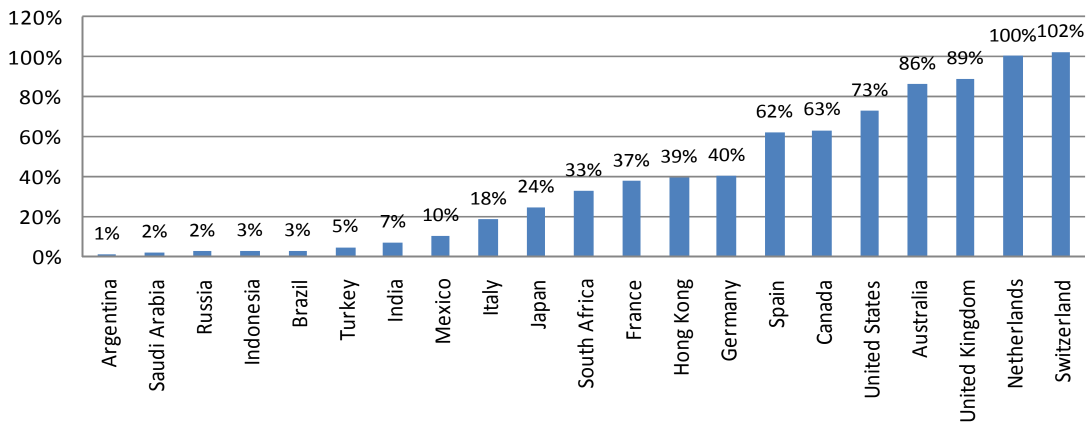
1. Introduction

Problems arising from poorly underwritten residential mortgages contributed significantly to the financial crisis that began in 2007. The securitisation of these poorly underwritten mortgage loans, particularly subprime loans originated in the US, transmitted the eventual losses to the banking, securities, and insurance sectors globally. The UK and US were two of the jurisdictions that were most affected, having experienced a surge in mortgage lending and housing price growth.[6] In the process, lenders in those countries had placed greater emphasis on home valuations than traditional assessments of the borrower's capacity to repay, and developed new, riskier products that made use of more relaxed product terms, liberal underwriting and increased lending to higher-risk borrowers (e.g. those that did not have the ability to repay under the loan terms). These developments eventually resulted in significant losses for both consumers and financial institutions.

The robustness of mortgage underwriting practices is therefore important for financial stability, including in the current juncture, considering that some jurisdictions continue to experience rapid increases in housing prices and associated growth in mortgage lending. In response to the crisis, a number of FSB members have encouraged stricter underwriting practices so as to limit the risks that mortgage markets pose to financial stability and to better safeguard borrowers and investors. Consistent with the size of the UK and US residential mortgage markets as a percent of gross domestic product (see Figure 1), the respective governments took considerable far-reaching actions as financial institutions faced worsening performance in their mortgage credit portfolios, which in some cases had posed risk to their solvency and viability as well as overall stability of the financial system. Such government interventions include extraordinary support of the mortgage market, including direct support to intermediaries using government funds to purchase credit portfolios, as well as regulatory overhauls that prohibit certain existing practices that are now considered to be undesirable.

While the focus of this review is residential mortgage markets, the FSB recognises the importance of strengthening underwriting practices for commercial real estate lending also.

Figure 1: Residential Mortgage Debt Outstanding (% of GDP)



Source: World Bank. 2009 data except for Saudi Arabia, which reflects 2007 data; Russia and Indonesia report 2008 data.

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6 There are significant differences in market trends, product offerings and supervision among these jurisdictions.

Indeed, even though the onset of the recent financial crisis is associated with problems in the US residential mortgage market, in most jurisdictions the problems and losses stemming from commercial real estate portfolios have been more important than those related to residential mortgages. That said, an examination of the dynamics of the commercial property market is outside the scope of this review.

All FSB jurisdictions that have large mortgage markets, defined as residential mortgage debt outstanding greater than 60% of GDP, reported having at least some problems in their mortgage market during the financial crisis but more prudent underwriting practices prevented other jurisdictions from experiencing the same degree of market distress as that experienced in the UK and US. Nonetheless, a number of these jurisdictions are planning or are already in the process of strengthening mortgage underwriting standards, particularly on loan serviceability and loan-to-value ratios. These jurisdictions required little direct government intervention in the mortgage market. Government actions mainly focused on lowering interest rates to induce economic recovery, and in some cases, providing support to borrowers that started to experience repayment difficulties given the economic downturn. Also, in jurisdictions where the government provided funding for mortgage originators, the crisis brought about an increase in such funding either through direct support or by means of purchases of residential mortgage-backed securities (RMBS), and through central bank acceptance of RMBS and covered bonds as collateral. However, it is important to note that governments in most jurisdictions have played a longstanding role in supporting local housing markets to varying degrees that range from no significant support to substantial support (see Annexes B.1 and B.2).

Timely detection and rectification of non-compliance and erosion of underwriting practices can be difficult when the market is booming. When the problems did become apparent, the challenge for some supervisors was how early and how hard to push for corrective action. Moreover, the bulk of weaker lending practices occurred outside of the regulatory perimeter, particularly in the US where many state-licensed mortgage originators were not subject to as stringent supervisory oversight as federally or state-registered deposit-takers.[7] However, the Dodd-Frank Act will significantly revise the supervisory framework for mortgage lenders by establishing the Consumer Financial Protection Bureau and setting out a suite of new requirements for residential mortgage lending activities (see box on page 14).

In its January 2010 report, the Joint Forum focused on these two fundamental areas of concern: poor residential mortgage underwriting practices, and the lack of consistent supervision, regulation and enforcement regimes for similar mortgage-related activities and products. The Joint Forum recognised that each jurisdiction’s mortgage industry is shaped by distinct real estate markets, cultural influences, and socioeconomic policies, but set out a goal that similar products and activities be subject to consistent regulation, standards, examination and enforcement, regardless of the type of lender.

The Joint Forum made three recommendations concerning actions that supervisors and policymakers should take to promote consistent and effective underwriting practices in

7 In the US, there are two general categories of institutions that originate and underwrite residential mortgage loans – federally- and non-federally regulated. The federal financial institution regulatory agencies supervise state- or nationally-chartered financial institutions or credit unions.

mortgage origination. The review covers these recommendations (see Annex C for more details):

- *Recommendation 7*: Supervisors should ensure that mortgage originators adopt minimum underwriting standards that focus on an accurate assessment of each borrower's capacity to repay the obligation in a reasonable period of time. The minimum standards adopted should be published and maintained in a manner accessible to all interested parties.
- *Recommendation 8*: Policymakers should ensure that different types of mortgage providers, whether or not currently regulated, are subject to consistent mortgage underwriting standards, and consistent regulatory oversight and enforcement to implement such standards.
- *Recommendation 9*: National policymakers should establish appropriate public disclosure of market-wide mortgage underwriting practices. In addition, the Financial Stability Board should consider establishing a process to review sound underwriting practices and the results should be disclosed.

Since this review did not have the benefit of international standards or best practices to act as a benchmark, it instead provides a comprehensive picture of existing practices and their oversight – including recent crisis-induced reforms – in the areas covered by the Joint Forum's recommendations. In particular, the review gathers information from each member jurisdiction on the following topics:

- overall industry structure and regulatory and supervisory framework for mortgage origination;
- consistency of oversight and communication between supervisors involved in mortgage-related activities;
- gaps in oversight and weaknesses in practices previously identified by the authorities;
- any policy reforms currently underway and lessons from the crisis;
- requirements, standards or best practices that currently apply in mortgage underwriting, in particular the areas listed in the Joint Forum report under Recommendation 7 relating to measurement of a borrower's ability and willingness to repay); and
- public disclosure of underwriting practices.

The review summarises the range of practices in these areas based on the responses to the detailed questionnaire submitted by FSB members, as well as from stakeholders in the mortgage market (see Annex D). In general, underwriting practices across the FSB membership are motivated by three approaches: [8]

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[8] Combinations of these approaches are adopted by some FSB members, and certain jurisdictions (e.g. Germany) follow a different approach. For example, the regulatory approach of the UK bridges the first two approaches, having a detailed handbook dedicated to mortgage activities (e.g. the prescriptive approach) and having also adopted the Basel II IRB approach (e.g. regulatory incentives approach). Germany follows the regulatory incentives approach supplemented by risk-based minimum requirements for mortgage lending.

- *Prescriptive approach*: Financial authorities establish explicit limits and restrictions by which mortgage lenders must abide. A clear example of this approach is Hong Kong, where the Hong Kong Monetary Authority (HKMA) limits loan-to-value (LTV) ratios from a range of 50% to 70% depending on property prices and debt-servicing ratios (DSR) to 50%, while also mandating mortgage lenders to request proof of income and maintain records that validate the request. Similarly, in France, the regulator prohibits mortgage loans where income is undocumented or self-certified ("no-doc" or "low-doc" loans), "indebtedness rates" exceed 33%, or with "subsistence allowances" that fall beneath pre-established boundaries. And in Korea, the Korean Financial Services Commission limits LTV ratios from a range of 40% to 60% depending on geographical areas.
- *Regulatory incentives approach*: Some jurisdictions (Australia, Brazil, France, Germany, Hong Kong, Italy, Japan, Mexico, Spain and Switzerland) incentivise prudent underwriting through regulatory and supervisory measures including differentials in risk-weights for the provisioning of loan-loss reserves and capital requirements, using some combination of the Basel II internal ratings-based (IRB) approach and national variations on the standardised approach with more differentiated treatments for different types of loans.
- *Guidelines and market practices*: Several jurisdictions provide a handbook of guidelines for prudent underwriting, such as Argentina, which establishes general market practices. However, no regulatory actions are considered for mortgage lenders that do not follow the handbook.

Each of these approaches has benefits and, where possible, the review seeks to identify sound practices and draw internationally applicable lessons. The Joint Forum recommendations are comprehensive and provide a useful starting point to develop a principles-based framework for sound residential mortgage underwriting practices. To catalyse further international work on such a framework, examples of possible principles have been developed in light of the findings from the peer review (see Annex A).

2. Regulatory and supervisory framework

2.1 Types of mortgage originators

The vast majority of residential mortgage underwriters and originators are prudentially regulated, deposit-taking institutions (DTIs) – particularly commercial banks – accounting for an approximate 85% to 100% of residential mortgage loan originations in most countries (see Annex B.3). Saudi Arabia and Mexico were the outliers with only 19% and 27%, respectively, of their mortgages originated by DTIs, since most of their originations are by state housing funds or other public agencies that are prudentially regulated. Other mortgage originators include specialised mortgage lenders, credit unions, building societies, and public agencies. A relatively small segment of mortgage originations are conducted by non-deposit-taking institutions (NDTIs), which may not be subject to prudential or consumer protection regulation.

The only two jurisdictions that report a sizable share of mortgages originated by lightly regulated or unregulated institutions are the US (15%) and Russia (10%), while the unregulated segments of Canada (5%) and Mexico (2%) are relatively small.[9] Although still large, the share of mortgages in the US originated by lightly regulated institutions – primarily state-licensed mortgage originators – declined significantly after the crisis, from 28% in 2007 to 15% in 2009. These institutions were deeply involved in the origination of subprime mortgages to be securitised and sold into the secondary market, and the issuance of subprime mortgages essentially dried up after representing 20% of mortgage originations in 2006. Meanwhile, in Mexico, the share of the unregulated segment (e.g. specialised mortgage lenders) declined from 5.7% in 2007 to 2.2% in 2009. Since mid-2008 these institutions have faced serious liquidity problems or failed given the negative sentiment of local capital markets toward these firms as well as balance sheet problems given a surge in delinquent loans originated by them.

Given that the unregulated segment of the mortgage market is either non-existent or very small in most FSB jurisdictions, supervisors generally do not have comprehensive and systematic frameworks to collect information on these activities. Further, it is difficult for supervisors to oversee a market segment that is outside their mandate. For jurisdictions where such unregulated activities do exist, only partial and scattered information is obtained through various channels, including: 1) indirectly through regulated entities that are involved in unregulated activities; 2) statistics inferred from other data sources; 3) ad hoc voluntary statistical surveys for special research projects; and 4) general market data provided by trade associations. Since such data is usually gathered and analysed by external sources, the reliability and quality of such data may be of concern.

2.2 Consumer protection features related to residential mortgage loans

Consumer protection measures and prudential supervision are two pillars to safeguard the integrity and soundness of mortgage underwriting and origination practices. The former helps minimise the risk of misuse of personal data as well as unfair, irresponsible or abusive lending behaviours, while the latter helps to maintain the stability and soundness of lending institutions and the financial system. They can complement each other if there is a good balance between the protection of privacy of personal information and the need for mortgage originators to access the necessary information for credit assessment.

Most FSB members have few specific legal or regulatory provisions on consumer protection in regard to residential mortgages. Consumer protection matters are generally addressed under a wider and more general framework that covers different types of consumer lending, as well as non-credit or even non-financial products. Some jurisdictions evaluate market conduct issues under the "twin peak" regulatory model: that is, there is a consolidated regulator of markets, conduct and consumer/investor protection, separate from the (consolidated) prudential supervisor for banking and insurance. The Netherlands is an example of this regulatory arrangement. Similarly in Australia, all forms of consumer credit – including residential mortgages – are covered by consumer protection regulation specific to credit provision. In Canada, the Office of the Superintendent of Financial Institutions (OSFI) is charged with prudential regulation of federally-regulated financial institutions, while the Financial Consumer Agency of Canada (FCAC) overseas the consumer provisions as set out

[9] Several FSB members prohibit by law mortgage underwriting and origination by unregulated entities (Australia, France, Germany, UK, and under proposed legislation, Saudi Arabia).

in the statutes for federally regulated financial institutions. The FCAC also provides consumers with accurate and objective information about financial products and services, and informs Canadians of their rights and responsibilities when dealing with financial institutions. Non-bank lenders are subject to market conduct regulation by the province in which they carry out business.

The UK is an example where prudential regulation is consolidated with market conduct and most consumer protection regulation, but there are two regulatory and supervisory agencies responsible for oversight of residential mortgage business. The UK Financial Services Authority (UK FSA) has responsibility of all residential mortgage borrowings secured by a first charge on land; has a number of statutory objectives, including consumer protection and market confidence; and has designed and implemented a regime that combines both prudential and conduct of business controls. This regime includes specific obligations on lenders with regard to responsible lending.[10] The Office of Fair Trading is responsible for policing the requirements of the Consumer Credit Act as they apply to firms engaged in residential mortgage lending that is secured by a second or subsequent charge.

The US has several consumer protection laws and regulations that generally apply across a wide framework covering all consumer lending products, and many specific requirements for residential mortgage products have been in place since before the mortgage crisis. The Federal laws and regulations include, but are not limited to:[11]

- *Homeowners Protection Act of 1998:* Addresses the difficulties homeowners have experienced in cancelling private mortgage insurance (PMI) coverage. It establishes provisions for the cancellation and termination of PMI, sets forth disclosure and notification requirements, and requires the return of unearned premiums.
- *Home Mortgage Disclosure Act of 1975:* Requires institutions to report lending data to their supervisory agencies on a loan-by-loan and application-by-application basis by way of a ‘‘register’’ reporting format. The supervisory agencies, through the Federal Financial Institutions Examination Council, compile this information to produce individual disclosure statements for each institution and aggregate reports for all covered institutions within each metropolitan statistical area. In addition, the FFIEC produces other aggregate reports that show lending patterns by median age of homes and by the central-city or non-central-city location of the property.
- *Equal Credit Opportunity Act of 1974:* Covers closed-end credit, including residential mortgage transactions, demand loans, and instalment credit contracts; sets forth rules for disclosures related to regular and variable-rate loans, refinancings and assumptions, and credit balances; also gives rules for calculating annual percentage rates and advertising closed-end credit. Requires additional disclosures for, sets limits on, and prohibits specific acts and practices in connection with certain home mortgage transactions having rates or fees above a certain percentage or amount; also

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[10] http://fsahandbook.info/FSA/html/handbook/MCOB/11/3.

[11] Other housing-related US federal laws and regulations include the Home Ownership Counselling requirements in Section 106 of The Housing and Urban Development Act of 1968; the Real Estate Settlement Procedures Act; Protecting Tenants at Foreclosure Act of 2009; National Flood Insurance Reform Act of 1994.

sets forth disclosure requirements for reverse mortgage transactions (both open- and closed-end credit).

In general, consumer protection focuses on consumer information (disclosure), protecting consumers' privacy, and safeguarding consumers.

- *Disclosure*: The most common requirements would be for mortgage underwriters and originators to disclose key transaction information prior to the completion of the mortgage loan. Such key information typically includes the terms and conditions of the mortgage; borrower's obligations once entered into the loan contract; and fees and charges associated with the mortgage. The Japan Financial Services Agency (JFSA) requires mortgage lenders to explain – as well as disclose – the potential risks to the borrower before any loan contract is signed. In 2007, the Korea Financial Supervisory Service, the Korea Federation of Banks, and financial institutions developed and enforced the Mortgage Consumer Protection Plan to enhance consumers' understanding of the characteristics of mortgage products, especially the risks due to interest rate fluctuations.
- *Data privacy*: While protection of data privacy is important from the consumer protection perspective, it is equally important that mortgage originators have access to the necessary information on mortgage applicants for proper credit assessment. There are two key aspects of data protection. The first pertains to the safeguards against unauthorised access to borrower's credit information and the second relates to restriction on the use of the information. While there are divergent practices amongst FSB members on information access, there is no restriction across the FSB membership that prohibits the access of borrowers' credit information. In about half of the FSB member jurisdictions (Australia, Brazil, Canada, Germany, Hong Kong, Italy, Japan, Mexico, Russia, Saudi Arabia, Spain, the UK and US), mortgage underwriters and originators are required either to obtain the borrower's prior consent or inform the borrower of their plans to access such financial and credit information. Other FSB members do not have specific information access requirements but it is almost a universal practice that the use of borrower's credit and financial information is subject to privacy protection in the form of legal provisions or supervisory requirements.
- *Safeguards*: Since the crisis, it is becoming more common amongst FSB members to have some form of arrangement to safeguard against unfair, irresponsible and abusive lending behaviour. Mortgage underwriters and originators are generally prohibited from engaging in unfair and deceptive acts or practices. In some jurisdictions, unfair acts are spelled out clearly in relevant consumer protection laws. In Canada, the regulations set out provisions aimed to limit business practices that are not beneficial to consumers, for instance, by curtailing the debt collection practices of financial institutions.

There are other less common consumer protection practices in FSB member jurisdictions. In Brazil, for example, judges have discretion to reverse the burden of proof in the borrower's favour in civil proceedings if the borrower is at a disadvantage according to the ordinary rules of experience. In Australia, lenders are required as a part of the origination and approval process to take reasonable steps to verify that the borrower can meet their payment obligation.

In the UK, several initiatives have been underway in parallel to strengthen consumer protection in relation to lending. For example, the Consumer Credit Act has recently been revised to include new guidance on responsible lending and the UK FSA is undertaking a mortgage market review to enhance regulatory requirements to ensure responsible lending.[12]

In general, residential mortgage underwriters are not subjected to fiduciary responsibilities, but rather they must comply with the consumer protection requirements that set obligations to disclose contractual terms before the loan is granted. In Spain, for example, consumer law sets a pre-contractual agreement called "binding offer" which include the contractual terms and also requires lenders to offer borrowers an interest rate hedge product. In contrast, in Australia, Brazil, France, Germany, Japan, the Netherlands and the UK, consumer protection laws are designed to prevent lenders from extending loans that are unsuitable for the borrower. In Canada, the regulations require that financial institutions provide clear information in credit contracts and application forms through a summary box that sets out key features, such as interest rates and fees. In addition, the consumer must be provided with a disclosure statement outlining the key features of their mortgage agreement two business days before entering into the contract or provide for a recession period in the contract. Germany requires mortgage originators to inform the borrower before concluding the contract to allow the borrower to evaluate whether the contract is in line with the borrower's intended purpose and the borrower's financial capacity. As a basis for the information of the borrower a standard information sheet must be provided by the lender.

In a few cases (Australia prior to 2010, the UK), lending to non-owner-occupier homeowners ("buy-to-let") is not subject to the same consumer protection controls as lending to owner-occupied homeowners. Firms in this market that are not prudentially regulated or subject to licensing as a financial service provider are therefore subject to less (or even no) explicit supervision of their lending practices. While it could be argued that this is appropriate treatment of landlords conducting commercial activities, in most FSB members individual household borrowers are included in the consumer protection net even when they do not plan to live in the dwelling themselves.

2.3 Coordination and consistency of underwriting practices and oversight

The Joint Forum recommends that policymakers should ensure that different types of mortgage providers, whether or not currently regulated, are subject to consistent mortgage underwriting standards, and consistent regulatory oversight and enforcement to implement such standards. Most FSB member countries have a single regulator overseeing mortgage lenders, or where a few regulators exist in a jurisdiction, their mandates are reportedly clear and coordination and communication between agencies are generally less of an issue than in jurisdictions where several regulators exist for mortgage lenders. For instance, in the United States, mortgage lenders can be regulated by multiple authorities, which can differ depending on the type of financial institution (see Annex B.4).

FSB member jurisdictions use a range of techniques to ensure that supervision of mortgage lending is consistent across firms, and that lending practices are being subject to comparable levels of scrutiny. In Argentina, a handbook sets out guidelines for lending and underwriting

[12] http://www.fsa.gov.uk/pubs/cp/cp10_16.pdf.

but no regulatory actions are considered for mortgage lenders that do not follow the handbook. In other jurisdictions (Australia, France, Germany, Hong Kong, Italy, Mexico, Singapore, Spain, UK), prudential supervisors use a combination of off-site and on-site reviews of lending practices, at least for prudentially regulated firms, where the individual lending practice is evaluated based on common market practice and guidelines set by the regulators. In Switzerland, both auditors and supervisors review lending practices, but there is also some reliance on self-regulation via the guidelines set out by the industry association.

While striving for a level of underwriting consistency and uniformity for similar products, national supervisors should assess existing and new products and market needs on an ongoing basis. It is reasonable to expect that supervisors and regulators may consider banning certain products or imposing limits and/or more stringent capital requirements on products that do not adhere to established standards. However, the benefits of explicit bans or limits must be weighed against potential costs and unintended consequences. For example, this is a process that the UK FSA is undergoing as it considers whether there may be some limited exceptions where it may be appropriate to assess affordability on an interest-only basis.

Within this broad picture of comprehensive regulatory coverage, actual approaches to regulation and oversight of mortgage origination practices differ substantially. One example of this diversity is in the supervisors' reporting requirements on originators as part of continuous supervisory oversight. The reporting requirements they impose range from none to mainly obtaining aggregated information with little breakdown of data by categories (Russia, Switzerland, US), to detailed aggregate and disaggregated statistics (Australia, Hong Kong, Indonesia, Saudi Arabia, Singapore, Turkey, UK), all the way to detailed loan-level information to be included in credit registers (Germany, Italy, Mexico, Spain). While these credit registers would allow all lenders to assess the level and status (e.g. non-performing) of the debt a borrower has when applying for a loan, this valuable information is not always available across lenders, but only available to the lender who previously provided a mortgage to the borrower.[13] It should be noted that full coverage by prudential regulation does not guarantee full monitoring and control of lending standards. For example, some pockets of poor practices at prudentially regulated firms were revealed in the UK during the crisis, even though the bulk of the market remained resilient to a substantial contraction in credit supply brought about by other factors.

2.4 Policy reforms currently underway

Some jurisdictions have made changes to their supervisory frameworks or practices – or plan to do so – in light of the lessons revealed by the crisis, especially from the experience in the US. The farthest reaching planned reforms are indeed in the US, through the Dodd-Frank Act[14] which sets out sweeping financial reforms. The changes most relevant to mortgage

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[13] In Spain, the originator should have a special accounting register of mortgage loan portfolios with all features of collateral and sends an Information of the Mortgage Market report biannually. In contrast, the German credit register (Deckungsstock) includes detailed information about the mortgage and the collateral, but the data (on loan level) is not available to the general mortgage market. Instead, credit bureaus collect advanced loan data on the level of individual borrowers (see section 3.1). In the US, the Office of the Comptroller of the Currency (OCC) and Office of Thrift Supervision (OTS) release a quarterly report reflecting mortgage metrics for the firms they supervise, please see http://www.occ.treas.gov/news-issuances/news-releases/2010/nr-ia-2010-112.html. Other countries have such registers, which can be quite comprehensive but are voluntary and not subject to official sector oversight.

[14] A brief summary of the July 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act can be found at http://banking.senate.gov/public/_files/070110_Dodd_Frank_Wall_Street_Reform_comprehensive_summary_Final.pdf.

lending standards are the suite of explicit new requirements described in the box, and the establishment of the Consumer Financial Protection Bureau (CFPB).

The US Dodd-Frank Act – Mortgage Lending Activities

The Dodd-Frank Act will significantly revise the supervisory framework for mortgage lenders by establishing the Consumer Financial Protection Bureau (CFPB).

The CFPB's mission is to protect consumers by promoting transparency and consumer choice, and preventing abusive and deceptive practices in consumer financial products and services. It has exclusive authority to conduct examinations and require reports regarding the federal consumer protection laws with respect to all insured DTIs and credit unions with total assets over $10 billion and any of their affiliates, and primary (but not exclusive) authority to take enforcement actions regarding the federal consumer protection laws with respect to these institutions. With respect to insured DTIs and credit unions with $10 billion in total assets or less, the CFPB has limited authority.

In addition to regulatory restructuring, the Dodd-Frank Act imposes more stringent requirements for mortgage lending practices, including but not limited to:

- *Ability to repay*: Creditors are required to make a reasonable and good faith determination, based on verified and documented information, that the consumer has a reasonable ability to repay a residential mortgage loan.
- *Duty of care*: Mortgage lenders must be "qualified" (to be defined by regulation) and, if required, registered and licensed under the SAFE Act[15], and the lender's unique identifier must be included on all loan documents.
- *Steering incentive ban*: Yield spread premiums and other forms of compensation that vary based on the terms of the loan (other than the amount of principal) are prohibited.
- *Prepayment penalties*: For ARMs and certain higher-risk mortgages, prepayment penalties are prohibited upon enactment. All other prepayment penalties will be phased out and ultimately prohibited after 3 years.
- *Interest rate reset notice*: Creditors must notify borrowers at least 6 months before the interest rate on a hybrid adjustable rate mortgage is scheduled to reset.
- *Appraisal reform:* Written appraisals based on physical inspection of the property, and in some cases second appraisals, are required for "higher-risk mortgages."

The UK FSA is also proposing some sweeping changes in its mortgage market review on responsible lending, and proposes that lenders should assess the consumer's ability to repay for all mortgage applications, through an assessment of their income and expenditures, and to lend only where the mortgage is assessed as being affordable. Affordability assessments may be tested against interest rate increases to ensure that, as far as possible, assessments are robust. In addition, the UK FSA proposes that lenders apply a "buffer" to their calculation of

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15 Under the Secure and Fair Enforcement for Mortgage Licensing Act of 2008 (SAFE Act), all mortgage lenders must be either state-licensed or federally-registered in the Nationwide Mortgage Licensing System and Registry, a nationwide database. The SAFE Act establishes minimum standards for state licensing of mortgage lenders.

credit-impaired borrower’s free disposable income as a measure to protect borrowers with impaired credit records. The proposal is out for comment and the UK FSA aims to publish a Policy Statement during the first half of 2011.[16]

Principles for responsible mortgage lending and borrowing are also being developed by the European Commission where a legislative proposal is due in 2011. The objective is to ensure that all institutions providing mortgages conduct their business in a responsible manner through, amongst other things, the provision of personalised pre-contractual information and explanations to consumers and the conduct of an assessment of the borrower's ability to repay that takes into account the consumer’s personal circumstances. It also seeks to ensure that all institutions involved in the origination and distribution of mortgage credit to consumers are adequately regulated and supervised. It should establish principles for the authorisation and registration of credit intermediaries as well as requirements for the adequate regulation and supervision of non-banks providing mortgages.

There are other improvements being undertaken by individual FSB members. In Spain, the supervisor has further strengthened the prudential guidelines for mortgage underwriting, including provisioning and requiring appraisal of collateral at least every three years or more frequently if home prices fall significantly.[17] In Hong Kong, a new initiative to implement and share positive credit data among banks is being pursued, as only negative data is reported currently. The HKMA has identified and circulated certain best underwriting standards for asset-based residential mortgage loans, which are usually granted to borrowers who have no stable income or are unable to provide proof of income but able to provide proof of substantial assets relative to the size of the mortgage loan. Canada made several changes to its mortgage insurance guarantee framework in 2008, 2010 and 2011.[18] These changes for insured mortgages include: i) reducing the maximum amortisation period; ii) requiring higher minimum down payments; iii) establishing minimum credit scores; iv) introducing new loan documentation standards; v) requiring borrowers to meet higher qualification standards under debt service tests; vi) reducing the maximum amount for refinancing; vii) requiring higher minimum down payments for non-owner occupied properties for speculation; and viii) withdrawing government insurance backing on lines of credit secured by homes, such as home equity lines of credit. Indonesia is working toward standardisation of mortgage contracts for all banks. Mexico is revising the legal framework for mortgage securitisation. Saudi Arabia is in the final stage of enacting new legislation on real estate finance and mortgages. As a prudential measure, Singapore is looking at requiring mortgage originators to comply with a regulatory LTV ratio on mortgage withdrawal loans (i.e. loans secured on the borrower's equity of the residential property).

In Argentina, France, Germany, Italy, Japan and Turkey, no specific changes are planned, although several changes were implemented in the recent past.

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16 www.fsa.gov.uk/pubs/cp/cp10_16.pdf.

17 Details of the changes adopted in Spain can be found in Circular 3/2010 that has amended some aspect of Annex IX of Circular 4/2004 (see http://www.bde.es). The changes deal also with enhancing the already contained guidelines on credit risk practices and the treatment of foreclosed assets setting provisioning at the time of foreclosure.

18 Details of the changes in Canada can be found at http://www.fin.gc.ca/n08/08-051-eng.asp; http://www.fin.gc.ca/n10/10-011-eng.asp; and http://www.fin.gc.ca/n11/11-003-eng.asp.

3. Mortgage underwriting standards and practices

The Joint Forum recommends that supervisors should ensure that mortgage originators adopt minimum underwriting standards that focus on an accurate assessment of each borrower's capacity to repay the obligation in a reasonable period of time. Standards should incorporate requirements consistent with the principles described below, given that weaknesses in these dimensions have resulted in poorer loan performance.[19] Most FSB members have or are in the process of implementing the Joint Forum's recommendation to measure a borrower's capacity to repay. Experience shows, however, that in phases of market expansion or overheating, competition tends to induce lenders to overlook generally accepted principles, especially when sales forces or intermediaries are compensated based on short-term and quantitative performances.

3.1 Effective verification of income and financial information

One of the biggest contributors to the problems experienced in the mortgage industry during the financial crisis was the inadequate or lack of verification of borrower's income and financial information. Most FSB members follow the Joint Forum's recommendation that supervisors should generally require lenders to verify information submitted for mortgage qualification. Verification of income has long been required (e.g. prior to the crisis) in Argentina, Brazil, Canada, China, France, Germany, Hong Kong, Indonesia, Mexico, Singapore, Spain and Turkey; and has been a common practice in jurisdictions where not required.[20]

The exceptions are the UK, where income verification was neither required nor recent standard practice, and the US, where borrowers could apply for a "low doc" loan, which does not require verification of income but bears a higher interest rate due to the increased risk.[21] Origination of low-doc and no-doc loans (i.e. income is stated by the borrower but not verified) became a common practice prior to the crisis. In the UK, around half of all mortgage applications in 2007 and 2008 were processed without income verification.[22] And in the US, the issuance of low/no documentation loans represented as much as 13% of mortgage

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19 An independent study was conducted by Vertical Capital Solutions working in conjunction with First American Core Logic that compared performance statistics between two populations of loans – Qualified and Non-Qualified pools. The criteria used to determine the Qualified pool include many of the Joint Forum principles, while the Non-Qualified pool consisted of loans where all necessary data points are available, but one or more of the Qualified criteria were not met. Please see http://www.communitymortgagebankingproject.com/news/Qualified_vs_Non-Qualified_Loan_Analysis_Feb_9_2010__2_-1.pdf.

20 In Canada, all high LTV ratio mortgages (e.g. LTV ratios greater than 80%) provided by federally-regulated financial institutions are required by law to be insured. Verification of income is a requirement to obtain mortgage insurance. Where verification is not required, it is nonetheless common practice amongst lenders. Although not required, verification of income is common practice in Australia, India, Italy, Japan, Netherlands, Russia, Saudi Arabia, South Africa and Switzerland.

21 There was a valid niche for no-doc loans when they were first introduced. These included situations where the borrower was willing to make a very large down payment but had difficulties documenting income perhaps due to its variability or need to quickly close on the mortgage loan. The significant down payment was a compensatory factor that kept the overall risk of the loan low. The problem was when this niche product was used more broadly and without the compensatory factors.

22 http://www.fsa.gov.uk/pubs/cp/cp10_16.pdf.

originations in 2006.[23] Today, verification of income is a common practice in the UK; and in the US, the Dodd-Frank Act's underwriting standards will require income verification for all mortgages in the US. Still, these practices illustrate how lenders can "short-circuit" prudent underwriting processes. Of particular importance in this regard can be the emphasis on very expedient loan approval processes as a selling point[24], and automated loan approvals even for non-standard situations where risk assessment would require human intervention.

The primary financial information and sources available to verify the creditworthiness of borrowers are income tax statements, payroll or letter of employment, and credit bureaus. Credit bureaus collect and analyse data about the financial history of borrowers. Completeness and accuracy varies depending on the contributors to the data collection and the degree of regulation or commitment. Just recently, in Hong Kong, a new initiative to implement and share positive credit data among banks is being pursued, as only negative data is reported so far. As another example, in Germany a private organization called SCHUFA collects and assesses comprehensive data about the financial characteristics of consumers.[25] Based on this data credit reports and credit scores are provided.

Credit registers and the credit scores provided by external parties can be useful tools in assessing a borrower's financial history, and are used to varying extents in Australia, Canada, Germany, Japan, Mexico, South Africa, the UK and US. However, quantitative credit scores reflect a borrower's historical propensity to repay, as opposed to current and future ability to repay. Further, a quantitative parameter that is easy to use in automated underwriting processes should not replace an expert risk assessment. For instance, impaired credit histories may arise due to a "life event", such as divorce, illness or involuntary redundancy, or may reflect an unaffordable lifestyle; this difference is not captured in credit scoring models. While external scores can be helpful as a cross-check, they should not be the only source of information used.

Penalties for misrepresentation of financial information

Most FSB member jurisdictions follow the Joint Forum recommendation that there should be penalties or fines for borrowers and lenders for misrepresenting financial information. Some jurisdictions also subject mortgage lenders to some type of sanction if they do not adequately verify the information. In the US, it is a felony under federal law to make a false statement for the purpose of obtaining credit from a bank. The questionnaire for this review, and hence the responses by FSB members, did not provide an opportunity for any elaboration in regard to the process or ability to collect penalties or impose sanctions on borrowers and lenders.

[23] Alt-A mortgage originations were used as a proxy for low/no documentation loans as typically Alt-A mortgages are characterised by borrowers with less than full documentation, lower credit scores, higher loan-to-value ratios, and investment properties.

[24] The FSA Mortgage Market Review on responsible lending (July 2010) stresses the role of competitive pressures in the growth of non-income verified mortgages and especially of "fast track mortgages".

[25] SCHUFA stores data of almost every German adult (66 million people with more than 460 million entries). Data sources are financial institutions, mail order companies, companies for mobile communication, and other companies that offer products or services on the basis of credit.

3.2 Reasonable debt service coverage

According to the Joint Forum, one of the most fundamental components of prudent underwriting relies on the borrower's income to service the debt, taking into account all debt commitments. The assessment should ensure sufficient discretionary income to meet recurring obligations and living expenses.

To measure debt servicing capacity, most FSB members use some measure of debt (service)-to-income (DTI) or loan (service)-to-income (LTI) ratios (see Annex B.5). Based on their definition of DTI and LTI ratios, supervisors impose "hard" limits only in Hong Kong (50% DTI) and Saudi Arabia (33% LTI). While there is no common definition for these ratios, they usually exclude relevant information such as borrower expenses and tax liabilities.[26] As such, most members follow the Joint Forum recommendation in assessing debt service capacity but fall short of the recommendation to ensure sufficient discretionary income. The exceptions are Australia, France, Germany and the Netherlands. However, the US requires consideration of housing-related expenses. In Australia, the vast majority of lenders have moved to a "net surplus" methodology for assessing capacity to repay. This requires the consumer to be able to show a surplus of funds after tax, debt repayment and living expenses have been deducted and is generally expressed as a ratio (Net Surplus Ratio). In Germany, borrowers must be able to service day-to-day liabilities including loan repayments from current household net income, and the remaining net income must be sufficient to maintain an adequate standard of living. However, there are no numerically fixed requirements. The Netherlands uses a method for assessing a borrower's debt-service capacity taking into account all expenditures other than mortgage-related expenses. It is possible to deviate from this amount if this is thoroughly founded. In addition, to a certain amount of mortgage it is possible to get an additional guarantee (National Mortgage Guarantee), which provides a guarantee of support in case of payment problems or residual debt. In order to qualify for this guarantee more severe rules apply; for example it is more difficult to deviate from the initial determined amount of mortgage.

The UK FSA proposal will require comprehensive expenditure data on consumer spending, while also proposing that lenders can use statistical data either derived from their own data or external sources, or in the case of assessing levels of income tax and national insurance, sources such as the tables published by the UK Revenue and Customs. Meanwhile, Argentina provides a template in its handbook with information about living expenses, total debt payments, and other characteristics to help assess a borrower's repayment capacity.

For buy-to-let or investment properties[27], it is common market practice to include rental income as part of the borrower's income (except for the Netherlands). Meanwhile, in the UK, it is common practice for lenders to rely solely on rental income and ignore personal or earned income.

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[26] In general, DTI is calculated as the ratio of all debt-servicing payments to gross income, while LTI is the ratio of the monthly payment of that loan to monthly income.

[27] Mortgages for buy-to-let or investment properties are underwritten in Australia, Canada, France, Germany, Hong Kong, Indonesia, the Netherlands, South Africa, Switzerland, Turkey, the UK and US.

3.3 Realistic qualifying mortgage payments

The Joint Forum recommends that analysis of a borrower's repayment capacity be based on a mortgage payment amount sufficient to repay the debt by the final maturity of the loan at the fully indexed rate, assuming a fully amortising repayment schedule.[28] This recommendation addresses mortgage products designed to stretch affordability, such as "teaser rate" mortgages, 2/28 ARMs, and payment option mortgages that were common in the US. In some cases, initial monthly payments were much lower than the payments scheduled for later. Many lenders had determined whether a borrower qualified for such mortgages by calculating the DTI ratio using only the reduced initial monthly payment, without taking into account the higher payment that would ultimately prevail. The growth of these types of mortgage products resulted in the US federal banking regulators issuing interagency guidance on non-traditional mortgage products.[29] Prior to the crisis, other practices were seen that aimed to stretch affordability. For example, in the UK, an increasing number of mortgages were sold on an interest-only basis without the lender having knowledge of the planned repayment vehicle/strategy, while in Hong Kong, there were products with principal repayment holidays of 2 to 3 years, a feature that was later prohibited by the HKMA. Innovation in the mortgage market to increase affordability for borrowers will likely continue but the layering of risks should be avoided. In particular, practices that combine aggressive underwriting parameters with aggressive mortgage products should be discouraged: for example, low-doc loans coupled with teaser rate or interest-only products, or loans with high LTV ratios that include negative amortisation.

Most FSB members assess a borrower's capacity to repay by the final maturity date of the loan based on the loan's fully indexed rate, assuming a fully amortising repayment schedule. Many jurisdictions (Australia, Canada, France, Hong Kong, Indonesia, Japan, the Netherlands, Singapore, Spain, Turkey, UK and US) have included this guideline specifically in their regulatory framework. Today, mortgage originators and underwriters frequently consider future developments such as the potential changes in interest rates (16 FSB members[30]), the age of the borrower (14 members[31]) and the remaining useful life of the property on an individual borrower basis (Germany, Saudi Arabia, Switzerland, the UK).[32] In Australia and Hong Kong, lenders run scenarios that add 1 or 2 percentage points to the interest rate to check the repayment capacity; stress testing of interest rates is also being considered in the UK. Some jurisdictions, such as Germany, manage their risks at the

[28] The "fully indexed, fully amortising" concept is described in full in the 2006 financial regulatory report titled "Interagency Guidance on Nontraditional Mortgage Product Risks." Basically, a fully indexed rate is the index rate prevailing at origination plus the margin that applies after the expiration of any introductory interest rate. The fully amortising payment schedule is based on the term of the loan, considering any borrower option to extend that period.

[29] http://www.fdic.gov/regulations/laws/federal/2006/06noticeFINAL.html.

[30] Australia, Canada, France, Germany, Hong Kong, Italy, Indonesia, Japan, the Netherlands, Saudi Arabia, Singapore, South Africa, Spain, Switzerland, the UK and US.

[31] China, Germany, Hong Kong, Italy, Indonesia, Japan, Mexico, the Netherlands, Saudi Arabia, Singapore, South Africa, Spain, Switzerland and the UK. In the US, the Equal Credit Opportunity Act (ECOA) prohibits discrimination in credit decisions on the basis of age if a person has the capacity to enter into a binding contract.

[32] For example, the Government of Canada made changes in 2010 to require that all borrowers meet the qualification standards for a five-year fixed rate mortgage even if they choose a mortgage with a lower interest rate and shorter term. This initiative is intended to help borrowers prepare for higher interest rates in the future.

portfolio level, specifically for interest rate risk, credit default risk, and changes in the macroeconomic environment.

3.4 Appropriate loan-to-value ratios

Most FSB members are aligned with the Joint Forum recommendation that supervisors should adopt appropriate standards for loan-to-value (LTV) ratios. Instead of implementing specific underwriting criteria, some jurisdictions have decided to associate loan loss provisioning and capital requirements with underwriting standards, thus creating incentives for lenders to follow "responsible lending guidelines".

Appropriate LTV ratios are an important and effective means to mitigate the risks of residential mortgage portfolios. Supervisory guidelines generally direct institutions to obtain credit support for high LTV residential mortgages, typically defined as greater than 80% of the property's appraised value. Appropriate credit support includes mortgage insurance, readily marketable collateral or other acceptable collateral that reduces the LTV ratio. Moreover, most FSB members attempt to incentivise LTV limits by offering capital relief for loans with low LTV ratios through risk-weight differentials. In 2009, the typical range of LTV ratios with credit support across the FSB membership was between 65% and 80% (see Annex B.6).

The jurisdictions that impose "hard limits" on LTV ratios are China (70%, but 50% for second home mortgages); Hong Kong (50% to 70%, depending on property prices); India (80%); Korea (60%, but 50% for metropolitan area and 40% for speculative area); Singapore (80%, but 60% for second home mortgages if a borrower has an outstanding housing loan on another property) and Turkey (75% on home mortgages and 50% on commercial properties). Canada also imposes hard limits (95% for a purchase mortgage loan and 85% for refinancing cases) on all government-backed insured mortgages. The Netherlands is in the process of adopting a new rule to cap LTV ratios at 112%, with a mandatory reduction to 100% within 7 years after purchase, as LTV ratios reached as high as 116% in 2009. It is interesting to note that in China, Hong Kong, India, Korea and Singapore, LTV limits were set as a policy tool to fight an overheating housing market or to ensure financial stability.

The use of an LTV cap has two major benefits: 1) providing an equity portion as a buffer for lenders against default and 2) enhancing incentives for borrowers to repay their debt obligation. These two risk mitigating functions of LTV caps can help to reduce the probability of default in individual or isolated cases. However, LTV ratios alone are not an effective predictor of default and thus should be one of several criteria on which to evaluate a borrower's capacity to repay.

Lower LTV ratios on an aggregate level across a bank's lending portfolio provide a greater buffer against potential default, but LTV caps alone may not be sufficient to help mortgage lenders to ride through a major correction in property prices. For example, a 70% LTV cap was adopted in Hong Kong in 1991, first as an industry initiative and later endorsed by the regulator as a prudential measure for all residential mortgages. In 1995, the HKMA issued guidelines requiring banks to avoid placing undue reliance on the value of collateral in granting mortgage loans, and to emphasise assessments of repayment capacity. As a result, when Hong Kong property prices fell by 66% between October 1997 and June 2003, the highest delinquency rate (defined as loans overdue more than 3 months) for residential mortgage loans was only 1.4% in April 2001. Thus, an LTV cap alone is not a panacea and should be complemented with other prudent underwriting criteria such as serviceability assessment and full financial recourse to the borrowers in case of default. It is therefore not necessary for regulators to mandate such a cap if they satisfy that the underwriting standards adopted by mortgage lenders are sufficiently prudent and are unlikely to be eroded under competitive pressure.

Home equity requirements

The Joint Forum also recommends that home equity requirements should address loan underwriting in the form of both minimum down payments and caps on subsequent equity extraction through cash-out refinancing and other types of home equity borrowing. Prior to the crisis, 100% financing of properties (e.g. lending at 100% LTV or higher) was a niche market in the UK and a small but growing practice in the US. Borrowers with little or no cash for a down payment were able to obtain 100% financing in the form of a first loan or a combination of a first and second loan. Now, it is common practice for mortgage underwriters to require "true" down-payments (e.g. excluding credit support) of 20% to 30%. Meaningful initial down payment requirements help to validate borrower capacity as well as ensure necessary commitment to the obligation. Only a few jurisdictions require "hard" equity requirements – China (30%), Hong Kong (10%) and Singapore (20%).[33]

In most FSB jurisdictions, borrowing against the value of equity is not common practice and specific regulations and restrictions apply, except in Australia and the US. In other jurisdictions, limits to borrowing against the value of equity as well as second mortgages result from specific regulation, including that collateral can only be used by one lender (Brazil) or reduced LTV limits have to be applied for second mortgages (Canada, China, Singapore). In Saudi Arabia, second loans are not Sharia compliant and therefore not allowed. Since second mortgages usually convey higher LTV ratios, these mortgage loans require additional caution by the mortgage underwriter. The UK has a separate regulatory regime for second mortgages and a well-developed re-mortgage/further advance equity release model. In contrast, second mortgages in the US were generally underwritten with more lax standards, despite standing behind the provider of the first-lien mortgage in the repayment queue.[34]

3.5 Effective appraisal management

Given that the determination of LTV ratios and minimum equity relies on substantiated real estate values for mortgage collateral, reasonable accuracy of such values can only be ensured when sound real estate appraisal/valuation management is implemented. In the context of mortgage origination, it should be emphasised that the substantiated real estate value not only refer to the soundness of the value at the time of mortgage origination, but also in the context of the property's function to serve as collateral over the entire mortgage period. Most FSB members require that the value of the property be monitored frequently, usually once every

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[33] In Singapore, the requirement can be funded partially through a borrower's Central Provident Fund account (a compulsory social security savings plan for working Singaporeans). The equity requirement is higher at 40% for borrowers who have an outstanding housing loan.

[34] The US federal banking agencies issued guidance to tighten underwriting standards and practices around second mortgages in May 2005. See www.occ.treas.gov/news-issuances/bulletins/2005/bulletin-2005-22.html.

three years for residential properties (France, Germany, Italy, Spain) or more frequently if home prices significantly change.

In most FSB member jurisdictions, appraisers have to be licensed or certified but are not supervised by a regulator.[35] They typically belong to a professional body (e.g. associations of appraisers, Chamber of Commerce) that in many jurisdictions is the body responsible for their regulation and oversight (Argentina, Australia, Brazil, Canada, Germany, Hong Kong, Italy, Netherlands, Russia, Saudi Arabia, Singapore, South Africa, UK). However in such cases of self-regulation, regulatory and supervisory oversight can be limited or absent.[36] Across the FSB membership, appraisers are required to be independent, sufficiently qualified, and prudent. In this context, independence and competency seem to be of utmost concern in order to maintain appraisal quality and effectiveness, even though regulation varies among jurisdictions. Independence of the appraiser is stipulated by legal regulation, valuation standards and/or codes of conduct. Several jurisdictions, (Canada, China, France, Germany, Hong Kong, Turkey, US) specifically require the independence between appraiser and lender/borrower, while most FSB members require general independence.[37]

3.6 No reliance on house price appreciation

The consideration of future house price appreciation in most FSB member jurisdictions is not a usual or encouraged practice. Currently in the UK, future house price appreciation can be considered in the evaluation of the borrower’s ability to repay the mortgage loan. However, the UK is proposing regulatory action to prevent the consideration of house price appreciation in the future. Although relying on property prices is not a common practice, it is still important to highlight that collateral exists to reduce losses in the event a borrower cannot repay, not to be a substitute for repayments. In particular, property values tend to be correlated with probabilities of default due to common macroeconomic factors – typically an economic downturn – which affects the efficiency of collateralisation at times where it is most needed.

3.7 Other factors important to effective underwriting

The following are not substitutes for sound underwriting practices but the Joint Forum recommends that they should be taken into consideration when determining the soundness of an underwriting program.

Use of mortgage insurance

Mortgage insurance provides additional financing flexibility for lenders and consumers, and the Joint Forum recommends that supervisors should consider how to use such coverage effectively in conjunction with LTV requirements to meet housing goals and needs in their respective markets. Even though mortgage insurance is available in most jurisdictions, it is used in only a few: Australia, Canada, France, Hong Kong, Indonesia, Japan, Netherlands, and US. In several jurisdictions, mortgage insurance is either mandatory for high LTV loans

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35 Appraisers are supervised by a regulator in Germany, Japan, Mexico, Russia, Spain, Turkey and the US.

36 Appraisers are regulated in China, Germany, Indonesia, Mexico, Russia, Saudi Arabia, Spain, Turkey and the US.

37 Appraisers are not allowed to be involved in the mortgage lending process nor have any interest in the mortgage transaction.

or incentivised by supervisors offering capital relief, or the government participates in its provision:

- In Canada, Hong Kong and Indonesia, mortgage insurance is required on high LTV loans, while in the US, only the government-sponsored housing enterprises (GSEs)[38] require mortgage insurance on loans they purchase that have LTV ratios above 80%.
- In Australia, Canada, France, Germany, Italy, Mexico, Spain, and the UK, mortgage insurance is incentivised through differentials in risk-weights for capital.
- The governments of Canada, Hong Kong, Indonesia, Mexico, the Netherlands and US participate in the provision of mortgage insurance.

Other FSB members reported that although mortgage insurance is widely available by private providers, it is not commonly used by lenders for reasons that the questionnaire did not provide opportunity to explore.[39]

Mortgage insurers transfer credit risk from lenders and tend to concentrate the risks given the small number of insuring institutions. The insurance policy does not absorb the entire interest payment, but the insurer (or its reinsurer) would bear substantially all of the loss-given-default for parts of a loan that is in excess of a certain LTV ratio. So their returns are even more sensitive to mortgage default than those of the original lenders. This is especially the case given the common practice of only insuring loans with high LTV ratios.[40] Strong prudential supervision of mortgage insurers is therefore important.

The effectiveness of mortgage insurance depends on the financial strength of the provider. In particular, because default risk in mortgage portfolios is inherently correlated, the value of this risk mitigation can decline in times of crisis precisely when it is most needed. The mortgage insurance industry was severely affected by the recent global financial crisis. In Australia, only six mortgage insurers remain, down from 16 in 2004, but it should be noted that most of the exits occurred after the Australian Prudential Regulation Authority (APRA) significantly tightened capital requirements for mortgage insurers in 2005, and thus not as a direct consequence of the crisis. In Mexico, all but one foreign mortgage insurer or re-insurer withdrew from the market following the crisis.

Canada has a well-regulated mortgage insurance industry, consisting of one public insurer (Canada Mortgage and Housing Corporation) and a small number of private firms. The government of Canada back-stops mortgage insurers through guarantee agreements that protect lenders in the event of default by the insurer. The government's backing of private insurers' business is subject to a deductible equal to 10% of the original principal amount of the mortgage loan. Loans insured by government-backed mortgage insurers must adhere to specific underwriting parameters established by the government. Through this institutional

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38 The US housing GSEs, Fannie Mae and Freddie Mac, do not originate residential mortgage loans but participate in the secondary mortgage market. Their mission is to provide liquidity, stability and affordability to the U.S. housing and mortgage markets.

39 Indonesia does not have mortgage insurance, but all mortgage borrowers are required to obtain life insurance upon obtaining a mortgage (with bankers' clause). In the event of death or misadventure, lenders are entitled to obtain payments from the insurer.

40 In some markets, such as Australia and Canada, mortgage insurance covers 100% of the loan balance.

arrangement, the government influences sound mortgage underwriting practices for the industry.

Mortgage insurance can be relevant for the reduction of uncertainty through risk selection and pricing, a prudent application which includes an in-depth assessment of mortgage insurance reliability. The recent crisis has shown how deceptive risk transfer mechanisms can be. Therefore, capital relief should only be granted for mortgage insured parts of a loan if the mortgage originator has carried out a prudent and independent assessment of both the borrower and the mortgage insurer.

Capital relief applies to government guarantee schemes aimed at providing incentives for lenders to serve more vulnerable categories[41], which a few jurisdictions, especially in Europe (e.g. France, Netherlands) use. Although these schemes provide partial protection to lenders against borrowers' default, they are different from "mortgage insurance" in the common usage of the term. The latter targets borrowers with little down payment capacity, typically for first-time homeowners, and use LTV ratios as their primary parameter, both as eligibility criteria and as an indicator of credit risk. The former focus on affordability and are structured around borrowers' personal parameters, starting with income level, and prices. In the US, the Federal Housing Administration (FHA) is a combination of the two approaches.

Recourse to borrowers

Residential mortgage lenders in nearly all jurisdictions have full recourse to borrower's assets after foreclosure proceedings are completed and outstanding debt remains. Exceptions are Brazil, where trust deeds are widely used, rather than mortgages, whereby the property belongs to the lender until the mortgage is entirely paid off, and the US, which varies by state as some states mandate non-recourse lending or allow full recourse only in judicial foreclosure. Meanwhile, "full recourse" has not yet been defined in China, but lenders have the right to urge borrowers to repay the entire loan amount.

Foreclosure practices

Although not mentioned in the Joint Forum report, foreclosure practices also affect the mortgage market and risk exposure of mortgage underwriters. Long lasting, bureaucratic and expensive foreclosure processes may impose additional risk, while an efficient and effective handling of defaulted mortgage loans may reduce uncertainty and risk as early as at the time of mortgage origination. On the other hand, long foreclosure processes increase the incentives for lenders to focus on borrowers' ability to repay from their own resources, rather than engaging in asset-based lending and relying on the property value. Offsetting this perhaps counterintuitive advantage, a long foreclosure process in the few jurisdictions without full recourse would weaken borrowers' incentives to pay.

Foreclosure processes are usually highly regulated. In many jurisdictions, judicial foreclosure is either required or at least the predominant method (Argentina, Australia, Canada, Hong Kong, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, Singapore, South Africa, Spain, Switzerland, and the UK). In the US, varying state law exists, with (usually faster) non-

[41] In France, there is also a widespread usage of financial guarantees unrelated to social considerations, provided by private sector specialized institutions. They are considered by many lenders as a more expedient way of securing loans than mortgage securities.

judicial foreclosure being possible in approximately half of the states. The time period from default to the conclusion of the foreclosure process usually lasts between 6 and 18 months, which can be lengthened if borrowers appeal. Some jurisdictions encourage lenders to exhaust alternative avenues, such as loan modification or forbearance, before pursuing foreclosure.

The mortgage arrears and foreclosure methods in Australia and Canada are worth mentioning due to their efficiency. The typical loss per default in Australia is 20 to 25 percent of the initial loan balance. According to Lea (2010):[42]

> Both countries have judicial foreclosure processes, which are procedural unless the borrower mounts a defense. In both countries the lender or insurer can go after the borrower for a deficiency judgment. Per Canada Mortgage and Housing Corp. (CMHC), the time frame between reporting of arrears (three months in Canada) to possession of collateral is seven to nine months. In Australia … once a notice of default is filed there are 21 days to serve and 28 days for the borrower to determine whether to mount a defense. If there is no defense, the court process for judgment takes two to four weeks with an additional two to four weeks to obtain a writ of possession. Eviction takes place seven to 30 days later.

4. Disclosure of mortgage underwriting practices and market trends

The Joint Forum recommends that national policymakers should establish appropriate public disclosure of market-wide mortgage underwriting practices. It is necessary to distinguish between disclosure to investors/regulators (e.g. public disclosure) and to borrowers. Customers have different information needs than regulators.

Public disclosure even at the aggregated level ensures that all lenders, whether prudentially regulated or not, can see whether their practices are outliers compared with industry norms. No general public policy or statute regarding the disclosure of underwriting practices is in place in the respondent jurisdictions. Around half the jurisdictions systematically collect data regarding riskiness of mortgages (e.g. LTV ratios, delinquency rates), but fewer collect data on mortgage underwriting processes (e.g. the extent of document verification). Publication of the information in a form that shows market-wide trends is not common. See Annex B.7 for an overview of data collection and publication practices in each of the respondent jurisdictions.

While in general terms disclosure of underwriting practices is limited, it tends to be more prominent in jurisdictions with developed secondary mortgage markets, such as the UK or the US in the case of securitisation, or to a lesser extent in a small number of countries with active covered bond markets (e.g. France, Germany). In these cases, issuers of RMBS or covered bonds must state the underwriting criteria to which the underlying loans comply. However, these disclosures are transaction-specific and periodic publication of these trends does not take place. In this regard, there is an opportunity to use data that is readily available in these jurisdictions to analyse and publicly discuss the evolution of underwriting practices.

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42 Lea, Michael; "International Comparison of Mortgage Product Offerings"; Research Institute for Housing America and Mortgage Bankers Association, September 2010.

Additionally, while jurisdictions tend to impose minimum disclosure requirements on lenders at origination, these tend to be geared toward consumer protection and mainly refer to product characteristics and contractual terms. Lenders were generally not required to inform the general public about their underwriting practices.

Differences in the collection and publication of information regarding underwriting practices seem to derive from diverse perspectives regarding the enforcement of such practices in the market. Those jurisdictions that either set prescriptive caps on loan-to-value ratios or other criteria, or those that associate provisioning and capital ratios with these measures, tend to collect more data on mortgage underwriting practices than those who rely on the market to set practices (see Annex B.7). This may be due to the need of verifying compliance with mandatory underwriting criteria.

However, it is important to mention that while the collection of information from lenders is a widespread practice among jurisdictions, such information on underwriting practices is seldom disclosed. Particularly in the case of jurisdictions where origination criteria are used in determining provisions or capital requirements, extremely valuable information is being collected and used for supervision and prudential purposes only, and thus the potential to assess and publicly disclose mortgage underwriting market practices and trends is left unexploited.

In this regard, disclosure of underwriting practices and trends in the mortgage market should be much greater than it currently is. The evolution of home prices is an area where most jurisdictions state data is periodically collected and available for industry participants. However, financial authorities would be advised to systematically collect and publish a range of relevant information, such as LTV ratios, product types (fixed or floating rate, first or second home, owner-occupied versus buy-to-let, first- or second-lien, home equity loans, negative amortisation, tenure, etc. as appropriate to the jurisdiction), measures of debt-servicing capacity and indicators of credit portfolio quality (e.g. past-due loans and write-offs). The US provides the most detailed information on loan characteristics to market participants but also experienced a significant easing in lending standards. Data and their disclosures do not, in themselves, ensure prudent lending practices, thus underscoring the need for consistent supervision and enforcement for similar products and activities. Rather, authorities should ensure that incentives for investors to exercise market discipline are in place as they improve the data and disclosure in this area. Indeed, this experience suggests that simple DTI and LTV metrics are not sufficient to capture important aspects of lending practices, though they are a start. In particular, layering more than one higher-risk feature into a single loan, such as negative amortisation on a low-doc loan, has been seen to raise the riskiness of the loan disproportionately.

Financial stability reports produced by central banks seem to be the main source of broad market trends analysis by the official sector. However, it is not entirely clear if the focus on mortgage markets is an established and systematic practice that will continue, or merely a temporary response to the crisis.

A notable example of what could be considered a best practice in the collection and use of information about underwriting practices for an assessment of market trends and vulnerabilities is HKMA's Financial Stability Report.[43] The HKMA has access to detailed information regarding the mortgage market and publishes a comprehensive report on its current condition and relevant data for analysing possible future trends. The report includes new real mortgage loans made, transaction volumes, home price evolution, affordability indicators, speculative and investment activities in the residential market (resale activities within a year of purchase), income-gearing ratio, and buy-rent gap.[44]

In addition, the annual Report by Canada Mortgage and Housing Corporation[45] as well as the US State of the Nation's Housing report published by the Joint Center for Housing Studies[46] provide examples of focused and detailed analysis of the current condition and evolution of the housing and mortgage market produced by entities other than financial regulators.

A few jurisdictions acknowledge that they are not conducting comprehensive market analysis or systemically collecting data regarding origination practices. Information collected only from regulated entities and disclosure of outstanding loan volumes seem to be considered in some cases as sufficient and further efforts to publish information regarding underwriting practices are not being made in most jurisdictions. The US is conducting an effort to collect information that goes beyond prudential supervision and seeks to understand evolving market practices in underwriting and seems to be creating a good practice among other jurisdictions. The Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices offers an analysis of the evolution of lending criteria, which may serve as an indicator of future market developments and point authorities' attention towards possible risks in the market.[47] Also, the US publishes detailed performance data covering about 65% of first lien mortgage that aid in the evaluation of trends.[48]

Most jurisdictions seem to be comfortable with collecting information only from regulated entities stating that the unregulated segments of the market are not of considerable size. While some jurisdictions have attempted to expand data collection to non-regulated entities by requesting information from industry associations and third parties, there is a concern about the reliability of these data sources.

Given the importance of assessing systemic risk, both at the national and international levels, it may be desirable for an international organisation to coordinate efforts by member jurisdictions in order to collect and analyse relevant information regarding residential mortgage market performance and lending standards/underwriting practices. In order to do this, some element of common data standards would need to be set.

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43 www.info.gov.hk/hkma/eng/public/qb201003/E_halfyear.pdf.

44 The buy-rent gap compares the cost of purchasing and maintaining a flat with that of renting it.

45 http://www.cmhc-schl.gc.ca/en/corp/about/anrecopl/anrecopl_001.cfm.

46 www.jchs.harvard.edu/publications/markets/son2009/son2009.pdf.

47 The Federal Reserve Board's quarterly Senior Loan Officer Opinion Survey on Bank Lending Practices can be found at http://www.federalreserve.gov/boarddocs/snloansurvey/201011/default.htm. The OCC's Annual Survey of Credit Underwriting Practices can be found at www.occ.gov/news-issuances/news-releases/2010/nr-occ-2010-103.html.

48 This report can be obtained from the OCC website: http://www.occ.treas.gov/news-issuances/news-releases/2010/nr-ia-2010-112.html.

5. Conclusions and recommendations

National authorities are making good progress in implementing the Joint Forum recommendations to promote consistent and effective underwriting standards for residential mortgage origination. As a result, industry practices are moving in the right direction. The degree of change in each FSB jurisdiction reflects their specific characteristics and initial positions. As the crisis showed, the consequences of weak underwriting practices in one country can be transferred globally through securitisation of mortgages underwritten to weak standards. Thus, it is important to have sound residential mortgage underwriting practices at the point at which a mortgage loan is originally made. Internationally agreed principles that build on the Joint Forum recommendations could help to strengthen residential mortgage underwriting practices, and the peer review draws lessons from current practices to illustrate some potential principles that could guide future standard-setting.

On the regulatory front, the recent crisis demonstrates the need to treat similar products and activities similarly – prudential supervision, conduct regulation and enforcement must be consistent for similar products and activities. Further, the supervisory scope should include activities that can generate hidden risks for lenders and investors, and risk mitigation entities that can in fact weaken the risk absorption capacity of the financial system as a whole while transferring risk out of the banking sector.

Recommendation 1*: Supervisors should fully implement the Joint Forum recommendations and develop a framework for sound residential mortgage underwriting standards and practices that is as explicit and specific as possible, and which can be monitored and supervised against according to their particular national circumstances. The adopted framework should be published and maintained in a manner that is readily accessible to all interested parties.*

It would be inappropriate to set international standards for lending practices when the underlying risks can differ greatly across jurisdictions and within countries; a principles-based framework should therefore be the goal. Households face different degrees of idiosyncratic risk because the welfare, health care and employment protection systems differ across jurisdictions. The geographic, regulatory and other factors that determine the elasticity of housing supply also influence the susceptibility to a painful housing downturn. For this reason, regulators in each jurisdiction should monitor lending standards across a range of dimensions, and set controls and limits on various aspects of those standards according to national circumstances. These national variations should have regard to lenders' funding patterns; the dynamic of real estate markets, including the flexibility of housing supply; and the household sector's resilience to shocks, for example due to their access to welfare payments.

Recommendation 2*: The FSB will develop an international principles-based framework for sound underwriting practices. After providing sufficient time for implementation, the FSB will conduct a follow-up review to assess progress made in implementing the framework.*

The Joint Forum recommendations will be formalised into a framework for sound underwriting practices, and in light of the findings from the peer review, the principles could be augmented in a number of areas including: allowance for future negative outcomes in the housing market; some acknowledgement of trade-offs among the various dimensions; and aligned incentives. An example of how these principles could be developed is provided in Annex A and could be helpful in guiding future standard-setting. Given that the underlying risks across jurisdictions and within countries can differ, such a framework should contain sufficient flexibility for individual jurisdictions to adopt their own standards according to their own circumstances.

Recommendation 3: *Financial authorities should regularly review their standards on residential mortgage underwriting and adjust them as appropriate to address the build-up of risks in the housing market or to help counteract a lending boom that pose significant risks to financial stability.*

Supervisors could, for example, tighten standards for collateralisation in a housing market that is deemed to be overheating. It must be noted that in many FSB member jurisdictions, borrowers have benefited since the beginning of the crisis from a low interest rate environment to support resumption in economic growth. However, adjustable rate mortgages granted in the recent past could pose a challenge to many borrowers over the coming years if they were underwritten on the basis of overly aggressive assumptions about their ability to service these loans.

This also means that standards could be tightened when supervisors detect the build-up of risks due to imprudent herding behaviour among lenders. For example, if there is a noticeable trend to finance riskier second-lien mortgages that are later sold and securitised, more stringent standards regarding these types of loans could be introduced.

Within each of the dimensions of lending standards, it is important to assess the reliability of the information used to evaluate or measure it, and whether the underlying circumstances – whether household income, housing prices or some other input – change over time. It is also important to assess the extent to which the lending terms can be adjusted over the life of the loan, and whether this optionality is at the discretion of the borrower or lender.

For authorities to have grounds on which to determine whether standards need to be adjusted, more information regarding underwriting practices and market trends needs to be collected and disclosed, as is further detailed in Recommendation 6 in this report.

Recommendation 4: *Policymakers should broaden the regulatory perimeter to ensure all residential mortgage lending activity is supervised and/or regulated to safeguard both borrowers and investors and to promote financial stability.*

Prudential supervision seems to have been sufficient in most jurisdictions to align incentives and avoid the worst examples of lax lending practices. There is no guarantee, however, that it will remain so, and the whole financial system could be affected if non-prudentially regulated entities should again become major providers of mortgage finance without effective oversight of their origination practices and insufficient monitoring of the build-up of systemic risks in this sector. As the global financial crisis showed, the consequences of weak underwriting practices in one country can be transferred globally through securitisation of mortgages underwritten to weak standards. Thus, it is important to have sound residential mortgage underwriting practices at the point at which a mortgage loan is originally made. Consumer protection authorities can help to close the gaps in prudential supervision by protecting borrowers from predatory lending activities. The FSB will work in collaboration with the OECD and other international organisations to explore, and report back by the next G20 Summit, on options to advance consumer finance protection.

Recommendation 5: *Regulators and supervisors should ensure that mortgage insurers, where active, are appropriately regulated and robustly capitalised in order to avoid regulatory arbitrage. The Basel Committee on Banking Supervision (BCBS) and the International Association of Insurance Supervisors (IAIS) should jointly consider conducting a study of the regulatory framework for mortgage insurers.*

Lenders putting their own balance sheet at risk generally have greater incentives to ensure sound underwriting standards, especially if they are prudentially supervised. Mortgage insurers can potentially serve as a 'second pair of eyes' that reinforces prudent lending practices. On the other hand, mitigating default risk may generate moral hazard and induce a relaxation of lending policies. Since mortgage insurance results in the concentration of mortgage default risk in a small number of entities, it is essential that they be appropriately regulated and rigorously supervised so that the use of mortgage insurance does not reduce the total amount of capital in the financial system, and that mortgage insurers do not rely solely on the lender itself to underwrite to their specified standards (e.g. "delegated underwriting"). The effectiveness of insurance or guarantee coverage should be regularly monitored, especially in stressed periods, through indicators such as payout ratios and indemnification delays.

Recommendation 6: *Authorities should collect and disclose enough detailed data to allow a comprehensive view of residential mortgage lending activities. Regular reporting of developments in the residential property market should be published at least annually, either in a publication devoted entirely to that subject or, where relevant, in a financial stability report.*

Public disclosure even at the aggregated level ensures that all lenders, whether prudentially regulated or not, can see whether their practices are outliers compared with industry norms. In this sense, more comprehensive reporting or disclosure of data on lending standards can act as a "wake-up" call to lenders (and to investors) at the laxer end of the spectrum. For instance, non-performing loan statistics for residential mortgages by origination year, type of mortgage products and the volume and types of mortgage products underwritten could provide some useful information on market trends that ultimately allow for a comprehensive interpretation of underwriting practices.

The fact that investors did not correctly assess the risk embedded in RMBS and CDOs based on RMBS was a major factor explaining the build-up of risks in the mortgage markets since it allowed the financing of loans under particularly lax lending practices.[49] It will be extremely difficult for supervisors to counteract the build-up of risks in the mortgage market as long as

[49] In response to this, in July 2009 IOSCO published a report on *Good Practices in Relation to Investment Managers' Due Diligence When Investing in Structured Finance Instruments*.

investors are eagerly financing securities without sufficient information to understand the origination practices and layering of risks in the underlying assets.

Annex A

Suggested elements of a principles-based framework for sound underwriting

Principle 1: Effective verification of income and financial information

Regulators should require lenders to verify income and financial information submitted for mortgage qualification. The minimum standards should be particularly sensitive to avoid practices that are conducive to fraud. Penalties should apply for borrowers who misrepresent such information and mortgage lenders who fail to make reasonable efforts to verify income.

- *Supervisors should identify best practices or guidelines for lenders to follow.*
- *When mortgage repayments extend into retirement, lenders should satisfy themselves that income during retirement is sufficient for the mortgage to remain affordable.*
- *Lenders should not rely solely on externally provided credit scores or scores based only on credit history as such metrics reflect a borrower's historical propensity to repay as opposed to a borrower's actual (and future) ability to repay. Moreover, a quantitative parameter which is easy to use in automated underwriting processes should not replace an expert risk assessment when needed. For instance, a quantitative metric does not reveal whether a weak credit report reflects an unaffordable lifestyle, or a "life event" such as divorce, illness or job redundancy.*
- *In addition, while common credit scores shared across lenders can economise on data gathering and the costs of building up the appropriate assessment infrastructure, they pose the risk that all lenders could engage in similar mistaken practices. For instance, if there is a flaw in the scoring model, or it was not designed to capture loan performance in particular scenarios, many lenders will be affected. External scoring can be helpful as a cross-check but it should not be the only source of information used.*
- *Lenders should ensure that the borrower has or will have clear title to the property, and that its characteristics are as they have been represented to be. Lenders should be particularly alert to vendor financing of down payments, weak appraisal processes, and other practices that artificially inflate transacted prices. Refinancing to a higher loan amount in order to extract equity should attract more scrutiny from lenders than a normal arm's-length purchase.*

Principle 2: Reasonable debt service coverage

Regulators should adopt appropriate standards to ensure reasonable debt service coverage of mortgage obligations and the assessment should ensure sufficient discretionary income to meet recurring obligations and living expenses.

- *While debt-to-income and loan-to-income metrics are useful there is no common definition of these ratios and they can sometimes exclude relevant information such as expenses and tax liabilities.*
- *Debt service coverage metrics should consider all debt obligations, living expenses, taxes and any anticipated expenditures (e.g. tuition for education) when assessing affordability. The amount of discretionary income should be sufficient to maintain an adequate standard of living.*
- *Lenders should use their own criteria to determine the maximum amount they are willing to lend and satisfy themselves that the borrower can service and repay all amounts due on the loan, both principal and interest, within the required term from their own resources, and not rely on the current or expected future value of the property to justify making the loan.*
- *Mortgage loans should, whenever possible, be backed by full recourse to the borrower.*

Principle 3: Realistic qualifying mortgage payments

Regulators should ensure that a borrower's repayment capacity, as determined by lenders is based on a mortgage payment amount sufficient to repay the debt by the final maturity of the loan at the fully indexed rate, assuming a fully amortising repayment schedule.

- *Any potential for negative amortisation should be included in the total loan amount used in the calculation.*

Principle 4: Appropriate loan-to-value ratios

Supervisors should adopt appropriate standards for loan-to-value (LTV) ratios, including with respect to down payments and equity withdrawals. While LTV limits (or incentivising lower LTVs using prudential tools) help control the lender's loss exposure upon default, they should not be relied upon as an assessment of repayment capacity. The amount of equity a borrower commits to the transaction is an important determinant of willingness to repay but not capacity to repay.

- *While it is common for individual mortgage lenders amongst FSB member jurisdictions to apply a cap on LTV ratios, it is not necessary for regulators to mandate such a cap if they satisfy themselves that the underwriting standards adopted by mortgage lenders are sufficiently prudent and are unlikely to be eroded under competitive pressure. On the other hand, regulators may consider imposing hard limits on LTV ratios according to specific national circumstances.*
- *A higher LTV loan might be an acceptable risk if made to a high-income borrower with steady employment and plenty of discretionary income capacity even after making the required payment. Similarly, weaker documentation of income might be appropriate for a self-employed borrower taking out a lower LTV loan with a payment well below normal affordability limits.*
- *Nevertheless, regulators commonly incentivise LTV ratios below 80% because these loans have performed better historically than higher-LTV loans. One way of doing this is by linking the capital charge to LTV ratios even for non-IRB institutions.*

Principle 5: Effective appraisal management

Supervisors should ensure the adoption of, and adherence to, sound collateral appraisal and valuation processes, including the competence and independence of parties performing valuations.

- *Appraisers should satisfy certain requirements in terms of professional skills, qualification and lack of conflicts of interest.*
- *Property values should not reflect future house price appreciation. Instead, in the lending decision, substantiated property values should reflect the property's function as collateral over the entire life time of the mortgage.*
- *Lenders should understand the risk in its mortgage portfolio over time and understand the impact of changes in property values on borrower's performance, which is critical to having an adequate provisioning for loan loss reserves. Property appraisals conducted every three years or more frequently in case of significant changes in market conditions could be a useful practice. Such reviews could be conducted on a statistical basis for the majority of loans, but through individual assessments in the case of loans with high LTV ratios, or if a local market undergoes a major downturn.*

Principle 6: Use of mortgage insurance

Mortgage insurance, where available, may provide additional financing flexibility for lenders and borrowers but is not a substitute for sound underwriting practices.

- *The use of mortgage insurance on high LTV loans should not preclude conducting a comprehensive and independent assessment of the borrower's capacity to repay.*
- *While most mortgage insurers have their own criteria for the types of loans they are willing to insure, lenders should still conduct their own assessment of the borrower's capacity to repay.*
- *The effectiveness of mortgage insurance depends on the financial strength of the provider. Therefore, supervisors should require originators to carry out prudent and independent assessments of the mortgage insurer.*

Principle 7: Allowance for future negative outcomes

Supervisors should ensure that lenders make prudent allowance for future negative outcomes in the housing market, borrower circumstances or macroeconomic environment.

- *For example, lenders could be required to qualify borrowers on a higher notional repayment than the actual initial repayment (for other than fixed-rate mortgages), in order to allow for the possibility that interest rates might rise.*
- *Supervisory oversight, including stress testing, should likewise be used to assess whether lenders have sufficiently allowed for the possibility that housing prices might fall and macroeconomic developments may cause negative effects – at least at a portfolio level.*

Principle 8: Minimum acceptable standards

The minimum acceptable standards should incorporate trade-offs such that easier terms in one dimension require a tightening in others.

- *Regulators should allow lenders to consider combining easier terms in some dimensions with repayment arrangements that encourage extra principal repayments so as to encourage borrowers to build up equity more quickly than would normally be required.*
- *The layering of risks should be avoided, in particular practices that combine aggressive underwriting practices with aggressive mortgage products, for example low-doc loans coupled with teaser rate or interest-only products, or loans with high LTV ratios that include negative amortisation.*
- *Policymakers should require appropriate disclosure to the borrower on the risks of entering into the mortgage transaction. Further, policymakers should require lenders to provide understandable information on mortgage payments, current balances, receipt and application of payments, etc.*

Principle 9: Compensation practices

Regulators should require and supervisors should ensure that lenders' compensation policies provide for credit risk managers' compensation to be independent of sales volumes. Incentive compensation for sales teams should likewise include meaningful consequences for adverse loan quality.

- *Where risk-adjusted returns are used as inputs into compensation and other personnel decisions, the risk adjustments should include meaningful and data-consistent relationships with the lending standards applied on recent residential mortgage underwriting activities. Lenders should ensure that the decision-makers on loan terms in their firms have the appropriate incentives to accurately assess the borrower's capacity to repay – irrespective of whether these loans are kept on the lender's books or sold to other parties (e.g. via securitisation).*

The role of government in mortgage markets

	Tax benefits such as tax advantages for first-time home owners, interest-tax deductions, capital gains tax exemption, or reduced registration and transfer charges	Mortgages or subsidies for affordable housing	Provision of guarantees on loan portfolios or RMBS	Mortgage insurance provision	Wholesale funding for mortgage lenders	State-owned or state-sponsored entities functioning as a secondary mortgage facility	State-owned institutions originate and hold loans
Argentina	✓						✓
Australia	✓	✓					
Brazil		✓			✓		✓
Canada	✓	✓	✓	✓		✓	
France	✓	✓	✓				
Germany		✓	✓				✓
Hong Kong	✓		✓	✓			
India	✓	✓					
Indonesia		✓	✓		✓	✓	
Italy	✓						
Japan	✓	✓				✓	✓
Korea	✓	✓	✓	✓	✓	✓	✓

	Tax benefits such as tax advantages for first-time home owners, interest-tax deductions, capital gains tax exemption, or reduced registration and transfer charges	Mortgages or subsidies for affordable housing	Provision of guarantees on loan portfolios or RMBS	Mortgage insurance provision	Wholesale funding for mortgage lenders	State-owned or state-sponsored entities functioning as a secondary mortgage facility	State-owned institutions originate and hold loans
Mexico	✓	✓	✓	✓	✓	✓	✓
Netherlands	✓		✓	✓			
Russia	✓	✓		✓	✓	✓	✓
Saudi Arabia		✓					✓
Singapore		✓[50]					✓
Spain	✓	✓					
Switzerland	✓						
UK		✓					
USA	✓	✓	✓	✓	✓	✓	

[50] The Housing and Development Board (HDB), a statutory board under the Ministry of National Development, provides public housing for an estimated 80% of the resident population. HDB provides housing loans at concessionary interest rates to eligible buyers subject to HDB's credit assessment and prevailing mortgage loan criteria.

Annex B.2

Mortgage market structure

	Main Product Type[51]	Has this product changed since the financial crisis	Are loans held in originators balance	Main funding instrument in securitization	Mortgage Insurance: Used widely?	Mortgage Insurance: Use Mandatory?	Mortgage Insurance: Does government actively participate?
Argentina	Fixed-rate, Variable-rate ARMs	During 2009, of all transactions done in the City of Buenos Aires, only 7% involved a mortgage, whereas during 2001 this percentage was 26.5%	Yes with only a few banks securitising part of them	RMBS	No	No	No
Australia	Variable-rate (79%) Fixed-rate (21%)	No	Lenders that originate mortgages typically hold the loans on their balance sheet, or sell the loans to other financial institutions	RMBS	Yes	No but it has some advantages in provisions and capital requirements	No
Brazil	Variable-rate loans (100%)	No	Originators keep loans on balance. They can also issue securities similar to covered bonds, but they are not bankruptcy remote in case of insolvency of the issuer. The securitization market is still incipient.	RMBS	No	No	No

51 When referring to product types, ARMs refers to mortgages where the interest rate is reviewed over the medium term. Variable rates refer to rates that are frequently modified.

	Main Product Type[51]	Has this product changed since the financial crisis	Are loans held in originators balance	Main funding instrument in securitization	Mortgage Insurance		
					Used widely?	Use Mandatory?	Does government actively participate?
Canada	Fixed-rate (69%) Variable rate (31%)	In 2000, the majority of mortgages originated were fixed-rate mortgages. By 2009, almost one-third of the residential mortgages originated were variable-rate mortgages	Approximately 70% of Canadian residential mortgages are held on-balance	*National Housing Act* MBS and Canada Mortgage Bonds (CMB), with payment guarantee from the Canada Mortgage and Housing Corporation (CMHC), which carries the full backing of the Government of Canada	Yes	Mortgage insurance is required by statutes for all Federally Regulated Financial Institutions (FRFIs) on mortgages where the borrower is putting less than a 20% down payment	Mortgage insurance is provided by CMHC, a federally-owned Crown corporation. CMHC has about 70% share of the insurance in force. The federal government backs the private mortgage insurers, which represent the remaining 30% share of mortgage insurance in force.
China	Variable rate loans	No	Originators keep loans off balance sheet. In 2005, China launched the residential mortgage securitization pilot project with RMB 7.177 bn	RMBS	No	No	No

	Main Product Type[51]	Has this product changed since the financial crisis	Are loans held in originators balance	Main funding instrument in securitization	Mortgage Insurance		
					Used widely?	Use Mandatory?	Does government actively participate?
France	Fixed-rate (87.45%) Variable-rate (11.46%)	Fixed-rate loans have increased	In 2009, only 2.5% of housing credits have been taken out of the balance-sheet. There is an active covered bonds market	Covered bonds Was 38.4% of 2009 issuance	Yes	No	No
Germany	Fixed-rate (90%)	No	Yes for the majority of the loans	Covered bonds	No	No	No
Hong Kong	Variable rate loans (98%). In early 2008, there was a growing trend of principal repayment holiday of 2 to 3 years which was later forbidden by the HKMA	No	Securitization is not common but some banks sell their mortgage portfolio to Hong Kong Mortgage Corporation (HKMC) (sales amounted to 1% of new residential mortgage loans (RMLs) in 2009)	Loan sales to HKMC	Yes	Yes For the portion of loans above LTV limits	Yes (18% of total new RMLs covered by mortgage insurance issued by HKMC)
India	Fixed and variable rate loans	No	Securitization is permitted and undertaken by some banks, however, the originated loans are kept on the balance sheet of the mortgage originating institutions	RMBS	No	No	No

	Main Product Type[51]	Has this product changed since the financial crisis	Are loans held in originators balance	Main funding instrument in securitization	Mortgage Insurance		
					Used widely?	Use Mandatory?	Does government actively participate?
Indonesia	Fixed rate loans (97%) and variable rate loans (3%)	No	The vast majority of banks hold the loans on their balance sheet. Only 0.02% of all loans were sold during 2009 and 0.90% were securitized.	RMBS		~~Yes~~	~~Yes~~
Italy	Variable rate loans in local currency (62.8%) and fixed-rate loans in local currency (36%)	Increase in variable rate loans	14% of loans were securitized in 2009	RMBS	Yes, provided by private sector	No	No
Japan	Hybrids (56%) and variable rate loans (36%)	Increase in variable rate loans	Mostly. 93.6% of financial intermediaries didn't securitize in 2008	RMBS	Yes	No	No
Korea	Variable rate loans	No	Yes	RMBS	No	Yes for the amount that exceeds the statutory LTV ratio	No
Mexico	75% indexed to minimum wages and 25% fixed-rate	The crisis did not change the type of products originated	Yes for the majority of the loans. Only around 10% has been securitized	RMBS	11.5% of loans are insured	No but it has some advantages in provision and capital requirements	Yes Through Sociedad Hipotecaria Federal (SHF)

	Main Product Type[51]	Has this product changed since the financial crisis	Are loans held in originators balance	Main funding instrument in securitization	Mortgage Insurance		
					Used widely?	Use Mandatory?	Does government actively participate?
Netherlands	Fixed rate mortgages with a maturity over 1 year (75.19%) Variable rates + fixed rates mortgages (24,81%)	In comparison to 2007, fixed rate mortgages with maturity over 1 year have decreased as a percent of total loans			Yes	No	Yes. About 80% of new mortgages below the maximum of € 350.000 are guaranteed by the NHG. The share of mortgages insured by private insurers is close to zero.
Russia	Fixed-rate loans (100%)	No	Selling mortgages is more common for small banks while securitization is mostly done by large banks	15% of loans were sold while 10% were securitized	Yes	No	
Saudi Arabia	Fixed-Rate Loans (9%), Variable Rate Loans (10%), Hybrid Loans (1%), Other – Government Fund – Interest Free Loans (80%)	No	Yes		Yes	No	No

	Main Product Type[51]	Has this product changed since the financial crisis	Are loans held in originators balance	Main funding instrument in securitization	Mortgage Insurance		
					Used widely?	Use Mandatory?	Does government actively participate?
Singapore	Variable-rate loans (100%)[52]	No	Financial institutions that originate mortgages typically hold the loans on their balance sheet. There is no active mortgage securitisation market in Singapore	There is no active mortgage securitisation market in Singapore	No	No	No
South Africa[53]	Variable-rate loans (98%) Fixed-rate loans (2%)	No	Banks generally hold loans on their balance sheets. Securitizations are limited	RMBS are the primary instrument	No	No	No
Spain	ARMs (99%)	No	Mostly, there is an active market for covered bonds	Covered bonds, 90% of RMBS remain on balance sheet because there is no significant risk-transfer	No It is widely available by private providers but not commonly taken out	No	No
Switzerland	Fixed-rate loans (77.25%) Variable rate (22.75%)	Origination of fixed rate loans of longer duration increased	Banks hold loans to maturity. Originate-to-distribute models aren't known.		No	No	No

52 There are two broad types of variable rate loans: (i) loans that are variable-rate throughout the entire tenor of the loan and (ii) loans with a fixed rate for the first few years which reset to a variable rate thereafter.

53 Reflects information submitted by South Africa's three largest banks.

	Main Product Type[51]	Has this product changed since the financial crisis	Are loans held in originators balance	Main funding instrument in securitization	Mortgage Insurance		
					Used widely?	Use Mandatory?	Does government actively participate?
United Kingdom	Fixed-rate loans (37.7%) Variable rate (62.3%)	In the run up to the crisis, interest-only based lending increased. Furthermore, after the crisis, fixed-rate loans went from representing 64.5% of all new loans to 57%.	Mix of business models	RMBS	No It is widely available by private providers but not commonly taken out	No	No
United States	Fixed rate (90%) ARMs (10%)	30 year fixed rate loans have increased as a percentage of total market loans, while hybrid products have disappeared	Over 85% of loans were securitized in 2009	RMBS	Yes	No regulatory requirement is in place but GSEs, and therefore most lenders, require insurance for LTV's above 80%	Yes through the Federal Housing Administration (FHA) but the largest providers are private firms

Annex B.3

Proportion of regulated and unregulated residential mortgage markets

FSB Member Jurisdiction	Regulated Deposit-taking Institutions (DTIs)[54] (a)	Non-Deposit-taking Institutions (NDTIs) Regulated by Prudential Regulators (b)	NDTIs Regulated by Conduct Regulators[55] (c)	Total Regulated Institutions (a) + (b) + (c)	Unregulated Institutions
Argentina	100%			100%	Insignificant
Australia	95.1%		4.9%	100%	
Brazil[56]	99.6%	0.4%		100%	Insignificant
Canada[57]	61.8%	33.2%		95%	5%
China	100%			100%	
France	88%	12%		100%	
Germany	100%			100%	
Hong Kong	100%			100%	Insignificant
India[58]					
Indonesia	99.9%	0.1%		100%	Insignificant
Italy	98.9%	1.1%		100%	Insignificant
Japan	93%	7.0%		100%	Insignificant
Korea	90.9%	9.1%		100%	
Mexico[59]	26.8%	71.0%		97.8%	2.2%
Netherlands[60]	62.4%	37.6%		100%	Insignificant

54 Regulated DTIs in all member jurisdictions are subject to the supervision of prudential regulators. In some jurisdictions (Australia and the Netherlands), DTIs are concurrently regulated by separate conduct regulators.

55 Categorisations used do not precisely describe the US situation.

56 Brazil: Residential mortgage information is available only for institutions under the supervision of the Central Bank of Brazil. Nevertheless, the market shares of non-regulated institutions are considered residual.

57 Canada: Regulated DTIs comprises Chartered Banks, Trust and Mortgage Loan Companies, and Credit Union. All other institutions are classified as NDTIs. These include government-backed MBS, private mortgage securitisation, pension funds, life insurance companies, and non-depository credit intermediaries and other institutions. A small proportion of residential mortgages (approximate 5%) are originated by alternate lenders that are not subject to prudential regulation.

58 India: The data is not formally available.

59 Mexico: The market shares of unregulated segments (i.e. specialised mortgage lenders) decreased to 2.2% in 2009, from 5.7% in 2007 and 12.1% in 2000. The regulated NDTI segment refers to 2 state housing funds.

60 Netherlands: NDTIs are concurrently regulated by both a prudential regulator (DNB) and a conduct regulator (AFM).

FSB Member Jurisdiction	Regulated Deposit-taking Institutions (DTIs)[54] (a)	Non-Deposit-taking Institutions (NDTIs) Regulated by Prudential Regulators (b)	NDTIs Regulated by Conduct Regulators[55] (c)	Total Regulated Institutions (a) + (b) + (c)	Unregulated Institutions
Russia[61]	90%			90%	10%
Saudi Arabia[62]	18.6%	81.4%		100%	
Singapore	100%			100%	Insignificant
South Africa[63]	86%		14%	100%	
Spain	99%	1.0%		100%	Insignificant
Switzerland[64]	92.8%	7.2%		100%	Insignificant
Turkey[65]	99.8%	0.2%		100%	
UK[66]	89.6%	10.4%		100%	Insignificant
USA[67]	85%	n/a	15%	100%	Insignificant

61 Russia: The mortgage loans of unregulated segment were mainly extended by non-bank credit institutions which are the partners of the Agency for Housing Mortgage Lending (AHML), a mortgage development institution that implements government plans of providing affordable housing and improving housing conditions of general public

62 Saudi Arabia: The regulated NDTI segment is dominated by the public agency, Real Estate Development Fund. There is also an emerging sector of specialised mortgage finance companies that are raising funds from the private sector and providing credit for housing mostly under Shariah Compliant Finance contracts. After the promulgation of the new laws it is proposed that these companies will also be subject to the supervision of Saudi Arabian Monetary Agency.

63 South Africa: Mortgages are underwritten by commercial banks and non-bank residential mortgage lenders. The figures are based on the information from the Deeds Office.

64 Switzerland: Only 2007 figures are available for the purpose of this thematic review.

65 Turkey: Only information related to banks, leasing companies and financing companies that are subject to the supervision of Banking Regulation and Supervision Agency (BRSA) are available for the purpose of this thematic review. Information related to other categories of residential mortgage originators, if any, was not available.

66 UK: Buy-to-let lending itself is unregulated, although the firm may be subject to prudential oversight. The figures included both regulated and unregulated lending conducted by DTIs and non-DTIs.

67 US: All unregulated mortgage brokers will be regulated under the Dodd-Frank Act.

Regulatory and supervisory oversight responsibilities

FSB Member Jurisdiction	Regulatory and Supervisory Authority
Argentina	This market in Argentina is small. The most active players are financial institutions regulated by the Central Bank of Argentina (CBA).
Australia	The Australian Prudential Regulation Authority (APRA) is responsible for prudential regulation and supervision of authorised deposit-taking institutions (banks, building societies and credit unions), general and life insurance companies and most members of the superannuation industry. The Australian Securities and Investments Commission (ASIC) is responsible for market conduct regulation and consumer and investor protection, including credit. The Reserve Bank of Australia (RBA) has responsibility for monetary policy, overseeing financial system stability and oversight of the payments system. The Council of Financial Regulators (CFR) is the coordinating body in Australia, bringing together Australia's four regulatory agencies, to oversee financial market regulation. The four regulatory agencies that are members of CFR are: RBA (which chairs the CFR), Australian Treasury Department, APRA, ASIC.
Brazil	Central Bank of Brazil (BCB – Banco Central do Brasil), whose duties include: a) controlling the credit in all of its forms; b) supervising all financial institutions, including curbing irregular practices through disciplinary and punitive instruments; c) authorizing the functioning of financial institutions. BCB also supervises Housing Finance System (SFH)'s non-financial institutions. National Superintendency of Pension Funds (NSPF, Previc, Superintendência Nacional de Previdência Complementar), is responsible for the supervision of pension funds. Pension Funds are part of the housing finance market given that they provide housing loans to its participants.
Canada	Office of the Superintendent of Financial Institutions (OSFI) supervises and regulates banks, federally regulated trust and loan companies, and insurance companies, including private sector mortgage insurers. The regulator is responsible for examining the business and financial condition of regulated financial institutions for the purpose of determining whether they are in sound financial condition. Provincially regulated financial institutions, such as credit unions and caisses populaires, are regulated by the provincial Ministries of Finance and other provincial regulators (collectively provincial regulators). Federal and provincial agencies – such as the Financial Consumer Agency of Canada (FCAC) – protect consumers through their focus on market-conduct issues.

FSB Member Jurisdiction	Regulatory and Supervisory Authority
China	The People's Bank of China formulates and implements interest rate policies and macro credit guidance policies according to law. China Banking Regulatory Commission is responsible for constituting and releasing regulations and rules on residential mortgage loans according to relevant laws and administrative regulations, and conducting off-site supervision and on-site examinations on financial institutions.
France	The regulation of banking activities is carried out in France by a committee, namely "Le Comité consultatif de la legislation et de la réglementation financière"(CCLRF), which comes under the Minister of the Economy and Finances and the Governor of the Banque de France (BF). The supervision is carried out by the Prudential Control Authority (ACP, i.e. Banking Commission) which is responsible for the ongoing supervision and control of the financial services and insurance industries.
Germany	By law, all institutions that grant loans as part of their business are credit institutions and therefore subject to regulation and supervisory oversight. Loan brokers do not grant loans. The Federal Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht* – BaFin) and Deutsche Bundesbank together have the responsibility for oversight of financial institutions that are permitted to originate and/or underwrite residential mortgages.
Hong Kong	Residential mortgage loans (RMLs) in Hong Kong were mostly originated by the banking sector, which comprise licensed banks, restricted licence banks and deposit-taking companies. They are all subject to the supervision of the Hong Kong Monetary Authority (HKMA). There are also finance companies or property developers, not regulated by the HKMA, providing second mortgages to homebuyers, but the amount of such mortgages is insignificant.
India	Residential mortgages are originated by banks (commercial as well as cooperative banks), some non-banking financial companies and dedicated housing finance companies (HFCs). Banks and non-banking financial companies are regulated and supervised by the Reserve Bank of India, while the housing finance companies are regulated and supervised by the National Housing Bank.
Indonesia	Commercial banks as originators are supervised by Bank of Indonesia (BI), the central bank and banking supervisory authority of Indonesia. If originators of residential mortgage loans are multi-finance companies, then they are supervised by Bapepam-LK (BLK). Bapepam-LK refers to Badan Pengawas Pasar Modal dan Lembaga Keuangan (capital markets and non bank financial institutions (NBFI) supervisory authorities of Indonesia).

FSB Member Jurisdiction	Regulatory and Supervisory Authority
Italy	Mortgages originators are only banks and, to a limited extent, other credit intermediaries supervised as banks. The supervision of banks and of any such intermediary is carried out by the Bank of Italy (BoI).
Japan	The Japan Financial Services Agency (JFSA), mainly, is in charge of the oversight of residential mortgage originators. While the JFSA solely oversees banks, insurance companies and specified mortgage lenders, etc, it supervises Labour Bank, Japan Agriculture (JA) and the JHF, in cooperation with other government authorities. In most cases, the JFSA is the only government agency in charge of regulation and supervision of residential mortgage originators.
Korea	The Financial Services Commission (FSC) is responsible for legislation and amendments of laws and regulations such as LTV and DTI ratios that are related to supervision of originators and underwriters. The Financial Supervisory Service (FSS) is responsible for the actual supervision activities and supervises financial institutions' compliance to those regulations legislated and amended by the FSC.
Mexico	The only regulatory and supervisory agency with a formal mandate to oversee residential mortgage originators and underwriters is the National Banking and Securities Commission (CNBV). In this regard, CNBV overviews only those originators that are under its surveillance, namely, commercial and development banks, as well as state housing funds (INFOn/aVIT and FOVISSSTE). Neither specialised mortgage lenders (non-deposit-taking) that originate and underwrite mortgages nor mortgage brokers are supervised by any authority. Regarding banks and state housing funds, the CNBV acts as their prudential regulator. Recently, a Council for the Stability of the Financial System (CSFS) was created, with the mandate to overview the stability of the financial system from the macroprudential point of view. This Council comprises the Ministry of Finance, the Central Bank, the deposit insurance agency, and the prudential supervisors (CNBV, CNSF in charge of insurance companies, and CONSAR in charge of pension funds).
Netherlands	Both the AFM (Authority for Financial Markets) and the DNB (central bank) have responsibilities with regard to mortgage-origination and underwriting. DNB is involved from a prudential perspective on the banks mostly, and is responsible for financial stability at a macro level. The AFM is responsible for consumer protection, and in that respect looks closely at the conduct of business/code of conduct side of the origination. There is little overlap in their tasks, both derived from the Dutch Financial Supervision Act. DNB and AFM frequently work together in analyzing mortgage trends.

FSB Member Jurisdiction	Regulatory and Supervisory Authority
Russia	The Central Bank of the Russian Federation (CBRF) responsible for making decisions on state registration of credit institutions, issuing licenses for banking operations to such credit institutions, suspension and revocation of licenses and overseeing activities of credit institutions and bank groups.
Saudi Arabia	With the promulgation of the proposed Real Estate Finance Law, Saudi Arabian Monetary Agency (SAMA) is proposed to be the sole regulator and supervisor of all mortgage finance companies operating in the Kingdom. There is also an emerging sector of specialised mortgage finance companies that are raising funds from the private sector and providing credit for housing mostly under Shariah Compliant Finance contracts. After the promulgation of the new laws it is proposed that these companies will also be subject to SAMA supervision.
Singapore	All residential mortgage originators and underwriters in Singapore are financial institutions that are regulated by the Monetary Authority of Singapore (MAS). These financial institutions, specifically commercial banks and finance companies, are required to comply with the relevant regulations issued by MAS, and are subject to MAS' supervisory oversight in various areas including those related to their mortgage underwriting and originating activities.
South Africa	The South Africa Reserve Bank is responsible for bank regulation and supervision in South Africa. The purpose is to achieve a sound, efficient banking system in the interest of depositors of banks and the economy as a whole under the Banks Act and the Mutual Banks Act. The National Credit Regulator (NCR) is responsible for the regulation of the South African credit industry. It is tasked with carrying out education, research, policy development, registration of industry participants, investigation of complaints, and ensuring enforcement of National Credit Act. The NCR is also tasked with the registration of credit providers, credit bureaux and debt counsellors; and enforcement of compliance with the Act.
Spain	The supervisory regime of the Spanish mortgage market is shared between: (i) Bank of Spain (BE, the Central Bank), as prudential supervisor of both the credit institutions (mortgage originators) and the mortgage market itself (i.e. the assets that can be securitised trough MBS or covered bonds and the issuers of these securities) and (ii) the Spanish Securities Commission (CNMV), as supervisor of the covered bonds and MBS market.

FSB Member Jurisdiction	Regulatory and Supervisory Authority
Switzerland	Swiss Financial Markets Supervisory Authority FINMA protects the clients of financial markets, namely creditors, investors and insured persons. Banks extending mortgages are supervised and regulated by FINMA. By law, the Swiss National Bank (SNB) – the central bank of Switzerland – has the task to contribute to the stability of the financial system. Relations between FINMA and SNB are governed by a Memorandum of Understanding.
Turkey	Housing finance institutions are all regulated and supervised by Banking Regulation and Supervision Agency (BRSA). The Ministry of Industry and Commerce (MIC) is authorised to determine the procedures and principles regarding the extension and refinance of loans under housing finance by taking the opinion of Bank Association of Turkey from the perspective of consumer protection. According to the Banking Law, in cases where a negative development that could spread over to the entire financial system occurs and such development is detected by **Systemic Risk Committee** (SRC) which is composed of the Savings Deposit Insurance Fund (SDIF), Treasury Undersecretariat and Central Bank of Turkey (CB) under the coordination of the BRSA, the Council of Ministers is authorised to determine the extraordinary measures to be taken and all the relevant institutions and agencies are authorised and responsible for promptly implementation of such extraordinary measures. In addition, a **Financial Sector Commission** (FSC) consisting of the representatives of BRSA, Ministry of Finance, the Treasury Undersecretariat, CB, Capital Market Board, SDIF, Competition Board, Undersecretariat of State Planning Organization, Istanbul Gold Exchange, securities stock exchanges, Futures and Options Markets and the associations of financial institutions was established in 2006. The Commission is responsible for exchange of information, cooperation and coordination among institutions and it also proposes joint policies and expresses views regarding the matters that relate to confidence and stability as well as development in the financial markets.
United Kingdom	The UK FSA has been responsible for the vast majority of the market, which is all residential mortgage borrowing secured by a first charge on land. The FSA has a number of statutory objectives, including consumer protection and market confidence, and has designed and implemented a regime (combining both prudential and conduct of business controls) delivering these objectives in the mortgage market. This regime includes specific obligations on lenders with regard to responsible lending. The Office of Fair Trading is responsible for policing the requirements of the Consumer Credit Act as they apply to firms engaged in residential mortgage lending that is secured by a second or subsequent charge.

FSB Member Jurisdiction	Regulatory and Supervisory Authority
United States	The United States has Federal and State agencies that have responsibility for overseeing residential mortgage originators, which are described below. Federal level: Residential mortgage loan originators and underwriters (MLOs) working in the United States are subject to supervision by Federal and/or State government agencies. At the Federal government level, MLOs and the institutions that employ them are supervised by one of the following agencies: • *Office of the Comptroller of the Currency (OCC)*: OCC charters and supervises national banks, operating subsidiaries of national banks, and Federal branches and agencies of foreign banks. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), enacted in July 2010, OCC will also supervise Federal savings associations. • *Board of Governors of the Federal Reserve System (FRB)*: FRB supervises bank holding companies, non-depository subsidiaries of bank holding companies, State-chartered banks that are members of the Federal Reserve System, certain subsidiaries of such banks, branches and agencies of foreign banks (other than Federal branches, Federal agencies, and insured State-licensed branches of foreign banks); and commercial lending companies owned or controlled by foreign banks. Under the Dodd-Frank Act, FRB will also supervise savings association holding companies and non-depository subsidiaries of savings association holding companies. • *Federal Deposit Insurance Corporation (FDIC)*: FDIC supervises insured State-chartered banks that are not members of the Federal Reserve System, certain subsidiaries of such banks, and insured state-licensed branches of foreign banks. Under the Dodd-Frank Act, FDIC will also supervise state savings associations. • *Office of Thrift Supervision (OTS):* OTS supervises savings association holding companies, non-depository subsidiaries of savings association holding companies, Federal and State savings associations, and operating subsidiaries of savings associations. Under the Dodd-Frank Act, OTS will be abolished and its supervisory authority will be transferred to FRB, OCC, and FDIC. • *National Credit Union Administration (NCUA):* NCUA supervises Federally-insured credit unions.

FSB Member Jurisdiction	Regulatory and Supervisory Authority
United States (Continued)	• *Farm Credit Administration (FCA)*: FCA supervises Farm Credit System lending institutions, which make residential mortgage loans to agricultural producers and people in rural areas. • *Federal Trade Commission (FTC)*: The FTC has jurisdiction over any person, partnership, or corporation that engages in unfair or deceptive acts or practices in or affecting commerce, except (among others) banks, savings associations, and Federally-chartered credit unions. The FTC's jurisdiction is concurrent with that of: 1) OCC, FRB, FDIC, and OTS, with respect to the non-depository institutions they supervise; 2) NCUA, with respect to State-chartered credit unions; and 3) FCA, with respect to Farm Credit System lending institutions. Under the Dodd-Frank Act, FTC's jurisdiction will overlap to some extent with that of the new Bureau of Consumer Financial Protection. • *Consumer Financial Protection Bureau (CFPB)*: The CFPB, established under the Dodd-Frank Act, will supervise (among others): 1) mortgage-related businesses (other than insured depository institutions and insured credit unions); 2) "larger participants" (to be defined by regulation) in the consumer financial market (other than insured depository institutions and insured credit unions); 3) certain non-depository institutions that it finds (based on consumer complaints or other information and after notice and an opportunity to respond) to have engaged in conduct that poses risks to consumers with regard to consumer financial products or services; and 4) with respect to Federal consumer financial laws, insured depository institutions and insured credit unions with total assets exceeding $10 billion. The CFPB's supervisory authority will overlap to some extent with that of the other Federal banking agencies mentioned above, except for FCA, and it was established in part to close perceived gaps in supervision of non-depository institution providers of consumer financial products and services. The CFPB will not have supervisory authority over Farm Credit System lending institutions.

FSB Member Jurisdiction	Regulatory and Supervisory Authority
United States (Continued)	<u>State level</u>: At the State government level, MLOs and the institutions that employ them may be supervised by various agencies (collectively known as state agencies (SAs)), depending on the particular State. Under the Secure and Fair Enforcement for Mortgage Licensing Act of 2008 (SAFE Act), all MLOs must be either State-licensed or Federally-registered in the Nationwide Mortgage Licensing System and Registry (NMLS), a nationwide database. The SAFE Act establishes minimum standards for State Licensing of MLOs. • *Federal Housing Finance Agency (FHFA)*: FHFA is the regulator and conservator of Fannie Mae, Freddie Mac, and the regulator of the 12 Federal Home Loan Banks. FHFA was created in 2008 and is comprised of combined staffs of the former Office of Federal Housing Enterprise Oversight (OFHEO), the former Federal Housing Finance Board (FHFB), and the GSE mission office at the Department of Housing and Urban Development (HUD). www.fhfa.gov. • *Oversight Council*: The Dodd-Frank Act established the Financial Stability Oversight Council (FSOC) for the purpose of identifying risks to the financial stability of the United States, responding to emerging threats to the stability of United States financial markets, and promoting market discipline.

Annex B.5

Debt capacity measurements

	Limit or Market practices		Average Metric	
	Debt-to-Income	Loan-to-Income	Debt-to-Income	Loan-to-Income
Argentina		25%-50%		
Australia	Different metric			
Brazil		30%-35%		
Canada	42%	35%	32%	22%
France	33%		32%	
Germany	Different metric			
Hong-Kong	50%		41%	
Indonesia		33%		
Italy		33%-40%		
Japan	35%		21%	
Mexico		25-30%		
Netherlands[68]	26%-38%			
Russia	45%	30%		
Saudi Arabia				27%
Singapore	40%-50%		about 40%	
South Africa[69]		10.5% - 34.5%		27%
Switzerland	33%			
Turkey	20%-40%	20%-40%		
Spain				39%
UK[70]				2.50-2.83
USA	36%-45%			

68 Maximum percentage to spend on mortgage payment under different levels of income and interest rates.

69 Reflects information submitted by South Africa's three largest banks.

70 The UK questionnaire shows an LTI ratio calculated as total loan over the annual gross income.

Average loan-to-value (LTV) ratios and limits

FSB Member Jurisdiction	Average Initial LTV	Typical LTV Range	LTV limitation
Argentina		60% – 80%	• LTV limits incentivised through lower risk weights
Australia		70% – 80%	• LTV limits incentivised through lower risk weights
Brazil	62.5% (2009) 59.7% (2007)	50% – 85%	• LTV limits incentivised through lower risk weights • Internal policies
Canada	Around 50% of mortgages are below 80% LTV Very small fraction of mortgages with LTV > 95%		• Mandatory Mortgage Insurance for LTV ratios exceeding 80% • Internal policies
China	63% (2009 sample)		• Down payment of 30% for first loan and 50% for second loan required
France	80% (2009) 77% (2007) 74% (2000)		• LTV limits incentivised through lower risk weights • Internal policies
Germany	74% (2009)[71] 72% (2006) 71% (2002)	50% – 90%	• LTV limits incentivised through lower risk weights • 60% LTV limit for mortgage loan funding through German covered bonds (Pfandbriefe) • Lenders' internal policies

71 All figures according to the Association of German Pfandbriefbanks (vdp), which only represents banks originating German covered bonds (Pfandbriefe).

FSB Member Jurisdiction	Average Initial LTV	Typical LTV Range	LTV limitation
Hong Kong	64.1% (2009) 61.6% (2007) 58.5% (2000)		• 70% LTV limit for properties valued below USD1.03m • 60% LTV limit for properties valued at or above USD1.03m but below USD1.54mn • 50% LTV limit for properties valued at or above USD1.54m, buy-to-let properties and property held by companies • exceeding LTV's limits must be covered by mortgage insurance
Indonesia	70%	70% – 75%	• 70% LTV ratio is common practice
Italy	68.6% – 73.2% (2008 – 2010)		• LTV limits incentivised through lower risk weights • Internal policies
India	n/a	75% – 85%[72]	• Reserve Bank: LTV of 80% should not be exceeded on loans in excess of Rs. 2 million, and a maximum of 90% for loans up to Rs. 2 million • LTV limits incentivised through lower risk weights
Japan	Initial down payment of 20% – 30% recommended		
Korea	47.3%	47% – 53.4%	• LTV limits recommended for speculative (40%), metropolitan (50%), and nationwide (60%) mortgages
Mexico	Fixed-rate mortgages: 75% Indexed loans: 85%	50% – 95% 75% – 95%	• LTV limits incentivised through lower risk weights

[72] Figure only refers to housing finance companies.

FSB Member Jurisdiction	Average Initial LTV	Typical LTV Range	LTV limitation
Netherlands	116% (2009) [73] 114% (2007) [71] 102% (2000) [71]		• 112% LTV limit to be implemented / amount exceeding 100% to be paid off within 7 years
Russia	63.7% (2007)	65.4%	• LTV limits for mortgages used for securitisation defined
Saudi Arabia	84%	84% – 95%	• Internal policies
Singapore	N/A: MAS does not collect data by average LTVs but by LTV bands	Less than 70% LTV	• 80% LTV limit for all mortgage loans if borrower has no other outstanding housing loan, otherwise 60%
South Africa[74]	89.7% (2007) 80.2 (2009)	45% - 102%	• Internal policies
Spain	56% (2009) 63% (2007) 64% (2004)		• LTV limits incentivised through lower risk weights, by solvency regulation and by the capacity to issue covered bonds
Switzerland		60% - 80%	• Self-regulation guidelines: maximum LTV of 100%
Turkey	75%	75% – 80%	• LTV limit of 75% for residential properties and 50% for commercial mortgages
United Kingdom	Fixed-rate mortgages: 60.67% (2009) 65.15% (2007) Variable-rate mortgages 53.20% (2009) 52.74% (2007) Lifetime mortgages: 20%		• LTV limits incentivised through lower risk weights • Internal policies

[73] The validity of these figures is highly uncertain, as there are strong indications the reported LTV ratios overstate true LTV ratios. It is common practice by buyers to overstate mortgage values at the registry to create leeway for amendments in their mortgages.

[74] Data refers to one of the largest banks in South Africa.

FSB Member Jurisdiction	Average Initial LTV	Typical LTV Range	LTV limitation
United States			• Internal policies to set individual LTV limits that do not exceed supervisory limits • 1-4 family residential mortgage loans exceeding 90% LTV should have other credit strengths (i.e. Mortgage Insurance, readily marketable collateral, liquid assets, high credit score, low DTI ratio) • Note: the above applies to federally regulated institutions in the US.

Annex B.7

Overview of data collection and disclosure practices

	Data Collection			Data Disclosure			Periodic Publication of Mortgage Market Trends and Vulnerability Analysis	
	Outstanding Loans and Credit Portfolio Performance /*	**Credit portfolio risk profile data/****	**Underwriting Practices/*****	**Outstanding loans and credit portfolio performance /***	**Credit portfolio risk profile data/****	**Underwriting Practices /*****	**Excluding Underwriting Practices**	**Including Underwriting Practices**
Argentina	✓							
Australia	✓	✓				✓	✓	
Brazil	✓			✓				
Canada	✓	✓			✓			✓
China	✓	✓						
France	✓	✓		✓	✓		✓	
Germany	✓	✓	✓	✓			✓	
Hong Kong	✓	✓	✓	✓	✓	✓		✓
India	✓			✓				
Indonesia	✓							
Italy	✓	✓						

	Data Collection			Data Disclosure			Periodic Publication of Mortgage Market Trends and Vulnerability Analysis	
	Outstanding Loans and Credit Portfolio Performance /*	Credit portfolio risk profile data/**	Underwriting Practices/***	Outstanding loans and credit portfolio performance /*	Credit portfolio risk profile data/**	Underwriting Practices /***	Excluding Underwriting Practices	Including Underwriting Practices
Japan	✓	✓	✓	✓	✓	✓		✓
Korea	✓	✓	✓	✓	✓		✓	
Mexico	✓	✓		✓	✓		✓	
Netherlands	✓	✓		✓			✓	
Russia	✓			✓				
Saudi Arabia	✓	✓		✓			✓	
Singapore	✓	✓	✓	✓			✓	
South Africa	✓	✓		✓			✓	
Spain	✓	✓		✓	✓		✓	
Switzerland	✓	✓		✓				
UK	✓	✓	✓	✓	✓		✓	
USA	✓	✓	✓	✓	✓	✓		✓

✓ Indicates that the respondent jurisdiction collects/publishes the data or analysis indicated on the top cell.

* Data only refers to basic credit portfolio performance such as delinquency rates, sometimes classified by type of loan.

** In addition to the credit portfolio performance data, it includes loan characteristics necessary to assess riskiness of portfolios, such as LTVs, LTIs, DTI, first vs. second lien, etc.

*** Data includes a detailed description of underwriting practices such as document verification, credit history checks, third party references, document used as proof of income, etc.

Annex C

Extract from the January 2010 Joint Forum report on the Review of the Differentiated Nature and Scope of Financial Regulation

V. Recommendations and options for effective and consistent financial regulation across sectors

C. Promoting consistent and effective underwriting standards for mortgage origination

Because each country's mortgage industry is shaped by distinct real estate markets, cultural influences, and socioeconomic policies, it would be challenging to construct a single regulatory approach to mortgage underwriting standards. To help prevent recurrences of the market disruption and financial instability recently experienced, however, supervisors should address issues in their respective mortgage markets to achieve more consistent and more effective regulation of mortgage activities.

Sound underwriting standards[75] are integral to ensuring viable, robust mortgage markets at the local and global levels and may improve financial stability notably when mortgages are securitised. Systemic risk will be reduced if mortgages are properly underwritten, ensuring that borrowers have the capacity and economic incentive to honour their commitments to retire the debt in a reasonable period of time. Indeed, by focusing on prudent underwriting, supervisors can help institutions and markets avoid the broad-based issues and disruptions experienced in recent years and potentially help restore securitisation/structured finance markets.[76] Therefore, the Joint Forum recommends that supervisors take the following actions:

Recommendation n° 7: Supervisors should ensure that mortgage originators adopt minimum underwriting standards that focus on an accurate assessment of each borrower's capacity to repay the obligation in a reasonable period of time. The minimum standards adopted should be published and maintained in a manner accessible to all interested parties.

> ***Measuring a borrower's ability and willingness to repay*:**
>
> Standards should incorporate requirements consistent with the following basic principles, with guidelines and limits adjusted to reflect the idiosyncrasies of the supervisors' respective markets and regulatory framework.
>
> **Effective verification of income and financial information.** Capacity measurements, such as debt-to-income ratios, are only as good as the accuracy and reasonableness of the inputs. That is, the efficacy of debt-to-income ratios and other capacity measures is dependent on stringent guidelines for verifying a borrower's income and employment,

[75] When this report refers to standards, the word is used interchangeably to mean practices, as in some jurisdictions they are not meant to be compulsory to each an every mortgage underwritten in each jurisdiction. The goal is to ensure that the majority of mortgages underwritten per institution and for the system as a whole follow sound underwriting practices.

[76] As outlined in one of the recommendations regarding securitisation contained in the IOSCO report on unregulated markets and products, lenders that pursue an "originate to distribute" model could be required to retain a portion of the credit risk. This ongoing ownership interest may act as a deterrent to lax underwriting. However, such measures may also create a number of issues and undue complexity when employed with respect to structured finance.

debt, and other financial qualifications for repaying a mortgage. When lenders allow borrowers to claim unsubstantiated financial information, or do not require such information, they undermine underwriting policies and introduce additional credit risk as well as expose themselves to fraud. Supervisors should therefore generally require lenders to verify information submitted for mortgage qualification. There also should be penalties for borrowers and other originators who misrepresent such information.

Reasonable debt service coverage. One of the most fundamental components of prudent underwriting for any product that relies on income to service the debt is an accurate assessment of the adequacy of a consumer's income, taking into account all debt commitments.[77] These assessments and calculations should accurately capture all debt payments, and any exclusions should be well controlled. The assessment also should ensure sufficient discretionary income to meet recurring obligations and living expenses. Supervisors should adopt appropriate standards to ensure reasonable debt-to-income coverage for mortgages. As a secondary capacity test, supervisors should consider appropriate standards regarding income-to-loan amount (eg loan amount should generally not exceed a particular multiple of annual earnings).

Realistic qualifying mortgage payments. At least in the United States, there was a proliferation of mortgage products with lower monthly payments for an initial period that were to be offset by higher monthly payments later (eg "teaser rate" mortgages, "2/28" adjustable rate mortgages, payment option mortgages). In some cases, the initial monthly payments were much lower than the payments scheduled for later. Many lenders determined whether a borrower qualified for a mortgage by calculating the debt-to-income ratio using only the reduced initial monthly payment, without taking into account the increase in that payment that would occur later. When house prices stopped appreciating, and then declined, borrowers could no longer refinance loans and very often could not afford the mortgage payment once it reset to a higher rate. To address this problem, underwriting standards should require that the analysis of a borrower's repayment capacity be based on a mortgage payment amount sufficient to repay the debt by the final maturity of the loan at the fully indexed rate, assuming a fully amortising repayment schedule.[78] Any potential for negative amortisation should be included in the total loan amount used in the calculation.

Appropriate loan-to-value ratios. Supervisors should adopt appropriate standards for loan-to-value (LTV) ratios. Equity requirements should address loan underwriting in the form of both minimum down payments[79] and caps on subsequent equity extraction through cash-out refinancing and other types of home equity borrowing. Meaningful

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77 Well-used capacity measures include debt-to-income (DTI), which measures annual debt service requirements as a percentage of gross annual income, along with loan-to-income (LTI), also referred to as payment-to-income (PTI), which effectively shows the monthly payment amount for the loan at hand as a percentage of monthly income. LTI may be used in conjunction with DTI, but it is not an appropriate substitute for DTI.

78 The "fully indexed, fully amortising" concept is described in full in the 2006 US financial regulatory report titled "Interagency Guidance on Nontraditional Mortgage Product Risks." Basically, a fully indexed rate is the index rate prevailing at origination plus the margin that applies after the expiration of any introductory interest rate. The fully amortising payment schedule is based on the term of the loan, considering any borrower option to extend that period.

79 The minimum down payment required should be based on borrower-provided cash to the transaction. Because the intent is to ensure borrower commitment to the transaction, the measure excludes down payment assistance provided through gifts, loans, etc.

initial down-payment requirements help validate borrower capacity as well as ensure necessary commitment to the obligation. Equity extraction limitations contribute to housing market stability, deter irresponsible financial behaviour that puts homes at risk, and promote savings through equity build.[80] They effectively limit the fallout associated with unfettered "monetization" of the equity gained during periods of rapid home price appreciation, especially since that appreciation may not prove sustainable. However, while LTV limits help control the lender's loss exposure upon default, they should not be relied on exclusively because they are not a substitute for ensuring the paying capacity of the borrower.

Effective appraisal management. The LTV measure relies on sound real estate values. If lenders assign unsubstantiated values to mortgage collateral, the effectiveness of LTV thresholds or minimum down payments is significantly diminished. Therefore, supervisors should ensure the adoption of and adherence to sound appraisal/valuation management guidelines, including the necessary level of independence.

No reliance on house appreciation. Lenders should not consider future house price appreciation as a factor in determining the ability of a borrower to repay a mortgage.

Other factors important to an effective underwriting program:

The following are not substitutes for sound underwriting practices but should be taken into consideration when determining the soundness of an underwriting program.

Mortgage insurance. Mortgage insurance provides additional financing flexibility for lenders and consumers, and supervisors should consider how to use such coverage effectively in conjunction with LTV requirements to meet housing goals and needs in their respective markets. Supervisors should explore both public and private options (including creditworthiness and reserve requirements), and should take steps to require adequate mortgage insurance in instances of high LTV lending (eg greater than 80 percent LTV).

Recourse. Individual financial responsibility is critical to ensuring the smooth functioning of the mortgage market for all participants. Consequently, mortgage loans should be backed by full recourse to the borrower.

<u>Recommendation n° 8</u>: Policymakers should ensure that different types of mortgage providers, whether or not currently regulated, are subject to consistent mortgage underwriting standards, and consistent regulatory oversight and enforcement to implement such standards.

The goal is to ensure that similar products and activities are subject to consistent regulation, standards, and examination, regardless of where conducted.[81] The role of

[80] While it might be argued that supervisors are not responsible for protecting borrowers from themselves or promoting such savings, to ignore this important aspect would be irresponsible from a public policy standpoint. For many, home equity is by far the most significant asset going into retirement, so it is important to promote and preserve this asset.

[81] While striving for a level of underwriting consistency and uniformity, supervisors should assess existing and new products and market needs on an ongoing basis. It is not unreasonable to expect that they may consider banning certain products or imposing limits and/or more stringent capital requirements on products that do not adhere to established standards. However, the benefits of explicit bans or limits need to be weighed against potential costs and unintended consequences. For example, product bans could control the level of riskier credit from a macroprudential standpoint but

mortgage participants should be clear, and they should be subject to appropriate and consistent levels of regulatory oversight and enforcement. Any framework should include provisions for ongoing and effective communication among supervisors. The lines of supervision must be clearly drawn and effectively enforced for all market participants.

The Joint Forum recognises that this recommendation presents many challenges because it requires changes to some countries' legal and supervisory regimes. Nevertheless, the importance of the goal of consistent underwriting standards makes these changes worthwhile.

Recommendation n° 9: National policymakers should establish appropriate public disclosure of market-wide mortgage underwriting practices. In addition, the Financial Stability Board should consider establishing a process to review sound underwriting practices and the results should be disclosed.

While there are efforts under way in some parts of the world to harmonise mortgage lending practices across borders, this is a longer term challenge given the differences in mortgage markets. However, these individual markets can be evaluated to determine the overall adequacy of underwriting practices and mortgage market trends.

To address this recommendation and to have an international effect, the following should occur:

- Countries should have adequate public disclosure that includes dissemination of information concerning the health of their mortgage market, including underwriting practices and market trends, encompassing all mortgage market participants.
- The Financial Stability Board should consider establishing a process to periodically review countries against the sound mortgage underwriting practices noted in recommendation 7, and the results should be made publicly available. The goal is to evaluate the soundness of mortgage practices overall rather than to evaluate individual components. For example, a country with high LTV limits may mitigate the risk through more stringent debt-to-income or other capacity limits. The review process would consider the level of risk posed by the underwriting criteria as a whole rather than focus solely on the high LTV limits. The review may also consider underwriting in light of macroeconomic conditions, including evolution of housing prices, interest rate levels, total mortgage debt to gross domestic product, and reliance on various funding mechanisms.
- The Financial Stability Board should consider monitoring the health of the mortgage market (eg country volumes, funding needs, bond performance) to highlight emerging trends and to consider recommending adjustments or changes as warranted.

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also could restrict access to credit for certain classes of borrowers, reduce innovation, and result in a de facto regulatory allocation of credit.

Annex D

Questionnaire: Thematic review on mortgage underwriting and origination practices

1. Mortgage industry characteristics

1.1 What types of institutions within your jurisdiction arrange, originate or underwrite residential mortgage loans? Please use Tables 1a and 1b in the Annex to provide the types of institutions and their approximate share of the mortgage origination and underwriting market, if readily available.

1.2 What are the most common types of residential mortgage loans in your jurisdiction? Please use Table 2 in the Annex to provide the approximate market share of the most common types of mortgage loans, if readily available. Separately, please comment on whether these characteristics evolved in the years prior to or since the crisis.

1.3 Do the firms that originate or underwrite mortgages typically hold the loans on their balance sheet, or sell the loans to other financial institutions? What is the main instrument used in your jurisdiction for securitising mortgages: covered bonds, mortgage-backed securities, or both? Please use Table 2 in the Annex to provide, if readily available, the approximate proportion of mortgage loans sold, issued as mortgage-backed securities or as covered bonds.

1.4 Is mortgage insurance widely available or used in your jurisdiction? If so, what is the relative importance of private versus public mortgage insurers?

1.5 For what types of borrowers or residential mortgage loans, if any, is mortgage insurance mandatory (e.g. borrowers with impaired credit histories, high loan-to-value[82] mortgages)?

1.6 Does the government play a major role in the overall residential mortgage origination or underwriting market? If so, please briefly describe the main forms of government support (e.g. mortgage insurance, tax benefits, state-owned residential mortgage originator for public sector workers). In addition, please describe whether the forms of government support have evolved in your jurisdiction in the years prior to and since the financial crisis.

2. Regulatory and supervisory framework

2.1 Which regulatory and supervisory agencies within your jurisdiction have responsibility for oversight of residential mortgage originators? And of residential mortgage underwriters? Please briefly describe the responsibilities of each agency and their involvement in overseeing residential mortgage originators.

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[82] Loan-to-value (LTV) is the principal value of the loan as a percent of the purchase value of the home.

2.2 Is there any overlap concerning the legal responsibilities of each regulatory or supervisory agency in your jurisdiction (e.g. is the responsibility of each agency well-defined)? Is there any joint effort regarding action, communication, decision-making or exchange of information between the agencies?

2.3 Are all residential mortgage originators or underwriters subject to regulation or supervisory oversight? Is the market share of non-regulated residential mortgage originators or underwriters significant? Please describe whether the market share of the non-regulated residential mortgage origination market evolved in your jurisdiction in the years prior to and since the financial crisis.

2.4 In the case where prudential regulatory and supervisory requirements or guidance on residential mortgage underwriting standards do not exist, are market practices influenced by other guidelines or codes (e.g. securitisation, mortgage insurers)? If so, please briefly describe the guidelines or codes.

2.5 What actions can supervisors take to ensure compliance with their guidance on residential mortgage origination or underwriting activities (e.g. higher loan loss provisioning or required capital)?

2.6 Do supervisors require residential mortgage originators and underwriters to have internal credit scoring methods to assess borrowers' creditworthiness? Are internal credit scoring methods reviewed by supervisors? Even if not required, what is the general market practice?

2.7 How often are regulatory or supervisory requirements or guidance updated to reflect cyclical changes in the housing market (e.g. do supervisors modify their requirements or guidance on underwriting standards when house prices rise or decline rapidly on a national, regional or local basis)?

2.8 During the latest financial crisis, were there weaknesses in residential mortgage origination or underwriting practices that became apparent?

2.9 Are initiatives underway in your jurisdiction to revise the regulatory or supervisory framework for residential mortgage origination or underwriting, especially given the experience during the financial crisis?

3 Measuring a borrower's ability and willingness to repay

If practices for assessing borrower creditworthiness differ for different types of residential mortgage originators (e.g. commercial banks, specialised mortgage lenders), please answer separately for the main types. Similarly, if practices differ for different segments of the residential mortgage market (e.g. owner-occupied residences versus buy-to-let properties, standard homes versus luxury homes), please answer separately for each segment. In addition, please explain how market practices evolved prior to and since the financial crisis, and what were the main drivers that gave rise to those changes.

Effective verification of income and financial information

3.1 Are residential mortgage originators required to verify the income, employment, outstanding debt and other financial circumstances of residential mortgage applicants? If verification is not actually required, is it a general market practice to do so?

3.4 What are the main elements of the verification process (e.g. are residential mortgage originators expected or required to verify the borrower's financial history, income level, total debt level)? If verification is not actually required, is it general market practice to do so?

3.5 What sources are residential mortgage originators expected or required to use to verify a borrower's financial information? What type of information is provided by these sources?

3.6 What penalties are imposed on borrowers for misrepresenting financial information?

3.7 If financial information is misrepresented, are residential mortgage originators subject to a penalty for not adequately verifying the information?

3.8 What, if any, are the fiduciary responsibilities (e.g. to advise or act in the borrower's interest) that affect residential mortgage underwriting? Can residential mortgage underwriters be held legally liable for violating their fiduciary responsibility by extending loans that are against the interest of a borrower?

3.9 Are residential mortgage originators subjected to any legal restrictions with respect to access to borrowers' financial information?

3.10 How do residential mortgage originators assess the creditworthiness of borrowers whose income is undocumented? Are there any regulatory guidelines to ensure the reliability of income estimates? If not, what is the general market practice?

3.11 Are credit scores by external providers commonly used by residential mortgage originators?

Reasonable debt service coverage

3.12 What are the main metrics used in your jurisdiction to assess the debt servicing capacity or affordability of a borrower (e.g. debt-to-income, loan-to-income)?83 Please use Table 3 in the Annex to provide summary information, where readily available, on the main affordability metrics used in your jurisdiction and a brief description of the metric.

[83] Debt-to-income (DTI) and loan-to-income (LTI) are examples of affordability metrics. There is no internationally agreed definition of these measures. According to the Joint Forum Report's definition, DTI measures annual debt service requirements (for the borrower's total debts) as a percentage of gross annual income, while LTI, or payment-to-income, shows the monthly payment amount for the loan as a percentage of monthly gross or net income. Some mortgage markets, however, may typically define DTI and LTI in other ways.

3.13 Do regulators or supervisors provide any requirements, guidance or limits regarding appropriate levels of affordability (e.g. provide guidance or limits on DTI or LTI ratios)? Do such requirements, guidance or limits differ for owner-occupied residences and buy-to-let properties?

3.14 For buy-to-let properties, is the landlord's own income assumed to be the primary source of repayments in calculating debt-service coverage? To what extent are reasonable income and costs associated with the buy-to-let property considered in assessing debt servicing capacity for the buy-to-let segment of the housing market?

3.15 What, if any, expenditures are lenders required to consider or verify when assessing the debt servicing capacity of residential mortgage applicants for owner-occupied homes (e.g. living expenses, total debt payments)? Even if not required, are there general market practices in this respect and did they evolve prior to or since the financial crisis?

Realistic qualifying mortgage payments

3.16 Are residential mortgage originators expected or required to consider borrowers' repayment capacity based on an assumption of full amortisation of the loan over its life at the fully indexed rate84? Are there safeguards to prevent a borrower's repayment capacity from only being assessed based on an initial period of a loan when the interest rate or amortisation of the mortgage may be set at low levels?

3.17 What analyses are residential mortgage originators required to consider when estimating prospective mortgage payments (e.g. sensitivity to interest rate changes, compatibility of the loan term with the life of the property being financed, working life of the borrower). Even if not required, are there general market practices in this respect?

Appropriate loan-to-value (LTV) ratios

3.18 What, if any, requirements or guidance do supervisors or regulators provide regarding appropriate LTV ratios? Are there different LTV requirements for different types of mortgage loans (e.g. fixed rate versus variable rate mortgages)?

3.19 What is the average LTV ratio for all residential mortgage loans at the time of origination? Please provide summary information, where readily available, on the typical range of LTV levels around that average. Please use Table 3 in the Annex to answer this question.

3.20 Do supervisory guidance or requirements restrict residential mortgage originators or underwriters from considering future home price appreciation in evaluating a borrower's ability to repay the mortgage?

3.21 Are there additional supervisory requirements or guidance for residential mortgage applicants with high LTV ratios (e.g. mandatory mortgage insurance)? Even if not required, are there general market practices in this respect?

[84] A fully indexed rate is the index rate prevailing at mortgage origination plus the interest rate margin that applies after the expiration of any introductory interest rate.

3.22 Is the minimum amount of equity borrowers are required to provide upon obtaining a residential mortgage loan based on borrower-provided cash, and not on loans?

3.23 Are there any specific restrictions or guidance on homeowners borrowing against the value of equity in their home (e.g. taking a second mortgage against the home which increases the overall LTV of the borrower), particularly during periods of rapid house price appreciation?

3.24 Are second mortgages written to a tighter standard than if the lender had made the first loan for the entire amount and same LTV?

Effective appraisal management

3.25 Are appraisers regulated or supervised?

3.26 What, if any, guidance or requirements do supervisors or regulators provide regarding sound appraisal and valuation practices for residential mortgage collateral? Do such guidance or requirements mandate the independence of the appraiser or valuer from the residential mortgage originator?

3.27 Are there any regulatory or supervisory requirements or guidance to confirm the legal validity of collateral? If so, please describe the main elements.

Other factors important to an effective underwriting programme

3.28 Please explain the foreclosure process and typical factors that may hinder the foreclosure process, including estimated time from default to foreclosure and whether a court's approval is necessary to foreclose on a residential property (e.g. judicial foreclosure).

3.29 Do lenders have full recourse to the borrower in the case of residential mortgage delinquency/foreclosure? What are the potential challenges?

3.30 Are residential mortgage borrowers able to prepay their mortgage loan (e.g. pay down principal faster than its amortisation schedule or pay off the entire loan) without penalty?

3.31 Are there any circumstances under which residential mortgage borrowers are required to obtain life insurance that pays the lender the balance of the loan in the case of death or permanent disability of the borrower?

3.32 Do supervisors or regulators provide any guidance or limits regarding the sale of the residential mortgage (e.g. the borrower's approval)?

4. Consistency of practices and oversight

The questions in sections 1, 2 and 3 asked for differences between the functioning, practices and oversight of different types of mortgage originators to be set out, where relevant.

4.1 What mechanisms are in place to ensure coordination and consistency of residential mortgage underwriting practices and oversight?

4.2 If there are inconsistencies, are there changes to legal, supervisory or regulatory regimes that would be needed to address them?

4.3 Do cross-border differences in residential mortgage regulation, particularly with regards to underwriting standards, pose particular challenges in your jurisdiction? Please explain.

5. Disclosures

5.1 What information, if any, are residential mortgage originators required to disclose about their underwriting practices to the public?

5.2 As part of continuous supervisory oversight, what information do supervisors require residential mortgage originators to provide?

5.3 What information, if any, do national authorities or other bodies (e.g. mortgage agencies or trade associations) collect about market-wide residential mortgage origination practices? Does this cover all residential mortgage market participants (e.g. regulated and unregulated entities) or only particular segments of the residential market (e.g. owner-occupied, buy-to-let, low-income)?

5.4 Do the authorities or other bodies publish data on market-wide residential mortgage origination practices? Does the information cover all segments of the residential mortgage market (e.g. regulated and unregulated)? Are there any practical obstacles to the collection of comprehensive data on a comparable basis?

5.5 Do the authorities publish a comprehensive review of trends, including potential vulnerabilities, in the mortgage market? If so, please provide a copy of the latest review.

5.6 Is there a private or public entity that calculates and publishes comprehensive housing price and home sales data that are widely available and used by the industry?

Annex

Please use the tables below to answer questions 1.1, 1.2, 1.3, 3.10 and 3.17, using your best effort to complete the tables. If the data is not readily available, please report that the data is "not known". Please specify whether market share statistics are based on the amount outstanding at a given time or the flow of new origination for a certain period.

Table 1a –Residential Mortgage Originators by Sector
Response to Question 1.1

Primary residential mortgage originators by sector	Approximate Share of Residential Mortgage Origination Market (%)		
	2000	2007	2009
Deposit taking institutions			
Other regulated credit institutions			
Other non-banking regulated firms			
Unregulated firms			
Total			

Table 1b – Residential Mortgage Originators by Type of Institution
Response to Question 1.1

Please modify the example of types of residential mortgage originators to reflect the primary types of institutions that originate mortgages in your jurisdiction.

Primary types of residential mortgage originators	Approximate Share of Residential Mortgage Origination Market (%)		
	2000	2007	2009
Commercial banks			
Specialised mortgage lenders			
Mortgage brokers			
Insurance companies			
Pension funds			
Public agency			
Other			
Total			

Table 2a – Most Common Types of Residential Mortgage Products

Response to Questions 1.2 and 1.3

Please modify the examples listed in the table of the most common types of residential mortgages to reflect those in your jurisdiction. Please provide a brief description of each type of mortgage loan you list below. In addition, please specify whether mortgage loans are securitised as mortgage-backed securities or covered bonds in your jurisdiction. If both types of securitisation are common, please amend the table to separately reflect the market share of each type of securitised product.

	Approximate Share of Residential Mortgage Origination Market (%)			**Approximate Proportion of Residential Mortgages Originated That Were Sold (%)**			**Approximate Proportion of Residential Mortgages Originated That Were Securitised (%)**		
	2000	**2007**	**2009**	**2000**	**2007**	**2009**	**2000**	**2007**	**2009**
Most Common Types of Residential Mortgage Products									
Fixed-Rate Loans									
Variable Rate Loans									
Hybrid Loans[85]									
Foreign Currency									
Negative Amortisation									
Other									
Total									

[85] An example of a hybrid loan is a 2/28 30-year residential mortgage that has a low variable interest rate for the initial 2 years, and then resets typically at a higher rate, and remains fixed at that interest rate for the remaining 28 years of the mortgage loan.

Table 2b – Most Common Segments of the Residential Mortgage Market

Response to Questions 1.2 and 1.3

Please modify the examples listed in the table below of the most common segments of the residential mortgage market to reflect those in your jurisdiction. Please provide a brief description of each segment of the market you list below. In addition, please specify whether mortgage loans are securitised as mortgage-backed securities or covered bonds in your jurisdiction. If both types of securitisation are common, please amend the table to separately reflect the market share of each type of securitised product.

	Approximate Share of Residential Mortgage Origination Market (%)			**Approximate Proportion of Residential Mortgages Originated That Were Sold (%)**			**Approximate Proportion of Residential Mortgages Originated That Were Securitised (%)**		
	2000	**2007**	**2009**	**2000**	**2007**	**2009**	**2000**	**2007**	**2009**
Most Common Segments of the Residential Mortgage Market									
Owner-Occupied Residence									
Standard Homes									
Luxury Homes									
Buy-to-Let Properties									
Low-Income Households									
Other									
Total									

Table 3 – Types of Credit Features at Mortgage Origination

Response to Questions 310 and 3.17

Please modify the table to include the same residential mortgage products you listed in Table 2. In addition, please modify the table to reflect which affordability metric (e.g. LTI, DTI) is most commonly used in your jurisdiction and provide a brief description of the metric.

	Average DTI or LTI Ratios				**Average LTV Ratios**			
	2000	**2007**	**2009**	**Typical Range**	**2000**	**2007**	**2009**	**Typical Range**
Most Common Types of Residential Mortgage Products								
Fixed-Rate Loans								
Variable Rate Loans								
Hybrid Loans								
Foreign Currency								
Negative Amortisation								
Other								
Average								