



VIA Electronic Submission

March 11, 2016

Dr. Stefan Ingves
Chairman
Basel Committee on Banking Supervision
Bank for International Settlements
CH-4002 Basel, Switzerland

Dear Chairman Ingves:

Genworth Financial, Inc. (Genworth) appreciates the opportunity to comment on the Basel Committee on Banking Supervision (Committee) "Second consultative document, Standards, Revisions to the Standardised Approach for credit risk" of December 2015 (Consultation). Genworth is a U.S.-based Fortune™ 500 insurance holding company with assets in excess of 105 billion USD at the end of FY 2015.

We are dedicated to helping meet the homeownership and long-term care needs of our customers. We facilitate homeownership in the United States and internationally by providing mortgage insurance (MI) products that allow people to purchase homes with low down payments while protecting lenders against the risk of default. Genworth primarily writes MI in Australia, Canada, and the United States with additional operations in other countries. Through our homeownership education and assistance programs, we also help people keep their homes when they experience financial difficulties. We also offer long-term care insurance products to meet consumer needs for long-term care in the United States.

As a leading provider of MI globally, and therefore a specialist in residential real estate credit risk, we particularly appreciate the time and effort that the Committee has taken in defining, examining, and making recommendations regarding that class of risk. There are substantial improvements in this Consultation from the prior consultation. Below, we highlight those improvements we believe should be maintained and suggest further refinements for the final revisions to the Standardized Approach (SA).

As a leading supplier of credit risk protection for residential real estate, we have significant amounts of data across lenders, loan characteristics, borrower characteristics, and geographies through economic cycles. If there are any questions or additional data we could supply the Committee to assist in its deliberations, please contact us via Scott Quesenberry at scott.quesenberry@genworth.com or +1.919.846.4374.

Sincerely,


Scott D. Quesenberry

Residential Real Estate Loan to Value Risk Weights

One of the Consultation's major revisions to the SA for credit risk would make the risk weighting for residential real estate loans more risk sensitive by assigning risk weights based on the loan-to-value ratio (LTV) of the exposure. Genworth has publicly advocated that banks' capital for such lending needs to reflect accurately the credit risks that residential mortgages pose. (Genworth Mortgage Insurance Australia Limited 2014), (Genworth Financial, Inc. 2010). Genworth thus agrees with the proposal to increase capital risk weights as the LTV ratio increases for residential real estate that meet the operational requirements. Genworth also sees the valuation criteria as reasonable and supports using static valuations to reduce pro-cyclicality.

We understand that the calibration for those risk weights remains, so we do not have a comment on the actual level. As an insurance holding company, we will not be participating in the 2016 Quantitative Impact Study (QIS), but we remain eager to provide whatever assistance or data the Committee might find helpful in evaluating the proper capital for residential real estate risk.

One layered residential real estate risk that Genworth is pleased to see the Committee address in the revisions in the Consultations is the requirement that the lender base the LTV calculation on the cumulative LTV rather than just loans in isolation as detailed in footnotes 44 and 45 to paragraph 52 of the consultation. We urge the Committee to keep the cumulative amount as part of LTV calculation in the final SA.

Genworth also appreciates the recognition with a higher risk weight multiplier in footnote 45 to paragraph 52 that loans with junior liens have performed differently than loans underwritten (and insured) at nominally higher LTV ratios. As discussed more fully below, published analysis of our data, MI industry data, and Government Sponsored Enterprise data from the United States through the last economic cycle all support this higher risk weighting for the loan amount of the junior liens. We urge the Committee to retain a higher risk weighting in the revisions to the SA.

While the Consultation includes both senior and junior lien loans when originated by the same lender in the LTV calculation, clearly including into the LTV calculation for the senior liens any junior liens originated by any other lender (including shadow banking lenders) at the same time would more accurately reflect the risk. This would limit the available arbitrage by creating a different capital requirement for the senior lien only if the same lender originates the junior lien. Requiring such a calculation would also potentially limit the leakage from any macroprudential limitations on LTVs.

Borrower Ability to Repay a Mortgage Loan

One underwriting factor that Genworth and other insurers consider fundamental is the capacity of the borrower to repay the mortgage. (Gupta 2015). Thus, Genworth agrees with the requirement that there be some sort of required measurement of the borrower's capacity to repay. Furthermore, we concur that the Financial Stability Board (FSB) Principles for Sound Residential Mortgage Underwriting Practices (FSB Underwriting Principles) provides a useful baseline. Many of the Committee members have already updated or created separate underwriting prudential rules based on the FSB Underwriting Principles. See, for example, Canada's B-21 Residential Mortgage Insurance Underwriting Practices and Procedures Guideline. (Office of the Superintendent of Financial Institutions 2014). Thus, the use of the FSB

Underwriting Principles serves as a solid basis for comparable outcomes across jurisdictions with different circumstances factored into the payment capability calculation.

Mortgage Insurance Should Reduce Residential Real Estate Risk Weight

As a specialist in the credit risk of high LTV lending, we agree that the loss-given-default (LGD) and probability of default (PD) of an exposure are correlated with LTV. The summary results of the first QIS on page 63 of the Consultation seem to bear this out excepting “the lowest and highest LTV bands.” Presumably, this means in the above 100% LTV band since the Consultation has that as its highest LTV band. The Consultation uses LTV as the sole input for the determination of the risk weight for residential real estate. While this is an improvement in risk sensitivity over the existing SA, it does not recognize the substantial improvement in a bank’s LGD and PD that MI can provide. Accordingly, we urge the Committee to recognize the value of MI when setting risk weights and allow jurisdictions the national discretion to go below SA risk weights when the bank uses MI to offset the risk.

MI is an “[i]ndemnity to credit providers for losses due to the failure of a borrower to repay a loan secured by a mortgage over property.” (International Association of Insurance Supervisors 2014, 158). MI is called different names in various jurisdictions, but as the Joint Forum has recognized, MI serves a similar risk-reducing function across jurisdictions:

MI is also called mortgage default insurance, mortgage credit insurance, mortgage guaranty insurance, mortgage indemnity insurance and lenders’ mortgage insurance. MI protects lenders against losses when loans default – ie when outstanding debt exceeds the foreclosure proceeds. The borrower pays the insurance premium, but the lender is the policy beneficiary, and the amount of loss coverage is usually capped as a proportion of lost loan principal. For example, if the insurer covers the lender down to 75% of the original purchase price, and the homeowner puts 5% down, the maximum claim amount is 20% of the purchase price or 21% of the loan amount. MI policies exclude losses caused by fire, earthquakes, floods, windstorms, and defective titles. Lenders normally require borrowers to purchase separate insurance against these other risks. (The Joint Forum 2013, 1).

In some markets, such as Australia and Canada, MI covers 100% of the credit loss in the event of a borrower default. In other markets, such as most European countries and India, only the first loss portion (after borrower equity) is covered. In a smaller set of markets, most notably in the United States and France, both types of coverage are available. In some jurisdictions, the product operates as an insurance product, and in others it operates as a guarantee product. While there are some legal differences across these different forms of MI, the economic effect is largely the same, and thus this response to the Consultation uses the phrase MI to include the various permutations of residential real estate credit risk solutions for creditworthy borrowers.

Since MI explicitly and purposefully transfers high LTV residential real estate credit risk, it is priced and paid for in an actuarially sound manner under prudential supervision. This is in contrast to loans that were made without combining the LTVs, thus possibly obscuring the real credit risk, such as with the junior liens noted in paragraph 52, footnote 45.

Mortgage Insurance Reduces Loss Given Default

MI has proven to reduce or eliminate LGD after a lender realizes the value of the collateral following a loss due to a credit event. A recent study examining actual loan level losses in a pool of 17 million U.S. residential mortgage loans originated from 1999 to 2013, with data provided by Freddie Mac, one of the U.S. Government Sponsored Enterprises (GSEs), demonstrates that MI consistently reduced losses to Freddie Mac even through the recent financial crisis. Goodman and Zhu of the Urban Institute, a nonprofit think tank, find that “[l]oans with higher LTVs and mortgage insurance have a significantly lower loss severity than loans with lower LTVs and no mortgage insurance.” (Goodman and Zhu 2015, 15).

The authors show that Freddie Mac’s loss severities for loans with LTVs exceeding 80 on which MI was written were lower in the actually observed pool than the loss severities for loans with LTVs between 80 and 60 originated in all years, and remarkably, were lower than the sub-60 LTV pool except for loans originated between 2011 and 2013.

The relationship between loss severities and LTV categories is particularly interesting. Severities for loans with LTVs over 80 are much lower than for loans with LTVs between 60 and 80. In fact, the severities for the over-80-LTV loans are even lower than severities for the 60-or-under-LTV loans. The reason is simple. Loans with LTVs over 80 are required to have mortgage insurance, which covers the first loss; this coverage is usually deep enough that Freddie is not exposed unless the market value of the home drops far more than 20 percent. For example, standard practice is to bring down an 85 LTV mortgage to 73 LTV, a 90 or 95 LTV mortgage to 65 LTV, and a 97 LTV mortgage to 63 LTV. These results would indicate that mortgage insurance is more effective at protecting the GSEs against losses than is commonly assumed. (Goodman and Zhu 2015, 7).

The data table follows. In the United States, the GSEs require mortgage insurance or other credit enhancement in order to buy any loan with an LTV exceeding 80. The entire pool of loans with LTVs exceeding 80 in this sample was covered by private mortgage insurance.

Severity at Liquidation by Origination Year, FICO, and LTV (percent)

Year	FICO	≤ 60	60-80	> 80	Total
1999-2004	≤ 700	20.4	31.0	14.9	22.3
	700-750	17.1	29.3	17.8	24.3
	> 750	19.0	29.8	20.8	26.3
	Total	19.3	30.4	15.9	23.2
2005	≤ 700	28.8	40.6	25.2	35.8
	700-750	26.6	39.4	26.8	36.2
	> 750	26.2	39.0	27.9	36.2
	Total	27.7	39.9	26.0	36.0
2006	≤ 700	35.2	45.3	27.0	39.7
	700-750	32.3	43.6	30.1	40.7
	> 750	30.6	42.2	29.1	39.6
	Total	33.5	44.1	28.0	40.0
2007	≤ 700	38.8	46.1	28.6	38.7
	700-750	33.6	43.4	29.3	38.9
	> 750	31.7	41.2	27.8	37.3
	Total	35.9	44.2	28.7	38.5
2008	≤ 700	31.9	43.6	27.5	36.5
	700-750	27.2	40.1	25.3	34.1
	> 750	23.1	37.5	23.3	31.9
	Total	28.6	40.9	25.8	34.6
2009-10	≤ 700	21.9	34.4	16.1	30.2
	700-750	20.5	30.7	13.6	26.3
	> 750	18.5	28.4	13.8	24.5
	Total	20.5	30.7	14.1	26.5
2011-13	≤ 700	0.0	23.7	6.5	17.0
	700-750	10.4	26.1	8.1	15.5
	> 750	0.0	22.1	9.2	15.6
	Total	8.2	23.8	8.3	15.9%
Total		29.2	39.9	23.1	33.9

Source: (Goodman and Zhu 2015, 7).

The LGD for loans with LTVs exceeding 80 on which MI was written was actually less than for loans with LTVs of 60 or less for loans originated in every assessed time period except 2011 to 2013, and over the course of the entire 1999 to 2013 time period experienced a 6.1 percent lower LGD on average. Notably, the effectiveness of MI was demonstrated not only across the 60-80 LTV band for all origination years, but also across each FICO category within the 60-80 LTV band.

Mortgage Insurance Reduces Probability of Default

The evidence from the recent economic cycle in the U.S. also demonstrates that MI is correlated with a decrease in PD. Two major studies of the effects of MI were conducted following the recent financial crisis, and each study controlled for other possible variables that indicate a risk of default, such as credit scores of the borrower.

Promontory Financial Group, a leading strategy, risk management and regulatory compliance consulting firm, conducted the first study on behalf of Genworth, and examined over 5 million loans originated from 2003 to 2007, including those with MI and those that used second lien “piggyback” loans without MI. Its conclusion was as follows:

Overall, our analysis is supporting of the assertion that the historical performance of first lien MI-insured loans has been associated with lower rates of extreme delinquency or default, when compared to noninsured first lien loans accompanied by a piggyback second lien, and when controlling for various risk factors. For instance, results from estimating a survival model

indicate that, considering all regions, the percent surviving to 72 months for insured loans is 12.4 points higher than that for non-insured loans with a piggyback, controlling for the average effect of all covariates in the model. (Promontory, 2011, iii).

Milliman, a leading actuarial firm, conducted the second study with a sample size of 4.4 million loans. Using actuarial techniques, the Milliman study reached the same conclusion as Promontory:

The study demonstrates that loans with mortgage insurance defaulted at a lower rate than loans not insured by private mortgage insurers, all else equal. The study was performed on loans originated between 2002 and 2007 and the results of the study were statistically significant. (Milliman 2012, 21).

These studies demonstrate that even in a high LTV market, during one of the worst downturns in the housing markets in U.S. history, the loans with MI performed better than comparable loans without MI. Thus, evidence from the U.S. supports giving credit for MI when determining the LTV of a mortgage loan and therefore supports reducing the risk weight for the credit risk of loans on which MI has been written.

International Policy Makers and Market Participants Recognize that Mortgage Insurance Reduces Lenders' Risks

The existing international SA generally assigns a flat risk weight to residential mortgages unless they become past-due, and does not recognize with granularity the credit risk that increases as the LTV of an exposure increases; thus, the current SA does not consider the credit risk mitigation provided by MI. In contrast, as described below, international policy makers and many individual Basel Committee member jurisdictions have recognized the risk-reducing effect of MI in various contexts.

The FSB has recognized that MI is “a form of credit support for mortgage loans, and a way to provide additional financing flexibility for lenders and borrowers.” (Financial Stability Board 2012, 7) (FSB Underwriting Principles). The Joint Forum recognized that MI reduces the credit risk of high LTV loans by recommending that national regulators take steps to require adequate MI for loans with LTVs exceeding 80 percent:

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). (The Joint Forum 2010, 17).

MI or a similar form of credit protection for residential real estate lending is used in a majority of the Basel Committee member jurisdictions. Appendix 1 lists the program names that Genworth is aware of in these jurisdictions.

Private mortgage insurers have acted as countercyclical capital sources for banks and other creditors and that have helped creditworthy borrowers get into homes sooner.¹ MI has existed as a government program in the U.S. since 1934, and private MI has been offered continuously in the U.S. market since 1957. Private MI allows the GSEs to support low down payment mortgages, reducing disincentives that would otherwise exist for lenders to make loans to low down payment borrowers. By law, the GSEs may not purchase a mortgage with an LTV exceeding 80 unless the lender provides one of several types of credit enhancements, including private MI. As noted previously, the product served its economic role in the U.S. during the global financial crisis by significantly reducing the losses of lenders. The product also protected U.S. taxpayers by reducing the amount of government assistance that needed to be provided to systemically important financial institutions and the GSEs. Since the onset of the housing crisis in the U.S., private mortgage insurers have covered over 44 billion USD in claims. Three U.S. mortgage insurers did exit the business, but they all continue paying claims under their prudentially supervised resolution regimes. The remaining U.S. mortgage insurers are stronger than they were during the crisis, having raised approximately 10 billion USD in new capital since the outset of the crisis. (Gupta 2015). Three new regulated U.S. mortgage insurers entered the business since 2008. (Gupta 2015).

Other senior policymakers in Basel Committee member countries have created MI programs more recently as part of their national housing policies. For example, in 2012, the Government of India created the “Credit Risk Guarantee Fund Scheme For Low Income Housing,” and in 2013, the Reserve Bank of India assigned a zero risk weight to the guaranteed portion. In addition, the Reserve Bank of India also licensed India Mortgage Guarantee Corporation Private Limited (IMGC), the first mortgage guarantee company there in 2012. IMGC is a public private partnership in the form of a joint venture between the Government of India’s National Housing Bank, the World Bank Group’s International Finance Corporation and the Asia Development Bank along with a Genworth subsidiary as investor and technical partner. In 2013, the United Kingdom launched the “Help to Buy” mortgage guarantee scheme. In Australia, the Government commissioned a Financial System Inquiry, which included MI in its discussion on how to bridge the capital requirement differential between Standard and Internal Ratings Based lenders. (Financial System Inquiry 2014, 66). Even more recently, an Italian program began operation in 2015.

Mortgage Insurance Can be Used as an Effective Macroprudential Tool

The risk weights of the SA are by their nature microprudential tools. Nevertheless, as pointed out by many and recently by Jaime Caruana, General Manager of the Bank of International Settlements, macroprudential considerations have become an essential part of the regulatory toolkit. (Caruana 2015).

¹ In these respects, MI plays a similar economic role for one of the largest banking asset classes to the “Capital Insurance” proposed at the 2008 Reserve Bank of Kansas City symposium on “Maintaining Stability in a Changing Financial System,” held at Jackson Hole, Wyoming. (Kashyap, Rajan and Stein 2008).

In Canada and Hong Kong, where MI is mandatory to support low down payment mortgages, governmental authorities have used their powers to change MI rules to tighten or loosen credit provided to homebuyers. (Krznar and Morsink 2014, 16), (Carney, Housing in Canada 2011), (Poloz 2015), (Wong, et al. 2011), (International Monetary Fund 2014). For instance, in Canada, MI has been used to dampen the lending cycle:

“We find that the Canadian authorities have used their exceptional power to set mortgage insurance rules to dampen the housing boom. Specifically, the reductions in maximum LTV ratios for first-time buyers and refinancing in 2010, 2011, and 2012 have curbed mortgage credit growth and moderated the surge in house price.” (Krznar and Morsink 2014, 16)

Senior Canadian policymakers have publicly supported the important role that being able to modify the MI framework plays in stabilizing their financial system. For instance, then-Bank of Canada Governor Carney noted, “Since 2008, the federal government has taken a series of prudent and timely measures to tighten mortgage insurance requirements in order to support the long-term stability of the Canadian housing market.” (Carney, Housing in Canada 2011) See also (Poloz 2015). Canadian supervisors have publicly declared a desire to see its system accommodated in future Committee standard making. (Rudin 2015)

A similar dynamic also occurred in Hong Kong Special Administrative Region (SAR), where the Hong Kong Monetary Authority has used its ability to control the MI rules as a macroprudential tool. (Wong, et al. 2011), (International Monetary Fund 2014).

Providing a credit for MI in the SA would ease the use of MI as a macroprudential tool in these jurisdictions, as well as jurisdictions where MI is not mandatory by incentivizing the use of MI to support high LTV lending for creditworthy borrowers.

National Supervisors Can Ensure that Mortgage Insurance Provides Effective Risk Reduction

As highlighted above, MI and related programs, whether public or private, exist in a wide number of Basel Committee member jurisdictions. As the example from the U.S. shows, MI programs enjoy broad support as promoting homeownership for responsible borrowers with a smaller down payment. And, MI is not just a legacy concept, as the examples from India, United Kingdom and Italy demonstrate; national policymakers continue to create new MI programs.

The FSB affirmed the risk-reducing role of MI when setting forth principles for sound mortgage underwriting practices, with Principle 5 “Prudent Use of Mortgage Insurance.” The FSB’s other principles — including appropriate LTV and reasonable debt service coverage — have clearly been incorporated in the Consultation’s revised risk weighting. Genworth recommends that Principle 5 also be incorporated in the SA to credit risk.

This includes Principle 5.3, which states: “Jurisdictions should ensure that all mortgage insurers be subject to appropriate prudential and regulatory oversight and, where used, represent an effective transfer of risks from lenders to insurers.” (Financial Stability Board 2012, 7). Consistent with the role of member jurisdictions to oversee MI under the FSB principles, the Committee could expressly allow national supervisors to use their discretion to provide a reduction for risk weights for loans with

prudentially regulated MI,² including allowing national discretion to use a risk weight below those in the “Risk weight table for residential real estate exposures” for lending above 80 LTV.

Insurers Included in the Range of Eligible Guarantors

As stated above, Genworth believes that MI should be directly recognized in the residential real estate risk weights, as is often how Basel Committee member jurisdictions treat the product in their SA to credit risk today. MI could also be treated as eligible credit protection provided by a “prudentially regulated financial institution” paragraph 173 of the Consultation as MI is partially or wholly treated in a smaller set of countries. Genworth acknowledges and appreciates the clarity in the Consultation that insurance companies can now fall within the scope of the “prudentially regulated financial institution” definition if it meets the reasonable requirements of footnote 81. Genworth also appreciates the clarity in paragraph 52 that banks can recognize guarantees in determining their exposure to real estate.

Tranched Cover

For credit risk where the risk is tranced, per paragraph 179, lenders are directed to the securitization framework. The SA securitization framework hierarchy requires the use of the External Ratings Based Approach (ERBA) followed by SA for Standardised lenders. (Basel Committee on Banking Supervision 2014). This creates an issue for “loan by loan” guarantee contracts where getting an external rating for every single retail mortgage will be impractical. Therefore, it would be helpful in the final SA clearly to allow lenders to use a non-ratings based approach (being the SA for securitization) for non-pooled residential real estate exposures. An example of this approach is the treatment in the U.K. of its Government’s “Help-to-Buy” guarantee scheme, where “the PRA considers it would not be practical for firms to acquire an external credit rating on their retained positions on each individual guaranteed HBG loan.” (Prudential Regulation Authority 2013). The issue, however, with the UK PRA’s approach is that, for SA lenders, it uses the “concentration ratio approach,” which is based on the previous version of the securitisation framework, soon to be superseded by the new rules. Therefore, additional clarity is requested on the treatment of “tranced risk” in a manner that is consistent with the revised methodologies laid out in the Basel Consultation “Revisions to the Securitisation Framework” of 11 December 2014.

Furthermore, if the ERBA approach were to take precedence over the SA securitization framework for residential real estate, greater guidance from the Committee would be helpful for SA lenders, particularly on how to infer the Risk Weight for the senior retained tranches on residential real estate exposures.

² Australia, Canada and New Zealand currently use this formulation in their standardized approach credit risk weights. (Australian Prudential Regulation Authority 2013, APS 112, Attachment D, 28-31), (Government of Canada 1991, §416), (Reserve Bank of New Zealand July 2014, 47-48).

The Basel SA Should Ensure Uniformity in the Eligibility of Credit Risk Mitigants, Whether the Protection Provider is a Public or Private Entity.

Allowing policies or product features for sovereign guarantees exclusively exacerbates the incentives for banks and governments to generate more sovereign risk at the expense of private capital, thereby undermining market discipline, increasing risks for taxpayers, and creating potential subsidies. As Hervé Hannoun, the former Deputy General Manager for the Bank of International Settlements, has noted:

The global sovereign debt crisis has exposed fault lines in the regulatory treatment of sovereign risk. However, the deficiency is not in the Basel standards but in the way the global standards have been applied in some countries and especially in the European Union. (Hannoun 2011).

We understand that the Committee intends to consider the risk weighting of sovereign entities as part of a broader and holistic review of sovereign risks. However, the Committee should also address the implicit preference for sovereign guarantees that member jurisdictions have created by deviating from the definition of an eligible guarantee. Paragraph 181 sets out the standards for sovereign guarantees and counter-guarantees. The language of paragraph 181(b) makes clear that the operational requirements for an exposure that is indirectly counter-guaranteed by a sovereign must be met by both the original guarantee and the counter-guarantee. Paragraph 181 could be improved by making it clear that any direct sovereign guarantee must meet the operational requirements in paragraphs 168-170.

While we believe MI should be recognized directly in the calculation of LTV, if MI is only recognized as a guarantee, then the sovereignty of the CRM provider should only affect the risk weight, not the allowable product features, of the CRM.

Summary

Genworth appreciates the opportunity to comment on the Consultation and overall we see it as an improvement over both the previous consultation and the existing SA. For the final framework, we would urge the Committee to:

- Recognize the value of MI when setting risk weights and allow jurisdictions the national discretion to go below SA risk weights when the bank uses MI to offset the risk.
- Retain making exposure to residential real estate loans more risk sensitive by assigning risk weights based on the LTV.
 - Retain the use of cumulative LTV and increased risk weighting for junior liens.
 - Clarify that the cumulative LTV should include junior liens originated by other lenders simultaneously with the senior lien.
- Retain measurement of the ability to repay pursuant to the FSB's Underwriting Principles.
- Retain the possibility of insurers to be classified as a "prudently regulated financial institution."
- Retain the clarity that banks may recognize guarantees in determining a real estate exposure.
- Clarify the treatment of tranching cover for individual real estate loans under the ERBA or SA.
- Clarify the sovereignty of the CRM provider should only affect the risk weight, not the allowable product features, of the CRM.

Appendix 1

Basel Committee on Banking Supervision Members with Mortgage Insurance or Equivalent

Committee Member	Mortgage Insurance or Equivalent Program or Providers
Argentina	
Australia	Lenders Mortgage Insurance
Belgium	
Brazil	
Canada	Canada Mortgage and Housing Corporation (CMHC) Private Mortgage Insurance
China	Mortgage Loan Guarantees by Guarantee Company like Beijing Housing Guaranty / Shanghai Housing Guaranty Co (抵押贷款担保)
European Union	See Individual Member States
France	La garantie de prêt immobilier de Crédit Logement
Germany	Required of Building Societies
Hong Kong SAR	Mortgage Insurance by HKMC (按揭保險計劃) Private Mortgage Insurance
India	Credit Risk Guarantee Fund Scheme For Low Income Housing Mortgage Guarantee Companies
Indonesia	Credit Insurance by Askrindo (Asuransi Kredit)
Italy	Fondo di garanzia per la prima casa (Fondo prima casa) Credito Fondiario
Japan	Bank-Owned "Credit Guarantee" Companies Japan Housing Finance Agency
Korea	Mortgage Credit Insurance (for <70LTV) [모기지 신용 보험] Mortgage Insurance (for 71~85LTV) [모기지 보험]
Luxembourg	
Mexico	Sociedad Hipotecaria Federal (SHF) Private Mortgage Insurance
Netherlands	de Nationale Hypotheek Garantie
Russia	The Agency for Housing Mortgage Lending
Saudi Arabia	Real Estate Finance Law
Singapore	
South Africa	

Spain	
Sweden	
Switzerland	
Turkey	
United Kingdom	“Help to Buy” mortgage guarantee Private Mortgage Insurance
United States	Federal Housing Authority (FHA) mortgage insurance Veteran Affairs (VA) guaranty Department of Agriculture (USDA) guaranty Private Mortgage Insurance

Sources: (Genworth research), (The Joint Forum 2013), (Blood 2009).

Appendix 2 References

- Australian Prudential Regulation Authority. 2013. "Prudential Standard APS 112 Capital Adequacy: Standardised Approach to Credit Risk." Accessed March 12, 2015.
[http://www.apra.gov.au/adi/PrudentialFramework/Documents/Basel-III-Prudential-Standard-APS-112-\(January-2013\).pdf](http://www.apra.gov.au/adi/PrudentialFramework/Documents/Basel-III-Prudential-Standard-APS-112-(January-2013).pdf).
- Basel Committee on Banking Supervision. 2014. *Revisions of the securitisation framework*. Basel: Bank of International Settlements.
- Blood, Roger. 2009. "Mortgage Insurance." Chap. 13 in *Housing Finance Policy in Emerging Markets*, edited by Loïc Chiquier and Michael Lea. Washington, DC: World Bank.
- Carney, Mark. 2014. *Assessment Of Help To Buy: Mortgage Guarantee*. London: Bank of England.
- . 2011. "Housing in Canada." Vancouver, BC: Bank of Canada, June 15.
- Caruana, Jaime. 2015. "Speech at the Global Association of Risk Professionals (GARP) 16th Annual Risk Management Convention." New York, February 24.
- European Insurance and Occupational Pensions Authority. 2014. *Technical Specification for the Preparatory Phase (Part I)*. EIOPA-14/209, Frankfurt: EIOPA.
- Financial Stability Board. 2012. *FSB Principles for Sound Residential Mortgage Underwriting Practices*. Final, Basel: Financial Stability Board.
- Financial System Inquiry. 2014. *Final Report*. Sydney, NSW: The Australian Government the Treasury.
- Genworth Financial, Inc. 2010. "Genworth Response to 'Strengthening the Resilience of the Banking Sector'." Raleigh, NC.
- Genworth Mortgage Insurance Australia Limited. 2014. "Genworth Response to Interim Report of the Financial System Inquiry." Sydney, NSW.
- Goodman, Laurie, and Jun Zhu. 2015. *Loss Severity on Residential Mortgages: Evidence from Freddie Mac's Newest Data*. Housing Finance Policy Center Brief, Washington, DC: Urban Institute.
- Government of Canada. 1991. "Bank Act." *Consolidated Acts*.
- Gupta, Rohit. 2015. "Statement." *Future of Housing In America: Oversight of FHA - Part II*. Washington, DC: US House of Representatives Financial Services Subcommittee on Housing & Insurance, February 26.
- International Association of Insurance Supervisors. 2014. *Risk-based Global Insurance Capital Standard*. Public Consultation Document, Basel: International Association of Insurance Supervisors.
- International Monetary Fund. 2015. *Canada: Staff Report For The 2014 Article IV Consultation*. Washington, DC: International Monetary Fund.
- International Monetary Fund. 2014. *People's Republic Of China— Hong Kong Special Administrative Region: Financial Sector Assessment Program: Insurance Core Principles—Detailed Assessment Of Observance*. IMF Country Report No. 14/206, Washington, DC: International Monetary Fund.
- Kashyap, Anil, Raghuram Rajan, and Jeremy Stein. 2008. "Rethinking Capital Regulation." *Symposium on Maintaining Stability in a Changing Financial System*. Jackson Hole: Federal Reserve Bank of Kansas City. 431-471.
- Krznar, Ivo, and James Morsink. 2014. *With Great Power Comes Great Responsibility: Macroprudential Tools at Work in Canada*. IMF Working Paper, Washington, DC: International Monetary Fund.
- Office of the Superintendent of Financial Institutions. 2014. "Residential Mortgage Insurance Underwriting Practices and Procedures: Sound Business and Financial Practices." *Guideline B-21*. Ottawa, Canada, November.

- Poloz, Stephen S. 2015. "Lessons new and old - reinventing central banking." *Western University President's Lecture*. London, Ontario: Bank of Canada, February 24.
- Prudential Regulation Authority. 2013. *Statement on the regulatory treatment of retail residential mortgage loans under the Help To Buy Guarantee*. London: Bank of England.
- Reserve Bank of New Zealand. July 2014. "Capital Adequacy Framework (Standardised Approach)." Accessed March 12, 2015.
http://www.rbnz.govt.nz/regulation_and_supervision/banks/banking_supervision_handbook/3174397.pdf.
- Rudin, Jeremy. 2015. "International Activities: How Canada Plays its Part." Montréal, Quebec: Office of the Superintendent of Financial Institutions, March 17.
- The Joint Forum. 2013. *Mortgage insurance: market structure, underwriting cycle and policy implications*. Basel: Bank for International Settlements.
- The Joint Forum. 2010. *Review of the Differentiated Nature and Scope of Financial Regulation – Key Issues and Recommendations*. Basel: Bank for International Settlements.
- Wong, Eric, Tom Fong, Ka-Fai Li, and Henry Choi. 2011. *Loan-to-Value Ratio as a Macro-Prudential Tool – Hong Kong's Experience and Cross-Country Evidence*. Working Paper 01/2011, Hong Kong: Hong Kong Monetary Authority.