Cross-country evidence on the use of LVR restrictions

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
Western Hemisphere				
Canada	**2008-2012**	Canada experienced rapid mortgage growth in 2008 and high household debt in 2010 and 2011. Under these circumstances, the ministry of finance introduced several policy measures to protect and strengthen the Canadian housing market and support its long-term stability. 2012 measures emphasised reducing indebtedness of home-owners , preventing them from becoming overextended and helping working families and FHBs. Regulated institutions can only write LVR loans above 80% if they are insured against default - 45% of all mortgages are insured, with 70% being CMHC-insured. Mortgage insurers are guaranteed by the government. Tightening of housing market lending conditions is done by altering the rules around mortgage insurance.	LTV: In February 2010, the government selectively tightened the LTV ceilings on cash-out refinancing transactions and investment property loans. In April 2011, the maximum amortization period for new government-backed insured mortgages with LTV ratios of more than 80% was reduced to 30 years from 35 years. In July 2012, the LTV cap on mortgage refinancing's was lowered from 85% to 80%; LTV cap of 80% introduced for new homes over CAD 1 million (by disallowing govt insurance for these homes), and cap of 65% for HELOC (cash out) loans.	In July 2008, the maximum term for mortgages was decreased from 40 to 35 years. In July 2012 the maximum term was reduced from 30 years to 25 years, and the maximum total DSR (share of income needed to pay home-related expenses and all other debt obligations) reduced from 45% to 44%, and a gross DSR limit (share of income needed to pay home-related expenses including mortgage payments) was introduced of 45%. A minimum downpayment of 5% is required for owner-occupied properties, and 20 per cent for speculative properties.
Chile	**2008-2009**	Chile's economic activity declined as a fall-out from the global financial crisis. In response, the authorities enacted measures to restore the flow of credit, especially to low-income households and small and medium-sized enterprises.	LTV: the maximum LTV ratio for covered bond-type mortgages raised from 75% to 100% for debtors with higher credit ratings (2009)	Differentiated reserve requirements for foreign currency (2008)
Colombia	**Late 1990s**	Colombia experienced excessive leverage from mortgage borrowers and suffered a mortgage crisis. Based on such experience, the authorities introduced several measures to limit the exposure of households to debt , reduce excessive leverage from mortgage borrowers.	LTV: introduction of caps on LTV ratios at 70% (1999)	DTI: introduction of caps on debt-to-income ratio, by imposing a monthly debt service limit of no more than 30% of disposable income (1999)
Asia				
China	**2010-2011**	The authorities implemented a massive stimulus package in 2008 to counter the effect of the financial crisis. The stimulus worked quickly to stem the contraction in output, but it was not withdrawn immediately. The delay in the policy exit helped fuel a domestic credit boom. From late-2009, housing prices began to rise at an average annual rate of 15-20%. The authorities introduced several measures to curb credit growth and housing price inflation.	LTV: the LTV ratio on primary homes was lowered from 80% to 70% and to 50% on second homes (2010). The LTV ratio on purchases of second homes was subsequently lowered further to 40% (2011).	Lending ceiling: caps on credit growth were introduced for major banks. In addition, the authorities issues "verbal" guidance to banks to temporarily stop lending. Reserve requirements: reserve requirements have been increased 8 times since Jan 2010. Countercyclical capital requirement: large banks were required to have a countercyclical and systemic capital buffer (2010). Provisions: the provision coverage ratio was raised from 100% to 150%.
Hong Kong	**1990s**	With naturally limited land supply and one of the world's largest public housing sectors, Hong Kong real estate markets have been historically volatile. In the run-up to the Asian crisis, real estate prices started inflating in the late 1980s and accelerated in 1993. Mortgage loans as a percentage of GDP also grew	LTV: reduction in LTV ratio from 80-90% to 70% (1991), and a further reduction of the LTV ratio to 60% for luxury residences (1997); LTV up to 90% allowed with LMI (relax liquidity constraints) (1999);	Lending ceiling: ceiling on the growth of mortgage lending set at 15% per annum (1994), and banks' exposure to property limited to 40% (1994-1998) DSR max 50-60% and clear policy wrt assessing repayment capacity (1997)

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
		rapidly. The authorities took action to moderate mortgage growth and property price inflation in order to ensure the safety and soundness of the banking system in light of the property boom.		
	2009-2012	Following the boom-bust between 1995 and 2003, prices increased modestly until the second half of 2007, but then accelerated. Not counting the brief but sharp downturn around the global financial crisis in the second half of 2009, as of 2010Q3, house prices have increased 45% since 2007Q2. The housing boom put bank balance sheets at risk. The authorities took action to limit risks posed by the housing market boom.	LTV: reduction in LTV ratio for properties valued at or above HK$20 million to 60% from 70% (2009). Extension of 60% LTV limit to properties valued at or above HK$12 million and non-primary-residence loans (August 2010). Further reduction in LTV ratio for (i) residential properties valued at or above HK$12 million from 60% to 50%, (ii) residential properties valued at or above HK$8 million and below HK$12 million from 70% to 60%, and (iii) all nonowner- occupied residential properties, properties held by a company and industrial and commercial properties to 50%, regardless of property value (November 2010). LTV: for net worth assessments, reduced to 30%, for ex-HK max LTV loading lowered by 20% (2012)	DTI: standardisation of the limit on DTI at 50% from the previous range of 50-60% ; stress test requirement (2010) Lending ceiling: introduction of loan cap of HK$7.2 million on mortgages subject to 70% LTV limit (August 2010). Reduction of cap to HK$4.8 million (November 2010) maximum loan tenor of 30 years; DTI max 40% (2012)
India	**2004-2010**	Financial institutions generally tend to behave in a procyclical manner in their operations. Up until the global financial crisis, strong economic growth and urbanization started a real estate boom and credit to the private sector, including loans to households for housing and consumer credit. After the global crisis, credit started to decline. The authorities' main objective was to reduce procyclicality.	LTV: introduction of 80% of LTVs for residential real estate (2010)	Risk weight: increase in risk weight on housing loans from 50% to 75% (2005) and for commercial real estate exposure from 100% to 125% (2005), 150% (2006), and then to 100% (2008)
Korea	**2002-2011**	The Korean banking system was vulnerable to housing market booms. In the aftermath of the Asian crisis, expansive policies to stimulate the economy created a credit boom (in particular, credit cards), the bust of which came in 2003 and left policymakers with a desire for tougher regulation. Real house prices increased by 26 percent from 2001Q1 to 2003Q3. After stalling in 2004, price appreciation resumed in 2005 and recorded an increase of 14 percent between 2005Q1 and 2007Q1. But prices declined again due to the negative effect of the global financial crisis. Given the systemic impact of housing policies, both on consumer confidence and overall macroeconomic management, as well as the social welfare purposes, the Korean authorities tightly regulate the housing market. The main aims are to: maintain positive but limited house price appreciation, maintain consumer confidence through housing market policies, support construction sector, provide for the housing needs, more recently limit household debt	LTV: introduction of caps on LTV ratios in 2002. Since then, tightened four times and loosened once in accordance with property price fluctuations.	DTI: introduction of caps on debt-to-loan ratio in 2005. Since then, tightened 4 times and loosened 2 times in accordance with property price fluctuations. Loan-to-deposit ratio: reduction in banks' loan-to-deposit ratio to 100% starting in 2014 (November 2009, the deadline was shortened to end-June 2012, in June 2011). Other instruments: tax incentives, subsidised financing, government construction and purchases of unsold houses, direct support for the construction sector, and moral suasion on lenders.

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
	2009 - 2011	In the years leading up to the financial crisis, the Korean banking sector experienced a large build-up in short-term external debt. The main motivations to take action were to: reduce short-term external debt and reduce capital flow volatility, to reduce wholesale financing, strengthen foreign currency liquidity standards in order to reduce maturity mismatches and improve the quality of liquid assets, prevent excessive foreign currency bank loans from turning into systemic risks.		A number of measures targeting external finance, including reintroduction of a withholding tax on foreign purchases of treasury and money stabilisation bonds and a macroprudential levy on banks' non-deposit foreign currency liabilities (2011)
Malaysia	**1990s**	After increasing at a modest 3 percent per year in 1993-94, house prices accelerated to an annual growth rate of 13 percent in 1995-96. More striking, however, was the boom in the commercial real estate segment. Office rents rose by 50 percent between 1990 and 1996. Related, the growth in bank loans for non-residential property purchases far exceeded that in loans for residential property purchases. The authorities took action to: limit banks' exposure to real estate to contain any deterioration in portfolio quality, and prevent an asset price bubble.	LTV: introduction of a maximum LTV ratio of 60% on real estate loans in 1995 (discontinued in 1998).	Lending ceiling: introduction of a limit on property lending equal to 20% of a bank's portfolio in 1997 (discontinued in 1998)
	2005	The boom-bust in the 1990s left the market with a significant supply hangover, in particular at the high-end condo segment. There have also been considerable additions to supply at the lower-end as a consequence of mass building of housing units by government agencies. Residential mortgage credit growth gained speed starting in 2001, and house prices recorded an increase of 4 percent in 2004, after an increase of about 1.6 percent per annum during 2000-03. The authorities took action to reduce the mortgage growth rate and property prices.		Risk weight: increase in risk weight for non-performing loans from 50% to 100%(2005)
	2010	Malaysia has emerged from the world recession with strong forward momentum. Forceful countercyclical policies, sound balance sheets, and intraregional trade have primed the recovery. Under these circumstances, credit growth started accelerating due to strong demand for consumer loans and mortgages. The authorities took action to moderate the excessive investment and speculative activity in the residential property market.	LTV: introduction of 70% of LTV for the third house loan (2010)	
Singapore	**2009-2011**	Real estate cycles have been strong with an increase of 45 percent in real house prices from 2004Q2 to 2008Q1. During the global financial crisis, private property price index declined almost 25 percent between its peak in 2008Q2 and its trough in 2009Q2, but it rebounded sharply since 2009Q3. Since 2009, there has been a risk of excessive house prices, including potential bubbles, and risks of increasing speculative demand. The main motivations to apply measures during the recovery after the global financial crisis were to: ensure a stable and sustainable property market, reduce further speculative demand.	LTV: reduction of caps on LTV from 90% to 80% for all borrowers (2010) This was lowered to 70% for borrowers who have one or more outstanding housing loans at the point of applying for the new housing loan (later in 2010), and reduced further to 60% for borrowers who have one or more outstanding housing loans and to 50% for non-individuals (2011).	Lending Ceiling: introduction of caps on banks' loan exposures to the property sector (excluding residential mortgages for owner occupation) at 35 % of total non-bank exposure in 2009. Disallowance of the Interest Absorption Scheme and interest-only loans for residential mortgages in 2009.

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
	2012	In October 2012, additional measures were introduced in Singapore in response to continued evidence of residential property price pressures. The stated intention is to avoid a property price bubble and foster long term stability in the property market.	Loans exceeding 30 years' tenure will face significantly tighter LTV limits. The new rules will apply to both private properties and HDB (government) flats. If you take up a loan of more than 30 years or the loan extends past the age of 65, you can either a) borrow up to 60% of property value if you do not have an existing housing loan b) borrow up to 40% of property value if you have an existing housing loan Non-individual borrowers now face a cap of 40% LTV.	The MAS moved to restrict the tenure of all new residential property loans to 35 years. More than 45 percent of new residential property loans granted by financial institutions have tenures typically exceed 30 years.
Thailand	**2002-2011**	The country saw rapid credit growth, double-digit rises in housing prices, and massive capital inflows in the first half of the 2000s. House prices have been declining since 2006, with the speed of decline accelerating in 2008. Yet, in 2010Q2, prices peaked, posting a 10 percent quarter-on-quarter increase and commercial bank loans grew strongly over the summer. The motivation to take actions were to: reduce the cyclicality of the real estate sector, reduce currency risk.	LTV: introduction of a cap of 70% on the LTV ratio (2003); increase in the LTV ratio for high value mortgages (above 10 million baht) from 70% to 80% (2009) Risk weight: imposition of higher risk weight for high value mortgages (above 10 million baht) with LTV above 80% (2009); and higher risk weight for residential mortgages (less than 10 million baht) with LTV above 90% (2011)	DTI: introduction of caps on DTI (2004)
Western Europe				
Ireland	**2006**	Ireland experienced rapid mortgage growth between 2000 and 2006. Financial deregulation, a positive macroeconomic outlook, and immigration flows had set the stage for a rapid escalation of real estate prices and credit. Also, capital gains taxes on non-owner-occupied property were cut in half, and residential property taxes were fully removed, slashing the user cost of housing. Mortgage debt to GDP grew by an astonishing 159 percent between 1996 and 2005, while house prices rose by 217 percent. The authorities took action to: dampen credit growth, and strengthen banks against the backdrop of rapid mortgage growth.	Risk weight: increase in risk weight for residential mortgages from 50% to 100% of the loan value, on the portion of each loan exceeding 80% of the value of the property (2006). For non-owner occupied residential mortgages, a higher requirement was imposed, namely more than doubling of the basic CRD requirement. For non-owner-occupied, non-retail mortgages, the ratio was almost trebled.	
Italy	**2007**	Italian bank lending accelerated owing to strong corporate demand for funds fuelled by the recovery in activity; bank lending to households continued to grow fast. The proportion of loans associated directly or indirectly with real estate activity increased further. Motivation to take action was to reduce lending cyclicality.	LTV: introduction of caps on LTV (2007). Mortgages secured by residential real estate are discouraged when they are beyond 80% loan to value. Tighter capital requirements are requested for loans above 80% loan to value.	

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
Portugal	**1999**	From 1996 to 2000, house prices rose by a rather modest 17 percent. By comparison, growth in mortgage credit was remarkable as the mortgage debt to GDP ratio doubled from 21% to 41%, mostly driven by the marked fall in bank interest rates. Motivations were to: moderate cycles in specific sectors by limiting loan growth and leaning on asset demand, safeguard the soundness of the banking system.	Capital: tighter capital requirements for housing loans with an LTV ratio exceeding 75%	
Spain	**2000-2008**	Several factors together created the longest recorded boom that ran from 1996 to 2007. Waves of immigrants and foreign property investors started flowing in while demographic changes pushed household formation rates up. A multiplier effect came from the effects of financial liberalization and convergence with the rest of the EU, pressing down real interest rates and making both traditional and new forms of mortgage loans more readily available to potential buyers. This was combined with a tight rental market where the quality and quantity of rental property does not measure up. As a result, house prices skyrocketed, going up 121 percent from trough to peak. The main motivations to take measures were to : reduce the procyclicality of loan loss provisions and stem credit growth, build up a buffer in good times to be used in bad times.	Risk weight: introduction of sector-dependent asset risk weights in 2008 (establishing higher risk weight for mortgages that exceed an LTV of 95% for residential property and 80% for others)	Time-varying/ dynamic provisioning: introduction of dynamic provisioning in 2000 (revised in 2004). Note that dynamic provisioning was not applied universally across the banking sector, with the Cajas (saving banks) being omitted.
Nordic countries				
Norway	**1998**	After rebounding from the systemic banking crisis in 1991, both house prices and credit grew modestly from 1993 to 1996. Credit to households picked up in mid-1996 and house prices posted double-digit annual growth rates in 1997. The main motivation to take action was to curb credit growth and property price inflation.	Risk weight: an increase in risk weights on loans with LTV above 60% from 50% to 100% (discontinued in 2001)	
	2010	Household debt (mainly mortgages) reached a high level and was a key risk in Norway. The drivers behind the build-up of risk in the banking sector were a combination of demand and supply factors. On the demand side, low unemployment and wealth effects from increases in oil prices helped to boost the accumulation of household debt. On the supply of credit side, lax lending standards and aggressive mortgage lending practices also played a role. The main motivations to take action were to address the problems of high housing debt.	LTV: 90% cap on LTV for housing loans and 75% cap on LTV for home equity loans	DTI: introduction of caps on DTI Note: These limits are guidelines rather than hard caps-e.g., the LTV limit can be exceeded if the lender makes a special soundness evaluation.
Sweden	**2010**	There was a sign of excessive indebtedness, which would make borrowers vulnerable to a situation in which real estate prices decline. The motivations were to: stem an unsound trend in the credit market, protect consumers.	LTV: LTV cap of 85% for mortgages (2010)	
Central and Eastern Europe				

Cross-country evidence on the use of LVR restrictions

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
Bulgaria	**2004-2007**	As in many other countries in Eastern Europe, credit to households grew rapidly during the transition to EU accession. A credit boom was accompanied by a house price boom in the early 2000s. In 2004, rapid growth of 49 percent in bank lending led to concerns about banks' ability to manage the credit and operational risk associated with such rapid credit growth. The authorities introduced measures to: limit the build-up of risk for the banking sector, and cut lending growth and minimise systemic risk.	LTV: introduction of a 70 percent LTV ratio for mortgages risk-weighted at 50 percent	Provisions: higher specific provisions for loans to households introduced (2005) and tightened several times since then
	2008-2010	Due to the financial crisis, economic growth was stagnant. The authorities took action to promote credit growth.		Risk weight: a reduction in risk weights for loans to households and mortgage loans (2010)
Croatia	**2003-2008**	Croatia's economic growth over the period 2003-2008 was strong, with the country experiencing a period of boom fuelled by capital inflows and domestic consumption. Also, from 2001 to 2003, bank credit to the private sector had increased by 20-30% a year, already from a relatively high base. Furthermore, mortgage credit grew rapidly at an annual rate of 31% between 2003 and 2007. House prices surged by a cumulative rate of 30 percent over the same period. Systemic risk rose from bank lending in foreign currency, particularly to unhedged borrowers and from weaker underwriting standards. Banks were exposed to rollover/liquidity risks and contagion risk from a sudden shift in investor sentiment in the region, especially given significant bank borrowing from abroad. The authorities took action to: ☐ slow down very rapid credit growth , reduce procyclicality, slow down foreign borrowing and encourage banks to apply prudent business policies in their foreign borrowing.	LTV: introduction of LTV ratio for housing loans at 75% (2006)	DTI: approval of new loans prohibited if a debtor's average monthly income did not cover the total repayment obligations of the debtor (2006)
Hungary	**2010**	The economy had considerable vulnerabilities in the form of high external debt as well as currency mismatch. A large share of mortgage loans was provided in foreign currency, making unhedged borrowers, especially the household sector, vulnerable to exchange rate volatility. The main motivation to take action was to address the excessive foreign exchange lending to households.	LTV: introduction of LTV limit for FX mortgages (2010)	DTI: introduction of DTI limit for FX mortgages (2010) FX lending ceiling: ban on foreign exchange mortgage lending (2010)

Cross-country evidence on the use of LVR restrictions

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
Poland	**2006-2011**	The credit boom which took place in the 2006-2008 period raised concerns about weaker credit underwriting standards promoted by banks. Moreover, increasing volumes of FX lending to non-hedged borrowers, which were supported by interest-rate differentials and widespread expectations of zloty appreciation signalled the buildup of potential systemic risk. During the crisis, access by banks to foreign currency liquidity was a concern since banks usually hedge the direct FX risk through short-term FX swaps. The measures undertaken aimed at: mitigating the credit and FX risk associated with lending (in particular mortgage lending) to households; strengthening capital and liquidity buffers in order to increase their ability to cope with shocks.	LTV: LTV limits based on loan maturity (2010)	DTI: 50%-65% caps under stressed scenarios for loans to households starting in 2010. Lower cap of 42% for FX loans to households with banks having until end 2011 to adjust. FX mortgage lending ceilings and tighter criteria: FX mortgage lending ceiling set at 50% of total mortgage lending introduced in 2010; haircuts in collateral for FX loans and stricter eligibility criteria for FX mortgages introduced in 2006. Risk weights: Differentiated risk weights for mortgage in Polish zloty (PLN) and FX, with FX weight of 75% and 35% for PLN lending in 2008 (LTV for FX lending was reduced in 2010). The risk weight for all FX loans will be raised at 100% starting in 2012.
Romania	**2000s**	In first half of the 2000s, credit to the non-government sector grew rapidly, including over 40% in 2003 partly due to sustained economic growth and favourable economic conditions. FX loans to unhedged borrowers such as mortgages also grew rapidly. Under these circumstances, the authorities took action to: slow down the credit growth rate, limit individuals' indebtedness, limit the currency risk	LTV: caps on LTV of 75% during 2004-2007	DTI: caps on DIT of 30% for consumer loans and 35% for mortgages (2004-2007). Introduction of a cap on DIT for total household debt of 40% (2005)
Serbia	**2004-2011**	Rapid credit growth was accompanied by a rapid increase in foreign debt liability eurorization. Systemic risk rose from bank lending in foreign currency, particularly to unhedged borrowers and from weaker underwriting standards. Action taken was aimed at: constraining high credit growth, limiting currency risk	LTV: caps on LTV of 80% (2011)	DTI (for households): introduction of caps on DTI in 2004 and recalibrated, several times since then. FX lending ceiling: introduction of 20% of minimum deposit on FX denominated non-mortgage loans to households in 2007 (it was raised once to 30% but reduced to 0% in 2008). Capital: introduction of 200% ceiling on the ratio of household loan portfolio to Tier I capital in 2006 (reduced to 150% in 2007).
Turkey	**2009-2010**	Turkey rebounded rapidly after the global financial crisis. The country saw a rapid increase in domestic demand, rapid credit growth, and increased foreign currency borrowing by banks. The motivations to take actions were to slow credit growth and improve credit quality.	LTV: introduction of caps on the LTV ratio for real estate loans (2010)	
Middle East				

Country	Year	Background and Motivation	Action – LVR Tools Used	Other Macroprudential Tools Used
Israel	**2010**	Israel has had to deal with high levels of financial system risk connected with surging property markets and very strong growth in residential credit.	Risk weight: 100% risk weight on loans with LTV above 60% Provisioning: extra loan loss provision of 0.75 percent of the value of mortgages with an LTV above 60%	Limit on the floating rate component of mortgage loans to one third of the total loan
	2012	Israel implements further measures to deal with strong housing credit growth and house price appreciation. The measures are intended to reduce banks' exposures and lower demand, and are particularly tight for investors. In Israel, investors account for around one quarter of all purchases, with a severe shortage of housing providing strong incentives for investment. Strong demand partly reflects demographic factors (high fertility and immigration rates) while the supply of land for housing is constrained by an inefficient bureaucracy.	LTV: 70% LTV cap for owner-occupiers (75% for first-home buyers), and 50% cap for investors.	
Lebanon	**2008-2009**	The global financial crisis and the slowdown in the Gulf negatively affected capital flow and economic activity in Lebanon. Under these circumstances, the central bank introduced measures to promote credit growth.	LTV: discontinuation of LTV ratio in real estate (for housing loans for a first house and loans granted under special programs including housing to military personnel) (2008)	

Source: Macroprudential Policy: What Instruments and How to Use Them? Lessons from Country Experiences (IMF, 2011) ; national sources