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Macroprudential policies to mitigate housing market risks

Country case study: India

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1. Introduction

Historically, unstable property markets or price bubbles in the housing sector have led to banking crises. Notwithstanding this concern, the housing market is a core economic sector in India. The housing and broader real estate sector plays a pivotal economic role, being the second-largest employer after agriculture and trade,² supporting migrant workers. Further, it has strong backward and forward interlinkages with several industries. Empirical tests also confirm the impact of the housing and construction sectors on other key economic sectors. The Granger causality test indicates one-way causation from the housing sector to economic activity.³ Housing assets are an important form of physical savings. Studies find that 77% of household wealth in India is held in the form of residential and other real estate (Ramadorai (2017)); thus, developments in this sector have a strong influence on households' consumption.

Accordingly, the Reserve Bank of India (RBI) has designed its macroprudential framework by defining conditions or policies that moderate the flow of resources to the housing sector with an objective to stabilise or limit the spillovers from the housing sector to the financial sector.

2. Housing as a source of risk

A crucial risk propagation channel from the housing sector to the banking/financial system arises on two counts: first, through the direct credit channel, with financial resources flowing for acquisition of residential property and other real estate; and second, through mortgage finances driving personal consumption and credit growth. In terms of exposure of the Indian banking system, the share of residential real estate loans (ie housing loans) in total loans has risen from 3.6% in 2003 to 14.0% by 2023⁴ (Graph 1A). Further, if the lending by banks to housing finance companies is included, then real estate forms the single largest sectoral exposure of banks (Graph 1B) with a 16% share in total credit.⁵

¹ Department of Supervision, Reserve Bank of India. Views are personal. Usual disclaimer applies.

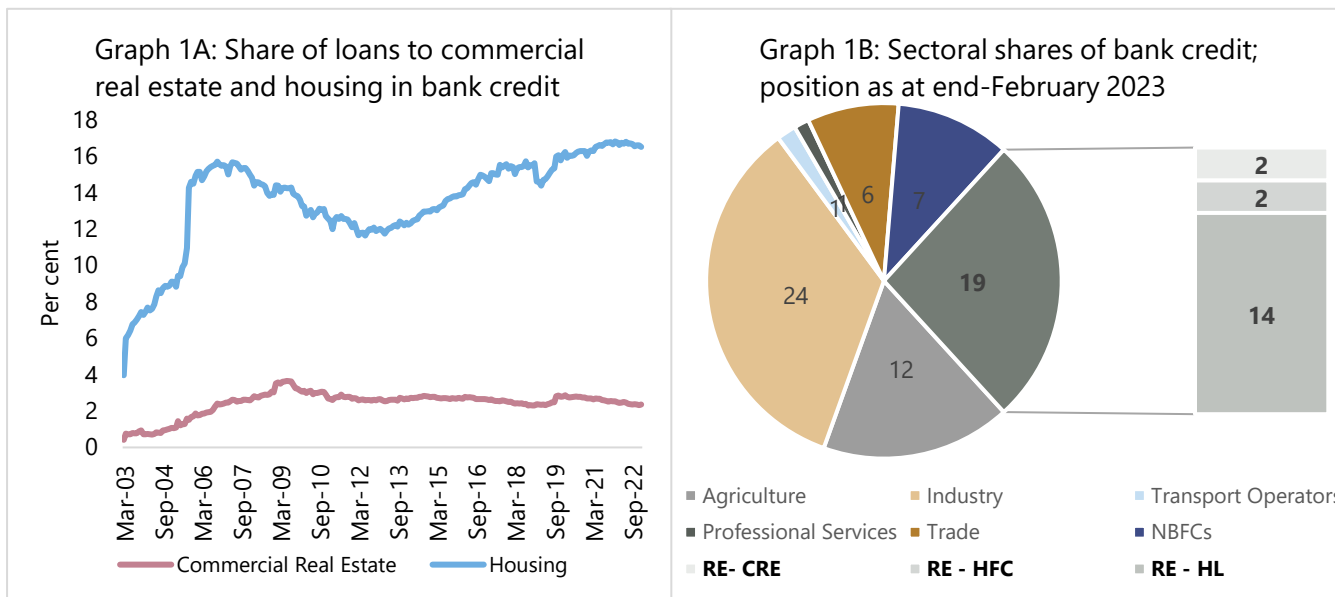
² Based on the India KLEMS Database 2022 released by the RBI. Employment in housing has been proxied by the construction sector.

³ Chaudhari et al (2023).

⁴ Mortgage credit is still nascent in the Indian context. Hence, the focus in this chapter is restricted to direct real estate exposures only, which are primarily towards acquisition of dwelling units.

⁵ It may be noted that Industry is the single largest sector in terms of credit at 24%; however, the exposures are diversified among various types of industries.

These facets indicate the dynamic role played by the housing sector in India and its potential impact on both the financial system and the real economy. Consequently, the RBI closely monitors developments in the real estate sector. Two key variables, house prices and growth in housing credit, are closely tracked to gauge the conditions in the housing sector from both a demand and a supply perspective.

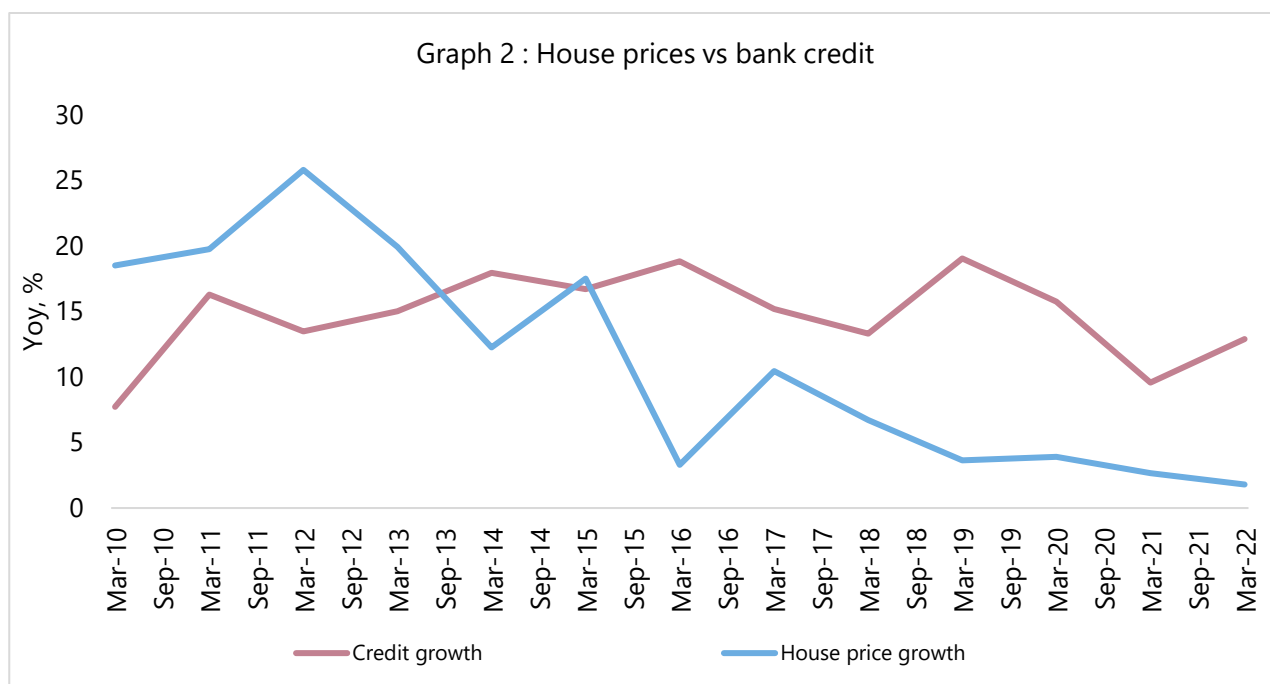


Source: RBI.

House prices in India, as measured by the RBI’s Housing Price Index, have moderated during the last decade.⁶ Year-on-year growth in house prices has slowed from an average of above 20% during 2011–14 to an average of 4.0% during 2017–22. The fall in house price growth needs to be considered alongside the robust growth in credit to the housing sector, which on average registered 12–14% in the last decade (Graph 2). This indicates that the stable flow of bank credit seems not to have created any undue price pressures in the housing markets.

Another risk propagation channel from the housing sector can arise due to a continued decline in house prices, reducing households’ equity buffer, thus creating concerns about heightened household leverage. However, in the Indian case, the growth in disposable income during the last decade has outpaced the growth in house prices. This implicitly indicates that households are well positioned to sustain consumption despite the moderation in house prices (Table 1).

⁶ The Housing Price Index is a quarterly report by the RBI based on the all-India price movement from data collected from 10 mega cities.



Source: RBI.

Housing and macroeconomic indicators 2011–22

Table 1

Variables	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Real GDP (2011=100)	100	111	125	139	153	167	184	202	221	233	227	269
Nominal GDP (2011=100)	100	114	130	147	163	180	202	224	248	263	259	310
Disposable income of households at current prices (2011=100)	100	115	131	147	163	180	200	222	246	262	258	306
Ratio of housing credit from scheduled commercial banks (SCBs) to GDP (%)		4.5	4.6	4.8	5.0	5.4	5.6	5.7	6.2	6.8	7.5	7.1
Housing credit growth (yoy, %)	16	13	15	18	17	19	15	13	19	16	10	13
Housing Price Index (average of 10 largest cities)	100	124	152	171	199	219	237	255	267	276	283	289
House price growth (over March 2022, %)		23.8	22.7	12.7	16.1	10.0	8.5	7.5	4.9	3.4	2.2	2.3
Consumer price inflation (yoy, %)		7.8	9.9	9.4	6.0	4.9	4.5	3.6	3.4	4.8	6.2	5.5

Source: Database on Indian Economy, National Statistical Office – India.

3. Governance

In India, the RBI is responsible for the formulation and implementation of macroprudential policy rules. Within the RBI, the regulation, supervision and monetary policy functions coordinate to formulate the macroprudential regulations. Regulatory adjustments to existing guidelines or formulation of new guidelines stem from both the macro and micro risk drivers. The regulatory function sets the macroprudential guidelines, while the supervisory function examines their implementation by the supervised entities, viz. banks and non-banks. Suitable enforcement actions are initiated against entities which fail to adhere to the macroprudential stipulations. Further, the macroprudential measures are aligned with the monetary policy mechanism and are announced as part of the “Statement of Developmental and Regulatory Policies” accompanying the monetary policy statements. This facilitates structured communication with the regulated entities on changes in the macroprudential policy framework and the expectations of the regulator, and allows them to adjust their business strategies with less disruption.

Further, the RBI has put in place a well organised mechanism to monitor emerging macroprudential risks and suitably calibrate the macroprudential regulations. At the apex level, the Financial Stability and Development Council (FSDC) is entrusted with monitoring macroprudential regulation in the country. The FSDC acts an institutional mechanism of regulators (banking, capital markets, insurance and pension funds) for maintaining financial stability and provides a vehicle for discussing the various facets of macroprudential regulation and deliberating on the emerging risks/spillovers. The Financial Stability Department (FSD) functions as a secretariat to the Sub-Committee of the FSDC, headed by the Governor of the RBI. The mandate of the FSD is to monitor the stability and soundness of the financial system by examining risks to financial stability, undertaking macroprudential surveillance through systemic stress tests and financial network analysis, and disseminating information and analysis through the Financial Stability Report (FSR).⁷

The overall governance framework rests with the central board of the RBI, which provides guidance and monitors the management of macroprudential policies. Notwithstanding the above, the RBI tracks the global economic developments and domestic trends in key sectors like housing, etc and takes immediate steps to contain spillovers from risk events.

4. Objectives

The evolution of the RBI’s macroprudential policy framework for the housing sector in terms of its objectives and choice of tools needs to be contextualised. As a central bank of an emerging market economy, the RBI uses its macroprudential policy framework broadly to manage downside systemic risk in the economy, thereby minimising disruptions in the provision of key financial services (Sinha (2011)). It aims to: a) dampen the build-up of financial imbalances; b) build defences against subsequent downswings; and c) identify and address common exposures, risk concentrations, linkages and interdependencies that are sources of contagion and spillover risks that may jeopardise the functioning of the system as a whole.⁸

Accordingly, a) and b) are designed to manage procyclicality and c) to manage structural imbalances. At the operational level, the macroprudential framework of the RBI has two intermediate objectives: first, to ensure lender resilience and second, to control the volatility in housing credit growth. It

⁷ See the RBI Annual Report, <https://www.rbi.org.in/Scripts/AnnualReportMainDisplay.aspx>.

⁸ See Sinha (2011).

does so by specifying limits on loan-to-value (LTV) ratios and by adjusting risk weights and provisioning requirements. By targeting these intermediate objectives, it indirectly affects the behaviour of the borrowers and finally helps stabilise prices in the housing sector. The RBI has kept its objectives flexible to allow the use of discretionary macroprudential tools to deal with unforeseen circumstances or crises and address them innovatively.

The preference for or usage of one or more intermediate objectives is determined/conditioned by the maturity of the domestic housing markets and their spillovers to other credit segments. These intermediate objectives are aligned to achieve the overarching goal of protecting housing loan portfolios from adverse movements in property prices. In addition to the above, the RBI aims to calibrate its macroprudential tools countercyclically to curtail undue volatility through the business cycle. Further, these objectives are coordinated with the extant phase of monetary policy to deliver maximum impact. Therefore, the objective of the RBI's macroprudential framework for the housing sector is to control both stock and flow of resources to the sector.

5. Macroprudential instruments in practice

The RBI's macroprudential framework has three main instruments which have been used for achieving the objectives of preserving lender resilience and dampening credit cycles. These are the LTV ratio, risk weights on housing and commercial real estate exposures, and provisioning on standard assets. Further, by specifying a comprehensive framework, viz, master guidelines on housing loans for banks and non-bank financial institutions, the RBI signals its regulatory stance.⁹ Furthermore, the macroprudential policies recognise different segments within the housing sector and stipulate differential LTV limits, risk-weighted assets (RWAs) and provisions for such segments. The LTV and RWA ratios for low-value housing loans are significantly different from those of average large-value loans. This was required to promote inclusive development (affordable housing) and strengthen overall resilience (by controlling leverage for high-value loans). Also, commercial real estate is treated as a sensitive exposure, with higher risk weights and provisioning to control unsustainable/speculative lending. The present status of macroprudential specifications on housing and real estate exposures is given in Table 2, and the historical changes are presented in the Annex.

Macroprudential specifications for housing loans

Table 2

Category of loan	LTV ratio (%)	Risk weight (%)
(a) Individual housing loans		
Up to INR 3 million	≤ 80	35
	> 80 and ≤ 90	50
Above INR 3 million & up to INR 7.5 million	≤ 80	35
Above INR 7.5 million	≤ 75	50
(b) Commercial real estate – residential housing		
	NA	75

Source: RBI.

⁹ See RBI (2023a,b).

With its macroprudential policy framework, the RBI has been able to moderate credit growth to the housing sector. However, when felt necessary, countercyclical moves have included easing the macroprudential measures to provide support to the housing sector. To illustrate, in response to the very high credit growth during the mid-2000s, the RBI increased provisioning requirements. Likewise, it rationalised and reduced RWAs for low-value housing loans after 2015–16 (Table 3).

Countercyclical macroprudential steps taken by the Reserve Bank of India

Table 3

Period	Monetary policy stance	Background	Macroprudential action
2004–05	Hardening	Strong credit growth to housing	Risk weight calibration
2005–06	Hardening	Strong credit growth to housing	Provisioning increase
2006–07	Hardening	Strong credit growth to housing	Provisioning increase
2007–08	Partial softening	Review was in line with Basel II guidelines	Differential RWA
2008–09	Partial softening		
2010–11	Hardening	Prevent excessive leverage and mispricing	LTV specification Teaser loan provisioning
2013–14	Neutral	Rationalisation of credit flows	RWA ¹ segmented adjustment
2015–16	Softening	Rationalisation of credit flows	RWA ¹ rationalisation
2017–18	Softening	Rationalisation of credit flows	Reduced provisioning
2020–21	Softening	Rationalisation of credit flows	RWA ¹ rationalisation
2022–23	Neutral	Rationalisation of credit flows	RWA ¹ recalibration

¹ RWA applicability linked to LTV ratios for different segments.

Source: RBI.

The calibration of the macroprudential tools is driven by the evolving trends in the housing markets backed by objective data and expert judgment (Sinha (2011)). As mentioned earlier, the choice is also partly driven by the nature of maturity in the housing markets in India and the extent of effective operational control that a central bank can exercise. Therefore, in the Indian case the choice of macroprudential tools seemingly reflects the preference to primarily preserve resilience of the lender and dampen housing credit cycles. Notwithstanding the above, the macroprudential tools used by the RBI also support by promoting borrower resilience and help stabilise prices in the property markets.

6. Effectiveness

For any policy framework, consistency and coherence between tools and objectives are essential to achieve the stated policy goals. Effectiveness of a policy intervention can be measured ex post, and may also be affected by the underlying macroeconomic circumstances and other broader policy frameworks. In India, the literature has extensively analysed various facets of macroprudential policies.

6.1 Measuring success

Empirical evidence suggests success of macroprudential policies in the Indian context. In India, the RBI has tightened and eased LTV-dependent risk weights over time to dampen credit and house price cycles, with some evidence suggesting this may be more powerful than monetary policy alone (Table 4). Subsequent literature has found that macroprudential policies are also effective during the loosening phase in the Indian context (Saraf and Chavan (2023)).

Studies analysing impact of macroprudential policies in India		Table 4
Study	Key findings	
Sinha (2011)	The macroprudential policies on housing credit are effective in curtailing its growth rate, possibly due to the higher cost of credit and the signalling effect of the RBI's perception. Contractionary policies were found to be more effective than expansionary policies.	
Verma (2018)	Using an integrated macroprudential policy index based on risk weights and provisioning for standard assets for housing, commercial real estate, consumer loans, capital market and Cash Reserve Ratio, the study observes that tightening macroprudential policy reduces total credit growth with a lag of one year.	
Kumar et al (2022)	Observed that credit growth responds to macroprudential policy with some lag while house prices respond immediately. The study provides evidence for asymmetric effects – tightening affects total credit and house prices and loosening affects housing credit.	
Singh (2020)	Using city-level house price data, the study found the LTV ratio to be the most potent tool. A change in LTV ratio for large-sized loans has a higher effect on house prices than a change in LTV ratio for small-sized loans. Risk weights and provisional requirements were also found to be effective.	

Source: Author's compilation.

6.2 Factors influencing success

The success of macroprudential tools depends on two factors. First, the tools should be able to act structurally and be amenable to discretionary measures by the central bank as needed. Second, they should be able to impact both stocks and flow of resources to the housing sector. Another related factor is the availability of granular data to gauge the impact of specific tools.

Structural vs cyclical use of measures: Macroprudential tools such as LTV, RWA and provisioning requirements can be set structurally, as they build resilience irrespective of the credit/business cycle. However, it is also useful if these measures can be varied to address specific stress events. To illustrate a

structural use in the Indian case, the RBI specified 2% standard asset provisioning on teaser loans as a macroprudential measure. However, given the cyclical nature of housing risks, the RBI was able to moderate housing loan growth and prevent stress build-up in the housing sector by fine-tuning LTV limits, RWAs and provisioning ratios with discretionary policy depending on the business or credit cycle. To illustrate, the RBI has calibrated the LTV and RWA provisioning specifications over time (see Annex for details) to moderate and (or) support credit growth and preserve lender resilience.

Stocks vs flows (lag in policy action and actual risk build-up): The presence of structural measures in terms of LTV, RWA and provisioning specifications for lenders always ensures there is some form of resilience at the aggregate level, ie the portfolio of housing loans is built under macroprudential restrictions. This limits the impact of delayed action by the central bank in failing to recognise stress build-up at an early stage. However, the ability of the central bank to quickly recalibrate the tools enables it to control the riskiness in the incremental credit flows. Therefore, it is pertinent that the central bank constantly monitors the evolving dynamics in the housing sector to ensure the success of the overall macroprudential policy framework.

6.3 Leakages

A concern regarding instituting macroprudential policies is the possibility of creating regulatory arbitrage between financial entities supplying credit to housing sector, especially between banks and non-banks. Table 5 below indicates the volume of housing credit supplied by housing finance companies (HFCs) and scheduled commercial banks (SCBs) in India. The share of HFC credit to SCB credit has remained range-bound at 45–48% over the last few years; this indicates that the leakages (if any) are limited, with SCBs predominantly catering to the housing credit demand. Further, the macroprudential restrictions in terms of LTV, RWA ratios and exposure limits are also applied to HFCs, thus eliminating leakages in terms of regulatory arbitrage.

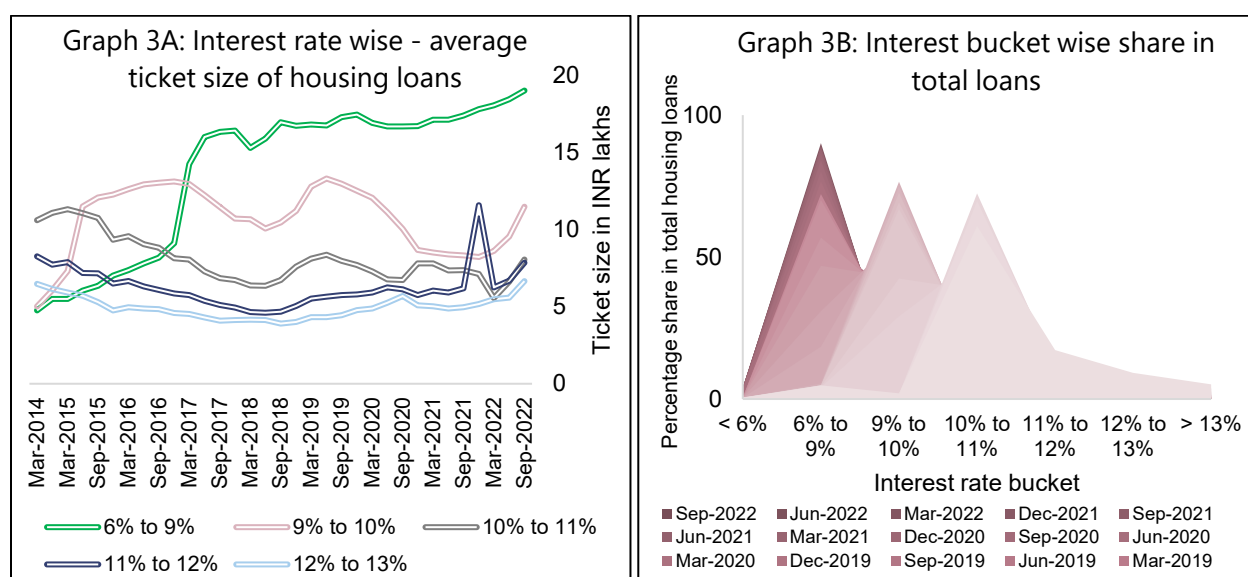
Housing loans by commercial banks and housing finance companies					Table 5
Year	HFC housing loans to individual (INR Crore)	SCB housing loans to individual (INR Crore)	Total loans and advances (INR Crore)	Ratio of HFC loan with SCB's housing loans (%)	Ratio of housing loans with bank credit (%)
1	2	3	4	$5 = 2/3*100$	$6 = (2+3)/4*100$
Mar-15	304809	643253	6691095	47.4	14.2
Mar-16	374190	762470	7273202	49.1	15.6
Mar-17	430887	853807	7598098	50.5	16.9
Mar-18	591058	1008013	8399196	58.6	19.0
Mar-19	633996	1204362	9526932	52.6	19.3
Mar-20	662602	1396444	10098420	47.4	20.4
Mar-21	714352	1561913	10640811	45.7	21.4
Mar-22	806411	1765552	11853313	45.7	21.7

¹ One Crore = Ten million.

Sources: RBI and NHB.

7. Cost, benefits and unintended consequences

There is a concern that macroprudential policies might have distributional consequences by excluding certain borrowers such as first-time house buyers or low-income households. In the Indian context, the RBI has understood the need to support affordable and aspirational housing for its burgeoning young and middle-income groups. The macroprudential calibrations have always been sensitive to and cognisant of these consequences by creating distinctions for these groups. For example, the LTV and RWA ratios for low-value housing loans are significantly different from those for large-value loans. This is reflected in the pricing of housing loans, with the median interest rate moving lower coupled with a rise in the average loan size in the median interest rate buckets (Graphs 3A and 3B). This indicates that a rise in housing loans is supportive for a broad class of borrowers. Further, the special target schemes implemented by the Government of India also come to the aid of low-income households. To illustrate, under Pradhan Mantri Aawas Yojana (a scheme targeting home ownership for low-income households), to date, 21.6 million affordable houses have been constructed in rural areas and 7.2 million in urban areas.



Source: RBI.

8. Conclusion

In India, the choice of macroprudential tools reflects the preference to primarily preserve resilience of the lender and dampen housing credit cycles. Fixing the LTV ratio and the application of risk weights directly impacts lender behaviour in channelling credit to the housing segment, while aspects related to borrower resilience are better judged by lenders. Though the RBI does not specify any limits on the debt-to-income ceiling for borrowers, the commercial entities adopt certain standard conventions as a matter of prudence. Another interesting facet of the growth in housing loans is that the average loan size across risk tiers has remained stable or risen only moderately in recent years. As compared to annual growth of 3.7% in house prices, the average loan size across risk tiers has registered an average growth rate of around 3.0%. This indicates that housing portfolios across risk tiers have inherent valuation gaps between outstanding loan

amount and actual property values, thereby protecting them from adverse movements in house prices. Therefore, it may be concluded that the RBI's macroprudential policies may have improved both lender and borrower resilience.

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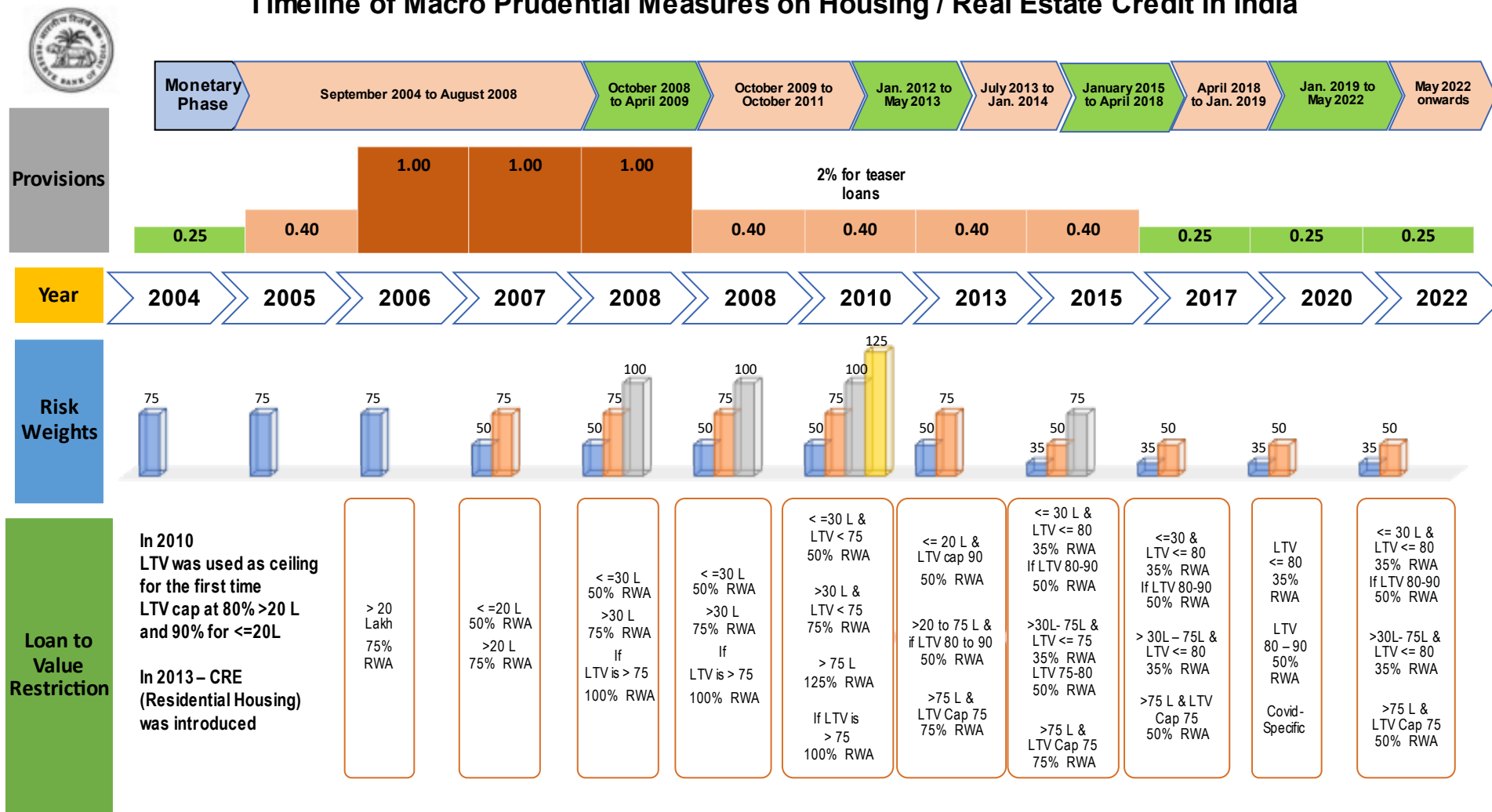
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10. Annex

Timeline of Macro Prudential Measures on Housing / Real Estate Credit in India



Source: RBI staff compilation.