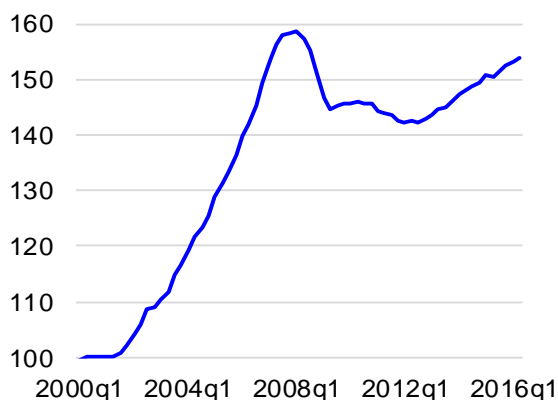




The IMF’s Global House Price Index—an average of real house prices across countries—is now almost back to its level before the financial crisis (Figure 1). Developments in the countries that make up the index fall into three clusters (Figure 2).¹

Figure 1: Global House Price Index

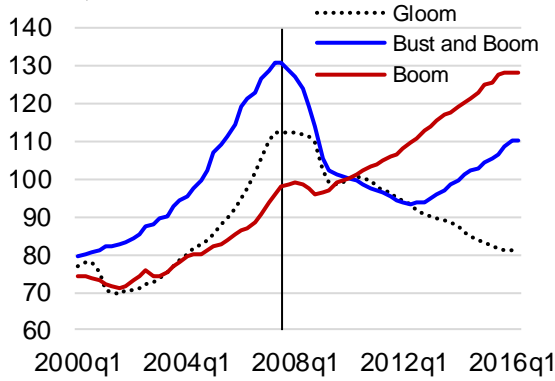


Sources: Bank of International Settlements, European Central Bank, Federal Reserve Bank of Dallas, Savills, and national sources

- The first cluster—*gloom*—consists of 18 economies in which house prices fell substantially at the onset of the Great Recession, and have remained on a downward path.
- The second cluster—*bust and boom*—consists of 18 economies in which housing markets have rebounded since 2013 after falling sharply during 2007-12.
- The third cluster—*boom*—comprises 21 economies in which the drop in house prices in 2007–12 was quite modest and was followed by a quick rebound (Figure 2).
- Credit has expanded much faster in the *boom* group than in the other two (Figure 3), while construction gross value added and residential building permits have stagnated in the *gloom* group relative to the other two (Figures 4 and 5).

¹ The determination of which group to place countries in is based on average real house price growth during the period 2007-12 and 2013-16. Most countries clearly fall into one of the three groups, although a few are on the border.

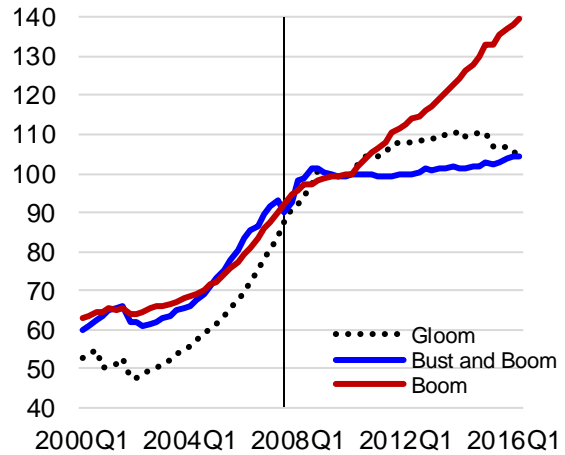
Figure 2: Real House Price Index
2010Q1=100



Source: Bank for International Settlements, European Central Bank, Federal Reserve Bank of Dallas, Savills, and national sources

Gloom = Brazil, China, Croatia, Cyprus, Finland, France, Greece, Italy, Macedonia, Morocco, Netherlands, Poland, Russia, Serbia, Singapore, Slovenia, Spain, Ukraine. Bust and boom = Bulgaria, Denmark, Estonia, Germany, Hungary, Iceland, Indonesia, Ireland, Japan, Latvia, Lithuania, Malta, New Zealand, Portugal, South Africa, Thailand, United Kingdom, United States. Boom = Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Hong Kong SAR, India, Israel, Kazakhstan, Korea, Malaysia, Mexico, Norway, Peru, Philippines, Slovak Republic, Sweden, Switzerland, Taiwan.

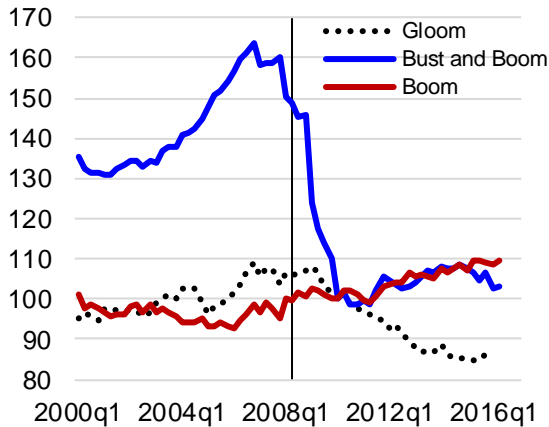
Figure 3: Real Credit Index
2010Q1=100



Source: International Financial Statistics-IMF and Haver Analytics

Gloom = Brazil, China, Croatia, Cyprus, Finland, France, Greece, Italy, Netherlands, Russia, Singapore, Slovenia, Spain, Ukraine. Bust and boom = Germany, Iceland, Indonesia, Ireland, Japan, Malta, Portugal, South Africa, Thailand, United Kingdom, and United States. Boom = Australia, Austria, Belgium, Canada, Colombia, Hong Kong, India, Korea, Malaysia, Mexico, Norway, Philippines, Slovak

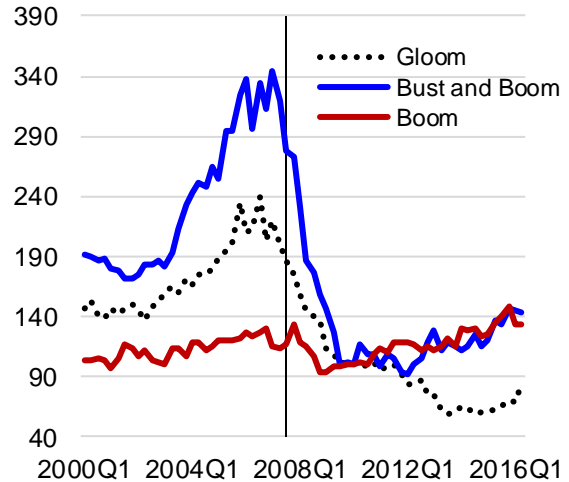
Figure 4: Construction Gross Value Added Index, 2010Q1=100



Source: Haver Analytics

Gloom = Brazil, China, Croatia, Cyprus, Finland, France, Greece, Indonesia, Italy, Netherlands, Poland, Russia, Serbia, Singapore, Slovenia, Spain, Ukraine. Bust and boom = Bulgaria, Denmark, Estonia, Germany, Hungary, Ireland, Latvia, Lithuania, Malta, New Zealand, Portugal, South Africa, Thailand, United Kingdom, United States. Boom = Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Hong Kong, India, Israel, Kazakhstan, Korea, Malaysia, Norway, Peru, Philippines, Slovakia, Sweden, Switzerland, Taiwan.

Figure 5: Residential Building Permits Index, 2010Q1=100



Source: Eurostat, Haver Analytics, and OECD

Gloom = Croatia, Cyprus, Finland, France, Greece, Italy, Macedonia, Netherlands, Poland, Singapore, Slovenia, Spain. Bust and boom = Denmark, Estonia, Germany, Hungary, Ireland, Latvia, Lithuania, Malta, New Zealand, Portugal, South Africa, United Kingdom, United States. Boom = Australia, Austria, Belgium, Canada, Chile, Czech Republic, Israel, Korea, Malaysia, Norway, Slovakia, Sweden, Taiwan.

IMF Assessments

In summary, while the overall global house price index is back to where it was before the crisis, the underlying picture is quite varied. Recent IMF assessments provide an even more nuanced view of the situation in specific countries (Table 1).

Among the *gloom* group:

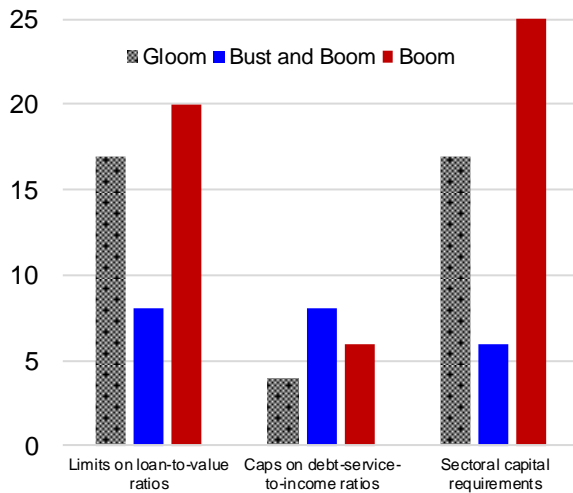
- In China, excess inventory remains high. The IMF assessment points out that for lower-tier cities, where multi-year excess inventory levels are particularly acute, restricting new starts seems warranted, for example by tightening prudential measures on credit to property developers.
- In Netherlands, the turnaround in house prices presents an opportunity to remove some of the incentives for excessive leverage—thereby reducing the likelihood and intensity of boom-bust cycles.

There are some concerns about sustainability in a few *boom or bust and boom* economies:

- IMF assessments state that in Belgium, Canada, Luxembourg, Malaysia, Malta, and the United Kingdom, additional macroprudential measures may be needed or considered if housing market vulnerabilities intensify.
- In the case of Norway, the IMF assessment points to a substantial overvaluation. In some other cases—Belgium, Korea, and Morocco—the assessments do not find overvaluation.

IMF assessments point to supply constraints as a factor driving house prices in a number of countries where prices have rebounded, including Denmark, Germany, New Zealand, and the United Kingdom. Table 1 provides summaries of IMF assessments of housing markets published this year. The table provides the dates on which these assessments were published. It is important to keep these dates in mind because adjustments in housing demand, supply and policies may have taken place since then that could make these assessments not reflect fully the situation at present.

Figure 6: Number of macroprudential policies implemented and any subsequent tightening: 2007-16



Source: International Monetary Fund

Loan-to-value ratios: Gloom = Brazil, China, Finland, Netherlands, Poland, Serbia, Singapore, Spain. Bust and boom = Estonia, Hungary, Iceland, Indonesia, Latvia, Lithuania, New Zealand, Thailand. Boom = Canada, Chile, Czech Republic, Hong Kong, Israel, Korea, Malaysia, Norway, Philippines, Slovak Republic, Sweden, Taiwan.

Debt-service-to-income ratios: Gloom = Cyprus, Netherlands, Poland, Serbia. Bust and boom = Estonia, Hungary, Ireland, Latvia, United Kingdom, United States. Boom = Canada, Hong Kong, India, Israel, Malaysia, Norway.

Sectoral capital requirements: Gloom = Brazil, Croatia, France, Italy, Poland, Russia, Serbia, Spain. Bust and boom = Bulgaria, Estonia, Iceland, Ireland, Latvia, Lithuania, New Zealand, South Africa, Thailand, United Kingdom, United States. Boom = Australia, Belgium, Colombia, Hong Kong, India, Israel, Korea, Malaysia, Norway, Peru, Slovak Republic, Switzerland, Taiwan.

Active use of macroprudential tools

Many countries have been actively using macroprudential tools to manage house price booms. The main macroprudential tools employed for this purpose are limits on loan-to-value ratios and debt-service-to-income ratios and sectoral capital requirements.

Figure 6 shows that macroprudential policies have been very active in the *boom* group, followed by *gloom* group, and *bust and boom* group.

Acknowledgements and disclaimer

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Views expressed are those of the authors and should not be ascribed to any of the institutions with which they are affiliated.

Table 1. IMF Assessments of Housing Market Developments—2016

Country (date of assessment)	Assessment
Austria (February 2016)	House price growth was strong over recent years but has moderated recently.
Belgium (March 2016)	After a long period of rapid growth, house prices have stabilized since 2013. A sharp reversal could have a significant impact on consumption, even if banks' exposures could be managed (...). However, staff analysis does not suggest a major overvaluation, as past price trends were broadly in line with borrowing cost, demographic and income developments.
Canada (June 2016)	Macroprudential policy has been broadly effective in alleviating financial stability risks and reducing tax payer exposure to mortgage finance. Additional macroprudential measures may be needed if housing market vulnerabilities intensify.
China (August 2016)	Residential investment is reviving again in several parts of the country, even as excess inventory remains high, and region-specific policies could be appropriate. Specifically, tighter macroprudential measures in Tier 1 cities seem warranted (for example reducing loan-to-value ratios on mortgages for second homes). For lower-tier cities, where multi-year excess inventory levels are particularly acute, restricting new starts seems warranted, for example by tightening prudential measures on credit to property developers.
Colombia (May 2016)	Risks from rising house prices are mitigated by low loan-to-value ratios (51.4 percent) and small mortgage portfolios of banks (12.3 percent of total loans).
Czech Republic (July 2016)	A strong housing market is becoming a potential source of risk. Mortgage rates are at historic lows and have boosted new mortgage lending to a 10-year high, thus putting upward pressure on prices.
Denmark (July 2016)	Rapid house price increases call for early policy action—including loosening housing supply restrictions, eliminating adverse tax incentives, and developing and timely implementing well-targeted macro prudential tools.

<p>Fiji (February 2016)</p>	<p>Given still strong credit growth and rapidly rising house prices, the RBF should adopt macroprudential measures to tame the credit and housing price momentum, including through the use of loan-to-value ratios.</p>
<p>Germany (July 2016)</p>	<p>Housing prices in the most dynamic cities deserve close monitoring, but concerns about across-the-board excesses in the mortgage market look premature. (...) Housing price inflation also reflects a tepid response of housing supply to a swell in demand.</p>
<p>Hong Kong (January 2016)</p>	<p>The propensity for property price run-ups in Hong Kong SAR is rooted in a fundamental demand-supply imbalance at work for some time (...). Nevertheless, around the rising trend, there have been times when prices have slowed or hit a plateau before accelerating again.</p>
<p>Indonesia (March 2016)</p>	<p>Property prices have been subdued, in tandem with slowing economic growth and weak business sentiment.</p>
<p>Ireland (July 2016)</p>	<p>Residential real estate prices and rents continued to increase. Nevertheless, following the abolishment of tax exemptions on capital gains in December 2014 and the introduction of new macroprudential loan-to-value and loan-to-income limits in February 2015 (...), the market somewhat cooled off: residential real estate price growth decelerated in late 2015 and the number of mortgage approvals temporarily declined.</p>
<p>Korea (August 2016)</p>	<p>House prices have been rising in the Seoul metropolitan area, while prices in other regions have weakened after increasingly rapidly over the past few years. Overall, house prices do not seem overvalued according to the usual affordability metric.</p>
<p>Lithuania (May 2016)</p>	<p>With credit growth moderate, real housing prices some 30 percent below their 2008 peak, and low financial depth, there is no evidence of imminent financial risks emerging.</p>
<p>Luxembourg (May 2016)</p>	<p>On the housing market and in light of ever rising housing prices, the authorities should explore the effectiveness of recent measures in containing risk and whether further macro-prudential measures such as limits to loan-to-value ratios in addition to those already taken in 2013 would be appropriate.</p>

Malta (January 2016)	While the default rates on mortgages and household indebtedness have been low, further consideration should be given to precautionary measures, such as loan-to-value (currently at 74 percent for residential and 69 for commercial in 2014) and debt-to-income ratios, given the rapid increase in mortgages, relatively high overall exposure to real estate, and pick up in real estate prices.
Malaysia (May 2016)	House prices are still growing but prices of high-end properties in Kuala Lumpur have declined slightly. Given the slowdown in loan growth and in housing, no further measures are recommended. LTV caps on second and first mortgages should be considered if rapid house price and credit growth were to reignite.
Montenegro (March 2016)	Property prices have continued to fall from their crisis peaks, in part because Russian buying has fallen.
Morocco (February 2016)	There is little evidence of a housing bubble, as the price increase over the past 10 years appears modest relative to nominal GDP growth.
Netherlands (January 2016)	The turnaround in house prices presents an opportunity to implement policies to better insulate Dutch households and the overall economy from the effect of future house price declines and remove some of the incentives for excessive leverage—thereby reducing the likelihood and intensity of boom-bust cycles.
New Zealand (February 2016)	House price inflation in Auckland has remained high. House prices in Auckland (where about one-third of the population lives) have continued their strong upward trend, rising by 22.5 percent (y/y) in December 2015, and the housing inventory available for sale remains low. Moreover, prices in neighboring areas are beginning to accelerate as buyers are priced out of the Auckland market. Supply shortages are a fundamental driver of house price inflation, exacerbated by high net immigration.
Norway (July 2016)	High and rising house prices and household debt in Norway pose important macro-financial stability risks. Real house prices have risen more than 80 percent in Norway since 2000. Currently, house prices are estimated to be 40 percent overvalued.
Peru (July 2016)	Housing prices, as reflected by the median apartment prices in Lima, appear high although the price increases since the second half of 2014 have been more subdued than in the previous four years (...). This may not accurately reflect the segmentation in the market, where there is an oversupply of high-end condominiums in certain residential areas in Lima while low-income housing is in short supply.

<p>Poland (July 2016)</p>	<p>Credit standards on loans have remained broadly unchanged in recent quarters, with the exception of housing loans, where standards tightened on the back of new prudential recommendations and reduced appetite among some banks for expanding the housing loan portfolio.</p>
<p>Portugal (September 2016)</p>	<p>On the real estate side, Portugal has 5.9 million housing units with an estimated value of €300 billion. House prices rose 9.9 percent between 2013Q1 and 2015Q4. Accordingly, the estimated value of the real estate assets owned by households increased by €25 billion, while household savings declined by €5 billion.</p>
<p>Slovak Republic (January 2016)</p>	<p>While lending to non-financial corporate has declined in the wake of the financial crisis, there has been a continued rapid expansion of bank lending for housing, which increased at an average rate of about 13 percent over the last five years and now represents almost 45 percent of total lending. Banks' exposure to the residential real estate sector is growing fast, with over 75 percent of household lending allocated to house purchases.</p>
<p>Slovenia (May 2016)</p>	<p>House prices increased for the first time in about 3 years.</p>
<p>United Arab Emirates (July 2016)</p>	<p>Real estate prices have continued to decline, but the quality of the real estate loan portfolio has remained resilient. Structural measures taken in 2014, such as the tightening of industry self-regulation, higher real estate fees, and tighter macroprudential regulation for mortgage lending, have helped contain speculative demand for real estate and led to declining prices.</p>
<p>United Kingdom (February 2016)</p>	<p>Housing markets have decelerated somewhat since mid-2014, but significant pressures remain. (...) Persistent upward pressure on house prices partly reflects supply constraints. (...) High house prices result in some households taking on high leverage, posing financial stability risks. (...) Further macroprudential tightening may thus be needed if the reduction in high leverage mortgages does not continue.</p>

Box 1

Stabilizing the U.S. Mortgage Finance System **Richard Koss**

It has been more than eight years since Fannie Mae and Freddie Mac were placed into conservatorship. Repeated efforts to reform the system have failed, due largely to the inability of the political system to form a consensus on issues such as the appropriate level of government involvement in the mortgage market, and the extent to which programs designed to promote homeownership are desirable from a safety and soundness perspective.

In the meantime, the flaws in the system of conservatorship are becoming ever more clear. These flaws are not just a reflection of the structure of the system, but also flow out of the lack of coordination between financial regulation and housing policy. The result is a worrisome surge in the share of mortgage underwriting to the poorly-regulated shadow banking sector, and a trend decline in the net income of these government-sponsored enterprises (GSEs). The systemic risks in the system are rising, and urgently need to be addressed. This can, and should, be done before all the other issues surrounding comprehensive reform are addressed.

There are two technical innovations currently underway in the market that point to measures that can help to stem these risks. First, the GSE's and Federal Housing Finance Agency are building a common securitization platform that will lead to the issuance of a single mortgage security replacing the individual Fannie and Freddie securities. Second, in 2014 the GSE's began to issue Credit Risk Transfer (CRT) securities that represent an effort to share the risk of mortgage delinquency with the private sector. These developments suggest the following reforms:

- When the single security is launched, Fannie Mae and Freddie Mac should be merged into a single enterprise. This will eliminate the “gaming” of the system that allows financial institutions to play one off the other, eroding the profit margins of both.
- The playing field between the banks and non-banks needs to be leveled. This involves a total rethinking of the bank “stress-tests” that deter well-capitalized and regulated firms from mortgage underwriting, leaving the field to the shadow banks. Financial regulations that support ownership of Government National Mortgage Association (“Ginnie Mae”) securities, which are heavily collateralized by mortgages written by non-banks, also need to be rewritten.

- The CRT program needs to be completely restructured, as the current credit-link note structure severely limits the scope of the investor set that can invest in this product.

While these measures together do not constitute fundamental reform of the system, they could provide a stable environment which fosters careful consideration of the longer-term issues.