

Emerging Horizons in Real Estate

An Industry Initiative on Asset Price Dynamics Executive Case Studies

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Foreword

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Foreword by the World Economic Forum

Real estate markets have become more international, particularly with respect to commercial real estate, which accounts for a substantial proportion of the total real estate market. The global flows of foreign investment may make local markets more susceptible to real asset volatility. Even though speculative bubbles show certain commonalities, no single definition and no unanimously accepted single root cause of their development exist. However, it is commonly agreed that underlying mechanisms, such as self-reinforcing feedback loops and groupthink dynamics, lead to property prices well above the level justified by market fundamentals. The development of a speculative bubble can be described as a “social epidemic of enthusiasm”, in which increasing asset prices create further excitement, which in turn attracts more investors.

After the financial crisis of 2007-2008, economists have turned their attention to what they truly know about real asset cycles, since market volatility cannot be explained by models of purely rational choice. Policy-makers are currently reconsidering whether major cycles or “bubbles” can or should be managed in the public interest.

In the first year of the initiative, we tried to understand better the underlying mechanisms of asset pricing and the root causes of asset bubbles, and to investigate leading theories on how to identify and detect emerging cycles. With support from these case studies, lessons were taken from history, and the impact of highly volatile markets with boom and bust cycles were assessed. Facilitated by the World Economic Forum, the Advisory Committee focused their multistakeholder discussions with central bankers, academia and business leaders on how asset volatility can be moderated and its consequences limited. Based on the recent findings, some initial industry recommendations on how policies and strategies might contain and mitigate negative consequences of asset price volatility were developed.

First and foremost, we would like to thank this compilation’s case-study writers for their valuable contributions. This extraordinary collection of insights would not have been possible without their help: Alfonso Humberto Guerra de Luna, Ashutosh Limaye, Craig Hean, Craig Plumb, Dan Greenwald, Daniel Odette, David Rees, Ewald Nowotny, Guo Xiang Yu, João da Rocha Lima Jr, Joe Zhou, Megan Walters, Michael Klibaner, Ndibu Motaung, Neel Lalka, Robert Jalali, Sherril Sheng, Sho Ito, Suvishesh Valsan, Takeshi Akagi, Walter de Luna and Yuto Ohigashi.

Similarly, we would like to highly acknowledge the supporting contributions of our executive case-study review team: Colin Lizieri, David Geltner, Deepak Chhabria, Denis Ma, John Mulcahy, Katja Taipalus, Kenneth Rosen, Kiyohiko Nishimura, Luci Ellis, Michael Waters, Nicholas Brooke, Nicholas Scarles, Olivier Steimer, Robert Booth, Stijn van Nieuwerburgh, Susan Wachter, Taffy Adler, Neil Fraser, Venkatesh Panchapagesan and Yongheng Deng.

This compilation is a direct result of a cooperative process with leaders from government, civil society and the private sector, in particular the real estate and financial services industries, as well as investors. In this regard, we would like to thank and acknowledge the Forum’s Partner companies that served on this initiative’s Steering Committee: JLL, Colliers International, Dalian Wanda Group, Rajesh Wadhawan Group, WS Atkins, Biffinger, RMZ Corp., Emaar Properties, Pine River Capital Management, Acciona, The Perot Companies, Newmark Grubb Knight Frank, BlackRock and Pearson. We would like to specially acknowledge Colin Dyer, President and Chief Executive Officer, JLL, for his relentless interest and commitment to serve as the Chair of the initiative, as well as David Rees, Director, Head of Research, JLL, Australia, and the global JLL team for their exceptional support of this initiative.

Finally, we would also like to thank the many experts, central bankers and those in academia who contributed to the report through their role on the initiative's Advisory Committee, in particular the central bankers Agustin Carstens, Alexandre Tombini, Alfonso Humberto Guerra de Luna, Erkki Liikanen, Glenn Stevens, Julio Cesar Paranatinga Carneiro, Karnit Flug, Katja Taipalus, Luc Coene, Luci Ellis, Nadine Baudot-Trajtenberg and Patrick Honohan, as well as our experts from academia and civil society: Charles Goodhart, Colin Lizieri, David Geltner, Yongheng Deng, João da Rocha Lima Jr, John Mulcahy, Kenneth Rosen, Kiyohiko Nishimura, Nicholas Scarles, Nouriel Roubini, Olivier Steimer, Stijn van Nieuwerburgh, Susan Wachter, Venkatesh Panchapagesan and Warwick McKibbin.

The experience, perspective and guidance of all these people and organizations contributed substantially to a number of remarkable discussions following the World Economic Forum Annual Meeting 2014.

Foreword by the National Bank of Austria

The real estate sector is of special importance for central banks for a variety of reasons. Real estate prices affect aggregate demand and activity through various channels, including the investment and the wealth channel. With bank lending being the primary source of real estate funding, there is a close interaction between real estate prices and banks' balance sheets. In turn, bank lending standards may have repercussions on real estate prices. Real estate booms – especially if they coincide with credit booms – thus create substantial risks for the economy and for financial stability. Bursting booms can trigger severe economic downturns and seriously affect monetary transmission.

The financial and economic crisis that emerged in 2008 has changed the way policy deals with house price booms. Instead of neglecting the boom and “picking up the pieces” after the bust, a new consensus on the need for preventive policies has evolved, leading, among other things, to the establishment of a new macroprudential policy framework at the European level: the European Systemic Risk Board (ESRB). The ESRB has assigned an important role to central banks, which have typically monitored real estate developments closely.

To be able to do this, it takes a thorough understanding of the complex interplay of various demand, supply and structural factors that lead to the build-up of a bubble. Detecting bubbles in real-time is – and always will be – challenging, requiring a suite of techniques embedded in a well-structured approach that also leaves enough room for discretion to enter the decision-making process. Although research carried out at universities, central banks and international institutions has provided us with many insights, many questions still remain unanswered.

Against this backdrop, the relevance of the industry initiative on asset price dynamics for policy-makers cannot be overstated. This initiative brings together the expertise and views of a large set of key stakeholders in real estate (government, central banks, real estate industry, academia, NGOs and others). Substantial differences between countries and regional fragmentation of real estate markets require tailored approaches that take into account all specific aspects. The executive case studies presented in this volume are a rich source of insights into the structure of different markets, into the way bubbles have built up and policy responses. They also demonstrate the relevance of high-quality data for policy-makers.

This project will, hopefully, help to prevent history from repeating itself, or at least reducing the adverse consequences when history does repeat itself, given the high economic and social costs of housing boom-and-bust periods.

Ewald Nowotny
Governor
National Bank of Austria

The understanding of the Real Estate Sector is crucial to promote sustainable growth in our economies. Its strong links with both the financial and real sectors oblige us to make an in-depth study of its functioning, the roots and causes of asset price bubbles, and the macroprudential measures we can implement to smooth real estate cycles.

These Executive Case Studies, as a part of the World Economic Forum initiative on Asset Price Dynamics, present historical evidence and compile first-hand experiences as described by key players and experts, contributing to the understanding of this sector through several important takeaways. I will elaborate on three topics that policy makers might extract from this compilation.

First, the real estate cycle is a highly complex issue. The more we read through this essay collection, the more we encounter different aspects to consider. For economic agents (that is, households, financial intermediaries, real estate firms) there are many variables at play: an asset that is purchased today but has to be financed over paid during the next 20 years, interest rates, liquidity factors, monetary and fiscal stimulus (or the lack of them), demographic factors, local regulation, etc. All these variables, when put together, make analysis and required policies more challenging.

Second, as policy makers, we recognize the real estate sector as a source of economic growth, but we have neglected its interconnectedness with the financial sector. The cycle has different stages and we have usually acted firmly during busts, but little during the build-up of imbalances. This usually leads us to damage control policy, when it is usually too late. Several cases presented here emphasize that the timing of policy implementation matters substantially.

Third, we can infer from this compilation that there is a wide variety of policy responses and macroprudential measures that countries have implemented during the real estate bubble busts. They were heterogeneous in terms of the mechanism itself and its efficiency. Policies included stricter credit lending regulation; higher capital buffers; loan-to-value and loan-to-income ratios; greater down payments and the reduction of tax incentives to borrowers, among others. I would add to this list that the correct monitoring of capital flows and their effect in real estate market is of paramount importance.

Overall the lesson from these experiences is that dealing with cycles is a balancing act: policies must ensure that the real estate sector can support economic growth in a sustainable way by putting in place in a timely manner an adequate regulatory framework. At the end of the day, we have to give the real estate sector the importance it deserves if we do not want to repeat the consequences of another crisis.

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Executive Summary: Initial Recommendations

- 1. Market data:** Regulatory authorities will work with the real estate industry to deliver robust and timely market data, analysis and information, including data related to the financing of real estate investment and development, noting the global and national initiatives already under way.
- 2. Transparency and Understanding:** National and international authorities should adopt targets for delivering enhanced transparency, broadly defined, across real estate markets and related markets for securities and derivatives.
- 3. External policy impacts:** The real estate industry should engage with governments and policy-makers at global, national and local levels about the impacts of public policies on the real estate sector.
- 4. Information clearing house (“hub”):** A platform should be established for tracking significant new policies and recent research, and communicating these to senior decision-makers in the real estate, banking and finance sectors, and to public-sector policy-makers. Specific areas of focus might be:
 - The economic costs and benefits of alternative policy options, as applied to real estate sectors
 - Developments in derivative markets and their impact on real estate
 - Global and national reform of the banking sector and the impact on real estate
 - The impact of microeconomic factors, such as planning regimes, bankruptcy processes and consumer protection legislation, on real estate market volatility
- 5. Emerging markets:** Specific policy options are required by emerging market economies (EMEs); the World Economic Forum should provide its convening platform for addressing specific issues arising from asset price volatility in EMEs.

Executive Summary: Key Themes

The executive case studies presented here summarize episodes of asset price volatility in real estate markets, ranging across locations, market sectors and time periods. The cases seek to highlight and summarize aspects of market volatility – causes, the sequence of events, consequences and policy implications.

The case studies are insightful snapshots of complex events; they should be taken as thought starters and are by no means definitive and extensive analyses.

In the spirit of a multi-stakeholder process, the contributors to and reviewers of these studies are as diverse as the markets they describe: central bankers, academics and real estate market practitioners, including developers, investors, researchers and brokers. Therefore, perspectives are rich and underline the diversity and complexity of the issue.

The case studies were broadly selected to illustrate diversity; they cover a broad spectrum across global regions, types of real estate markets and stakeholder perspectives. Nevertheless, some broad unifying factors emerge. These similarities are as interesting and important as some of the main differences.

1) Cycles arise from multiple causes

While a market cycle’s principal driver can often be identified, such as financial market deregulation or monetary policy easing, cycles typically require a set of mutually reinforcing events or factors, as captured in the UK case study. Several of these triggered a boom in the London commercial real estate market of the early 1970s, and a subsequent bust in 1974: the concurrence of a strong business cycle, a lagging property development cycle further constrained by regulation, an accommodative credit cycle enhanced by banking liberalization, and a misguided monetary policy.

The Asian financial crisis can be identified as the proximate cause of the housing market downturn in Hong Kong after 1997. However, factors contributing to this situation included the handover of power to mainland China, as well as:

- Limited land supply
- Negative real interest rates associated with the pegging of the Hong Kong dollar to the US dollar in 1983
- Strong underlying demand, with a high proportion of the population in rented accommodation
- Expectations of strong future demand from mainland China
- An inelastic supply response, due in part to the quasi-strata title system

The Tokyo case study identifies the Plaza Accord of 1985 and the resultant monetary easing as the main causes of the subsequent boom in land prices. But, to complete the picture, a valuation methodology is required that is based on comparable sales, aggressive lending by financial institutions, a growing conviction that “land values will never fall” and a series of abrupt monetary policy changes.

A positive policy takeaway from the “multiple factor” explanation of market cycles is that an emerging cycle can be interdicted at several different points; and, that an array of policy tools and strategies may be required to effectively counter a potentially damaging market cycle.

2) Macroeconomic policies can be a constraining factor

Exchange-rate regimes emerge prominently in several of the case studies as a contributor to real estate market cycles. The Scandinavian case study identifies the peg to the Deutschmark as a source of difficulty. In Hong Kong, the fixed link to the US dollar resulted in an extended period of negative interest rates that was one of several factors boosting investment in residential property. In contrast to Hong Kong, where the fixed-exchange-rate regime resulted in interest rates that were too low, the Scandinavian case study showed interest rates that were too high, attracting inflows of cross-border capital. In Ireland, the decision to join the Eurozone removed the option of using monetary policy to deal with an overheating real estate market. Many case studies identify cross-border capital flows as a factor driving market cycles – for example, Mexico and Ireland. The Ireland case study observes that if monetary options are not available, fiscal policy must be strongly countercyclical for a small economy in a currency union. Even with a floating exchange rate,¹ central banks inevitably confront a range of policy trade-offs, with real estate only one of many claiming priority attention.

A policy implication is that the specific policy tools available to deal with real estate market cycles will differ, country-by-country, depending on the specific macroeconomic options available to policy-makers.

3) The long, slow build-up is reason to be cautious

A long, slow build-up is a feature of many market cycles. A long build-up creates a false sense of inevitability, as in the belief that “land prices will always rise” (Tokyo case study), supported factually by a steady rise from the Second World War to the early 1990s. In the United States, the almost unbroken rise in nominal house prices between 1941 and 2006 supported a similar conviction. For the London office market, the late 1950s held the seeds of the downturn in the early 1970s, as demand rose because companies relocated headquarters to the capital. In Ireland as well, a period of genuine growth and appreciation of property values led to confident expectation that the trend would continue. Dubai has a similar story.

A long build-up poses challenges for policy makers. No one fires a starting pistol to mark the beginning of a boom and, as in the case of Ireland, the Sydney office market, the Dubai residential market and many other examples, a boom’s early years are often associated with genuine growth in demand, when sharp increases in rents and values provide an important and necessary signal that space is scarce.

4) Discontinuities, asymmetries and policy shifts are part of many cycles

Diverging from the “long, slow build-up” scenario, discontinuities are also a feature of many cycles. Political events such as regime change, as in Hong Kong and South Africa, are associated with big portfolio shifts in small markets, as investors seek to anticipate, or to capitalize on, future political events. Long-term benchmarks are no longer relevant, while new benchmarks are yet to be validated. Dubai has grown from a population of 370,000 in 1975 to more than 2 million in 2012, rendering retrospective benchmarks largely irrelevant. The decision to allow foreign investors to acquire the freehold title in 2001 set in motion the trail of events leading to the subsequent dramatic cycle.

In Germany, reunification in 1989 led to a building boom and subsequent oversupply of housing, while declining growth caused real house prices to fall until 2010. A diverse range of shocks hit the Scandinavian countries: oil prices (Norway), the loss of the Soviet export market (Finland) and the exchange-rate-mechanism currency crisis (Sweden).

Some market shocks are unavoidable; others arise from unanticipated or maladroit policy actions. In the 1960s, the UK government discouraged new office development in London, but reversed this position in the early 1970s. The shift of the Bank of England’s minimum lending rate (MLR) from 7.5% to 13% in 1973, together with the imposition of rent controls and the reinstatement of a development tax to curb profits, shocked the credit markets. These moves led to defaults en masse by overextended property developers with revolving short-term loans. The Tokyo case study identifies abrupt changes in government policy as a contributor to the market downturn.

Policy-makers confront a shifting range of priorities.

Real estate markets are likely to be low on the list in many cases; the onus is thus on the real estate sector to make its case and, where necessary, adapt to changing conditions.

5) Research and good data are essential

While clear rules and prescriptions are attractive for countercyclical policies, judgement and experience play major roles. Demand was miscalculated in Mumbai; and, among other examples, research was inadequate or accorded a low priority by decision-makers for the Sydney central business district (CBD) in the late 1980s. In Japan, valuations were based only on comparable sales rather than an assessment of market fundamentals. The inability of banks in Scandinavia to evaluate credit risk, following decades of regulation, finds echoes in the Australian experience of the late 1980s. Dubai is another market citing a lack of good data that contributed to the overinvestment in real estate in 2006-2008. Moreover, the Ireland case study notes that good regulators need good data; high-quality data on Irish credit markets was simply not available for much of the boom period.

Policy settings and responses are dependent on data availability, which varies substantially. In many emerging markets in particular, liquidity is low, market transactions are opaque and reliable historical evidence is unavailable.

6) Local factors can be decisive

National or global drivers set the scene for many of the case studies, but local or microeconomic factors can be decisive. Tax systems that favour debt over equity (as in the Scandinavian case study and the residential market study for Germany, Austria and Switzerland [DACH]) contribute to highly leveraged real estate markets, particularly when combined with high marginal tax rates on income and, for example in Switzerland, the non-taxation of capital gains. In Mexico, a “dual index mortgage” instrument, which allowed for negative amortization, exacerbated the loss of home equity when house prices started to fall after peaking in 1993. While credit is seen almost universally as an invariable ingredient of market booms, volatile flows of cash buyers and an absence of capital controls, as identified by the Dubai case study, are sources of instability.

The “quasi-strata title” apartment ownership structure in Hong Kong is also identified as a contributor to market turbulence because it slows down the supply response to price rises. The misalignment of rapid shifts in demand for residential and commercial space, combined with low short-term elasticity of supply, is generally agreed to be an obvious source of price volatility in real estate markets. However, the Sand States case study of residential real estate markets in selected US states notes a reverse possibility – that a rapid supply response can lead to an overhang of stock, if demand falls rapidly.

The microeconomic underpinnings are emphasized when markets, subject to broadly the same macroeconomic factors, deliver very different outcomes. Examples of these “controlled experiments” are:

- a. Residential markets across different US states – the Sand States case study notes that the role of credit expansion is the differentiating factor in those states, through channels of subprime loans and alternative mortgage products. The concentration of these instruments was disproportionately high among these states.
- b. Residential markets across different European countries – the DACH case study notes that house prices saw a strong correction in Estonia, Ireland, Greece and Spain after the bubble burst in 2007 and 2008, while prices behaved quite differently in the DACH countries.
- c. Office markets in selected Indian cities – Developers in Bangalore usually commit to commercial buildings in consultation with occupiers, thereby having a better understanding of future demand. In Mumbai, however, developers typically gauge the market sentiment and construct space on a speculative basis.

Planning regimes can make a difference, as illustrated in South Africa, where business was attracted away from central Johannesburg. And, the Ireland case study notes that the impact of zoning and permit policy was to direct construction away from the important urban centres, which are now already experiencing shortages of housing and office space. The sequence of policy changes can also be a factor; the Scandinavian case study advises that tax reform should come before financial deregulation. Overall, the microeconomic insights caution against applying general solutions to asset market volatility.

Policies at the local or microeconomic level – consumer protection legislation, planning policies and financial distress work-out regimes – can make an important, if not always a decisive, difference in how cycles play out. And, microeconomic policies should be addressed before a market boom emerges.

7) Feedback loops are a common feature of cycles

Feedback occurs in a number of contexts, with the labour market particularly prominent. In Ireland, for example, the construction sector went from employing 7% of the workforce in the 1990s to over 13% in 2007. The Sand States case study also identifies employment as an important factor in transmitting the downturn. After the construction sector created 25% of new jobs in 2003-2006, the downturn, with resulting job losses, was intensified by mortgage defaults and house price declines. In Hong Kong, declining apartment prices led to contraction of household balance sheets and sharp falls in consumer spending.

Changes in household saving behaviour are often associated with a real estate market downturn. A negative savings rate in Hong Kong, India and Scandinavia was one indicator of a booming real estate market. With Dubai's boom in construction activity, its real estate sector accounted for more than 25% of gross domestic product in 2008-2009.

Financial deregulation has been prominent in establishing feedback loops in a range of office markets. Relaxing constraints on credit availability increases demand for office space. Competitive forces may cause banks to lend aggressively to increase or defend market share.

The UK case study notes that recurrent building cycles, when coinciding with expansionary credit cycles, can result in a feedback loop of asset inflation, overgearing and overlending to the property sector.

Policy-makers should observe that the real estate sector is large and volatile, with linkages across the entire economy. As a result, policies should take real estate implications into account, even where a policy's primary objective may be elsewhere.

8) What are the seeds of the next boom?

Some of the case studies implicitly warn that the seeds of the next boom are being planted. The Hong Kong case study notes that structural factors contributing to the run-up in prices remain in place today: negative interest rates, rising demand and limited land supply. Residential property prices in Dubai again accelerated from late 2012, although the case study indicates that good reasons (i.e. a range of regulatory changes) exist for the forthcoming correction to be less dramatic. The most recent data suggest a return to stable market conditions. However, Ireland already reports a scarcity of office and residential space, attributed in part to unsatisfactory planning policies during the pre-2008 boom years.



United Kingdom – Mind the gap: the building cycle in the 1974 London office market

Executive summary

The concurrence of several factors – a strong business cycle, a lagging property development cycle further constrained by regulation, an accommodative credit cycle enhanced by banking liberalization and a misguided monetary policy – triggered a boom in the London commercial real estate market of the early 1970s, and a subsequent bust in 1974.

Due to overlending to the property market and excessive gearing, the property market crash and ensuing loan defaults created a significant banking crisis. The Bank of England sponsored a rescue package dubbed “the lifeboat operation”, wherein the major clearing banks, along with large insurance and pension companies, participated in providing funding to the troubled secondary banks that were overexposed to the ailing property market.

Some believe that the 1974 real estate bust and associated banking crisis were exceptional, resulting from poor public-policy decisions and flaws in banking regulation. However, subsequent boom-bust cycles and crises have revealed several common factors. Recurrent building cycles, when coinciding with expansionary credit cycles, can result in a feedback loop of asset inflation, overgearing and overlending to the property sector. The real estate market thus becomes prone to an abrupt end-of-cycle bust if the cost or availability of credit is reversed too swiftly. Indeed, the property market’s interconnectivity with the financial sector poses a systemic risk to the overall economy, if capital values should drop suddenly and extensively.

Keywords

London office market, banking crisis, building cycles, asset bubbles

Background, context and situation

Metropolitan London is the largest office market in the world (in terms of capital value) and the dominant real estate market in the UK economy. The real estate market in general, and the London office market in particular, experienced a prominent boom in the early 1970s and a pronounced bust in 1974.

London’s growth as a financial centre resulted in a constant increase in demand for office space. The growth gained momentum in the late 1950s, coupled with the accelerating trend of national companies to relocate their headquarters to the capital. Building regulations and fiscal policies, instituted by the 1964 Labour government, aimed to discourage new developments in London and stifled the supply of new office buildings. Moreover, regional incentives prompted



developers to relocate projects to the suburbs. However, despite incentives, major financial and business service firms were unwilling to relocate to peripheral regions and cities. The resulting supply-demand imbalance caused office rents to increase substantially – 235% in real terms between 1965 and the peak in 1973.

The Conservative administration under Prime Minister Edward Heath (1970-1974) relaxed building regulations and reformed tax policies to help encourage new construction and mitigate London’s supply shortage. Moreover, to combat the sluggish growth and high unemployment that plagued the national economy, the administration instituted an expansionary economic policy. Taxes were cut, the Bank rate was reduced from 7.5% in 1970 to 5% in 1971, and the money supply increased (the M3² rose by 73% from 1971 to 1973). The easy credit policy stimulated bank lending that flowed disproportionately to the property sector (increasing from £343 million in 1970 to £2.83 billion in 1973), and was mostly by lightly regulated secondary or fringe banks with less stable funding sources than well-established clearing banks.

As a result of abundant debt capital, London commercial property prices spiked rapidly, and development boomed. Despite rising inflation, property returns increased in real terms from an average of 1.55% (1965-1967) to 14.2% (1971-1973).

Analysis

- 1. Strong business cycle:** London’s commercial real estate market recorded a rise in occupier demand for office space and increased floor space per worker, primarily because of the financial sector’s expansion (international banking, financial services) and public-sector demand for space in central London.
- 2. Property development cycle:** London was considered as a speculative development market because of a lack of prearranged tenancies. A lag existed between occupier demand and supply of new space, which took several years before reaching completion. The temporary shortage of space resulted in rising rents and capital values.



3. **Price disturbance due to regulation:** The Labour administration of 1964 enacted legislation limiting new office development (Control of Office & Development Act of 1965); imposed taxation (Land Commission Act of 1967) on property development gains, thereby disincentivizing new construction; and introduced the corporation tax (1965) that favoured direct ownership of property assets. Together, these regulatory changes stimulated investor demand while constraining supply, hence exerting more upward pressure on values. These policies were later repealed by the Heath administration to alleviate the supply shortage. However, by then, easy credit was providing further stimulus for price inflation.
4. **Credit cycle expansion:** As part of the expansionary economic policy of the Heath government, low interest rates and an increasing money supply resulted in a lending boom. Since property values were rapidly increasing, banks concentrated their lending to this sector, and gearing ratios increased beyond traditionally safe levels (up to 100%). Developer-borrowers were servicing their debt with additional loans solely in anticipation of capital appreciation.
5. **Financial liberalization:** Sections 123 and 127 of the Companies Act of 1967 had spawned a category of secondary (fringe) banks without explicit regulatory oversight. These financial institutions relied on the ever-growing money markets as a source of funding. The Bank of England's laissez-faire stance towards the loosely regulated secondary banks can be criticized for failing to notice their overconcentration of lending to the commercial building market. The 1971 Competition and Credit Control plan also propagated banking deregulation by removing lending ceilings and lowering the reserve ratio, thereby releasing credit for lending. Deregulation resulted in increased competition among banks for market share, which led to the lowering of underwriting standards and increased risk-taking through highly leveraged loans.
6. **The economic shock:** The unanticipated shock of the 1973 oil crisis further accelerated the UK inflation rate, prompting the Bank of England to precipitously raise its minimum lending rate (MLR) from 7.5% to 13% in 1973. The property developments financed by short-term bridge loans (that were susceptible to rate hikes) faced liquidity problems and were unable to meet their debt-service obligations. Simultaneously, property values stalled because of rent controls and a reinstated development tax that curbed profits. The sudden shock led to defaults and began a self-reinforcing cycle of capitulation in the property market.
7. **“Lifeboat operation”:** The Bank of England, with the cooperation of UK clearing banks, established a liquidity fund of £2 billion-3 billion to support the banking system. Moreover, institutional investors (financial, pension and insurance companies, who were often creditors to property companies) were encouraged to take over their collateral, rather than force a distressed asset sale that would further depress values. Institutional investors thus became increasingly involved in direct ownership of commercial real estate.

Key insights

1. Public policies aimed at stimulating the commercial real estate market should consider the lag between signals of user demand (a function of the business cycle) and new supply (a function of the development cycle). Legislation to promote new development only reaches maturity several years later, and in a potentially different economic climate. The Labour Party's prohibitive building policies, subsequently reversed by the Conservatives, distorted the natural cycle of development. Indeed, the shift in policy was, itself, a shock to the system and exasperated the natural cycle.
2. Financial deregulation may lead to a race to the bottom for yield. Moreover, without adequate regulatory oversight, a concentration of risk can develop through overlending to a single sector and gearing above prudent levels. The Heath administration's reaction to the

overbuoyant property sector was too little, too late. While commercial rents were temporarily frozen in 1972, and the 1973 White Paper proposed a development tax on property profits, these measures were not adopted in the subsequent budget. A recurring theme in credit-induced boom-busts is that new lending channels appear, often outside the conventional regulatory system. The banking-property-crisis nexus emerged in the secondary banking market, with lending outside the formal regulated sector. The Bank of England had little sanction over the secondary banks' lending practices, as the banks still had links into the overall financial architecture, with systemic effects.

3. The effects of monetary policy on all important economic sectors should be considered. Most central banks have a dual mandate of ensuring price stability and promoting full employment. However, an expansionary monetary policy does not necessarily achieve these objectives and may even adversely disturb equilibrium asset prices. In this case, as in many similar events, a period of low interest rates encouraged overleveraging, so that a subsequent rapid rate increase resulted in liquidity problems and defaults. The unprecedented jump in the Bank of England's MLR from 7.5 to 13% within a few months shocked the credit markets, and led en masse to defaults by overextended property developers with revolving short-term loans.
4. The commercial real estate market is inherently connected to other important sectors of the economy – construction, business and, most importantly, banking. Each sector, with its distinct cycle, is susceptible to certain exogenous shocks that can spread contagion to other sectors via the real estate market (the common channel). Prudential supervision and regulation of the property market should be continuous and countercyclical, rather than discrete and procyclical.

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Ireland – From boom to bust: the Irish experience

Executive summary

Following a sustained period of rapid growth and inclusion into the Economic and Monetary Union of the European Union (EMU), Ireland entered a boom driven by a huge expansion of credit to the construction and real estate sectors. Real estate prices, bank credit, foreign assets and liabilities soared during this time. Weak lending standards, combined with inadequate bank regulation, poor land use planning and property tax incentives, eventually led to enormous loan losses on housing and commercial real estate, leading to a major banking crisis. Government interventions, which cost up to 40% of gross domestic product (GDP), and plummeting tax revenues combined to create exploding debt, requiring intervention by the International Monetary Fund (IMF). Fiscal policy that failed to lean against the boom made it impossible to lean against the bust (due to the fiscal crisis), exacerbating both the bubble and the crash.

Keywords

Banking crisis, bank regulation, credit boom, fiscal policy, poor land use planning

Background, context and situation

The Irish economy grew rapidly in the mid-2000s, driven largely by huge growth in the construction and real estate sectors. Construction in particular went from employing roughly 7% of the workforce in the 1990s to over 13% by

2007. A bank lending boom, financed largely by banks borrowing on international credit markets, helped to finance this growth. Bank credit to the private sector nearly doubled, from 105% to 200% of GDP in 2000 and 2007, respectively.

Real estate prices surged, and by 2007, house prices had reached 3.5 times their levels of the mid-1990s, adjusted for inflation. Credit standards loosened, and mortgages with loan-to-value ratios of 100% or more began to be frequently offered at this time, even to middle-income and first-time borrowers. By 2007, Irish real estate was overvalued, as price-to-rent ratios rose to 60% above their historical averages, but policy-makers hoped for a “soft landing”.

Instead, following the collapse of Lehman Brothers in 2008, the Irish banking system found itself in crisis, with many banks insolvent and requiring massive government support. The Irish government responded with a number of major initiatives. First, many banks were either nationalized or provided with injections of capital. Second, the National Asset Management Agency (NAMA) was created to buy loans linked to land and development banks. Third, and most controversially, the government provided a two-year guarantee (which was later extended indefinitely) of all the banking system’s liabilities, aside from equity and subordinated debt.

While effective at stabilizing the banking sector, these policies had enormous fiscal costs. By 2011, banking interventions had created debt equal to 40% of GDP. During the same period, output and employment fell about 12%. Tax revenues plummeted, leading to fiscal deficits of 11-12% of GDP in 2009 and 2010, even as government spending contracted. By 2010, debt exceeded 100% of GDP, and spreads on Irish debt surpassed 500 basis points. Ireland reached a deal with the European Union and the IMF to address this mounting crisis, obtaining its new debt from institutional sources in exchange for major structural reforms.

Currently, Ireland is on track to close its deficits to 3% of GDP by 2015 (with the debt-to-GDP ratio over 120%), and unemployment has been falling since 2012. However, the costs of the crash have been extreme; by 2015, output is projected to drop by 20% from its pre-crisis peak, and unemployment remains above 11% today.



Analysis

Several factors combined to create an environment conducive to an asset bubble:

1. The regulatory system for banks, utilizing a “light touch” approach to regulation, was unable or unwilling to prevent excessive lending. The system failed on many levels: in analysis of risk, in acting upon perceived risks, and in implementing the (limited) interventions that were decided on.
2. The land use planning system failed to act as a counter balance to the development frenzy. This is in part due to the planning system in Ireland historically lacking strategic joined up thinking and instead focusing on meeting local and political interests. At the national level this resulted in a watered down National Spatial Strategy, which was largely ignored and at a local level bad land use zoning decisions were made, which led to an abundance of zoned land, often in the wrong location and lacking basic. In addition, bankers largely failed to consider land use planning parameters when lending for development projects.
3. The property bubble followed closely after a period of rapid (and genuine) growth, during which property values had appreciated. The extended experience of appreciation and growth led many to believe that the upward trend would continue.
4. Joining the EMU lowered interest rates and increased the access of Irish banks to foreign credit – a critical source of financing for the bank lending spree.
5. Increased financial integration led to new competition in credit markets from foreign banks, particularly those based in the UK, which likely worsened the decline in lending standards.
6. After joining the EMU, Ireland was unable to control its own monetary policy. Interest rates set for Europe as a whole remained low during the boom, whereas an independent Irish central bank could have raised rates to dampen an overheating economy.

Key insights

The Irish experience provides a number of policy lessons:

1. **A “light touch” is inadequate for effective bank regulation.** Banks were reporting positive stress-test outcomes even as late as 2008. Bank regulators need the expertise to analyse bank risk first-hand, particularly for real estate loans, and must be willing to act decisively on their findings.
2. **An effective land use planning and permitting system can help.** Despite a construction glut during the boom, new buildings were so misallocated geographically that important urban centres in Ireland are now experiencing shortages of housing and office space, while more peripheral locations still have a plethora of unfinished estates. A planning system with a strategic and joined up focus at a national, regional and local level could have prevented many of the bad land use zoning decisions and in turn permissions and developments.

3. **Good regulators need good data.** High-quality data-driven models of Irish credit markets were simply not available for much of the boom period, making it difficult for regulators to perceive the extent of the bubble. Similarly, policy-makers lacked sophisticated projections of real estate demand, making it difficult to apply the effective permit policy just discussed.
4. **Fiscal policy must be strongly countercyclical for a small economy in a currency union.** Nations that can neither set interest rates nor revalue their currencies will have very limited options to stimulate the economy following a banking crash. Such countries must therefore cut debt aggressively and build asset buffers in good times, to allow for substantial government spending and borrowing in bad times. This behaviour would have improved Ireland’s fiscal position following the crash, and might also have dampened excessive growth during the boom.
5. **Asset purchase programmes may need to choose between cost and speed.** NAMA evaluated each loan that it purchased on a case-by-case basis, to ensure an appropriate discount. While successful at obtaining valuations, this process substantially slowed the rate at which banks were able to get bad loans off their books.
6. **A European banking federation may be needed.** Ireland extended its extremely costly guarantee of bank liabilities largely because of pressure from European institutions. Perhaps the burden should be shared, since much of the benefit of such a guarantee goes to creditors throughout Europe. Tighter integration of banking regulation would likely be needed in this case to avoid incentive problems.

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Germany, Austria and Switzerland – The need for macroprudential policy measures³

Executive summary

Housing markets in Germany, Austria and Switzerland (the “DACH” countries) differ from those in many other European countries, which saw pronounced boom and bust periods during the past decade. By contrast, real house prices fell in Germany (until 2010) and Austria (until 2004), and the Swiss house price cycle differs from that in most European countries. Among the most important features that ensured housing market stability in the DACH countries during the last decade were well-developed rental markets, low homeownership ratios and conservative lending standards. While tax systems in Germany and Austria do not encourage indebtedness, the Swiss tax system does favour taking on a lot of leverage. Recent house price increases in the DACH countries can be attributed to various crisis-related channels (extremely low interest rates, economic uncertainty, the safe-haven effect and increasing immigration), as well as to demographic developments. The Swiss authorities have already implemented a number of macroprudential measures to safeguard the banking sector.

Keywords

Residential property markets, housing finance, regulation

Background, context and situation

Housing markets in many European countries have seen a pronounced boom and bust period during the last decade. In Estonia, Ireland, Greece and Spain, house prices saw a strong correction after the bubble burst in 2007 and 2008.

In the DACH countries, prices behaved quite differently. National housing markets can differ from each other in many dimensions. This case study aims to compare developments in the DACH countries along several dimensions, with a special focus on financial stability.-

Analysis

1. Idiosyncrasies of house price developments

Germany: The building boom following German reunification led to an oversupply of housing. The weak labour market and declining economic growth expectations during the 2000s caused real house prices to fall until 2010.

Austria: Real house prices peaked in the mid-1990s and especially in Vienna, as migration was high and the city was the designated venue for Expo ‘95 (which was later cancelled). A housing boom in the mid-1990s led to high supply, and real house prices declined until 2004.

Switzerland: The house price bubble of the 1980s burst because of the 1990-1993 recession, and banking-sector problems followed. Real house prices fell until 2000, and have been increasing since.

2. The causes of recent price increases in all three DACH countries

Various crisis-related channels contribute to price increases: extremely low interest rates, economic uncertainty (flight to real assets), the safe-haven effect and increasing immigration. For Germany, favourable macroeconomic developments also play an important role.

3. House prices and fundamentals

Germany: While houses nationwide are not overvalued, they are in cities – by 5-10%, and up to 20% in attractive cities.

Austria: Nationwide, house prices are in line with fundamentals, but houses in Vienna are overvalued



by 23% on average (Oesterreichische Nationalbank's [OeNB] Fundamental Residential Property Price Indicator).

Switzerland: Houses prices are overvalued (UBS Swiss Real Estate Bubble Index).

4. Housing market structure

Homeownership rates are low (53% in Germany, 58% in Austria and 44% in Switzerland in 2012⁴); rental markets and rental regulation are well developed.

5. Tax system

All three DACH countries levy recurrent real estate taxes, which are very low in Germany and Austria because they are based on: historically assessed values; real estate capital gains taxes, depending on the type of residence (primary/secondary) and the duration of ownership; and real estate transfer taxes. Additional fees lead to high transaction costs. The Swiss system differs from that of Germany and Austria, as net housing wealth and imputed rental income for owner-occupied housing are taxed (after deducting mortgage interest expenses).

6. Housing finance

Lending practices in the DACH countries are conservative:

Austria: Foreign currency loans and a high share of variable rate loans constitute some risk. No new foreign currency loans have been issued since 2008.

Switzerland: Pension fund assets can be withdrawn for real estate purchases. However, a new rule has recently come into play: at least 10% of the purchase price for a house must be financed through other equity, i.e. it cannot be financed by a drawdown of pension fund assets.

7. Household indebtedness

This is low in Germany (59% of GDP in 2012) and Austria (55%), but very high in Switzerland (124%).

8. Risks to financial stability

Germany: Risks are considered to be low, as households' indebtedness is moderate and interest rates are mostly fixed. Banks' lending standards are rather conservative, but require further investigation.

Austria: The assessment of overall risk to financial stability is low to medium. Risks mainly stem from the very high share of variable-rate housing loans (83%) and the highest share of foreign currency loans in Europe (24%).

Switzerland: Housing entails a higher risk to financial stability, mainly because of high household indebtedness.

9. Macroprudential framework

Germany: The Financial Stability Commission (FSC, established in 2013) consists of members from the Federal Ministry of Finance, the Deutsche Bundesbank, the Federal Financial Supervisory Authority and, as a nonvoting member, a representative of the Federal

Agency for Financial Market Stabilization.

Austria: The Financial Market Stability Board, established in 2014, consists of members from the Federal Ministry of Finance, the Austrian Fiscal Advisory Council, the Austrian Financial Market Authority (FMA) and the OeNB.

Switzerland: No single authority has an explicit macroprudential mandate. The Swiss National Bank considers ensuring financial stability to be one of its core responsibilities. An informal arrangement exists between the SNB, the Swiss Financial Market Supervisory Authority and the Federal Department of Finance. Self-regulation has been implemented by the Swiss Bankers Association (SBA).

10. Macroprudential policy measures

Germany: The Deutsche Bundesbank has warned that house prices are overvalued in big cities. The FSC published its first report and will continue to carefully monitor developments in the German residential property market. No macroprudential measures have been taken.

Austria: FMA measures addressing foreign currency loans and loans with repayment vehicles were taken in 2003, 2010 and 2013 (recommendations and minimum standards). In January 2014, the OeNB began to regularly publish a housing market valuation indicator.

Switzerland: The SBA established self-regulation in July 2012 – minimum requirements for down payments by borrowers, with at least 10% of the purchase price to be financed by equity other than pension fund assets, and definition of compulsory amortization. The Swiss Federal Council imposed a 100-basis-point (1 percentage point) countercyclical capital buffer (CCB) on banks' mortgage assets in September 2013; and, in June 2014, the amortization period was shortened and rules for risk-weighting mortgages were tightened. In addition, the Swiss Federal Council raised the CCB by 100 basis points.

Key insights

This case study has identified the following important elements that contribute to stable housing and mortgage markets:

1. **A well-developed and regulated rental sector** (as in the DACH countries) is an important factor that helps keep house prices stable.
2. **The taxation system** can have an important impact on house prices and household indebtedness. Incentives towards high household debt can be created, especially tax-deductible mortgage interest expenses. In Switzerland, capital gains are not taxed, which is a further incentive for taking on debt.
3. The Swiss example shows that these incentives, in combination with strong house price increases, can lead to **situations where macroprudential policy measures are needed**.

Scandinavia – Deregulation under fixed exchange rates and a tax code favouring debt

Executive summary

In the mid-1980s, Finland, Norway and Sweden independently deregulated their financial systems, removing constraints on bank lending and capital flows. Bank lending subsequently boomed in the late 1980s as both households and corporate debt grew at a rapid pace, often over 20% per year. In this environment, asset prices soared, consumption boomed and unemployment dropped to historic lows. Beginning in the late 1980s and early 1990s, banks in each country began to suffer large loan losses (3-4% in 1990-1993). A banking crisis ensued, requiring massive government intervention that led to large recessions, particularly in Finland. Decades of operating under heavy regulation left banks unprepared for the credit screening and monitoring required in the liberalized environment. A tax system favouring debt further incentivized overborrowing. Finally, fixed exchange rates meant that central banks could not use monetary policy as a stabilization tool, and uncontrolled interest rate movements exacerbated both boom and bust.

Keywords

Deregulation, banking crisis

Background, context and situation

In the period 1983-1987, Finland, Norway and Sweden independently liberalized their financial systems, removing

restrictions on international capital flows, lending ceilings and liquidity requirements, and caps on interest rates. Deregulation was followed by massive growth in bank lending to both households and corporations. Asset prices soared, consumption boomed (as savings rates turned low or negative), and both savings rates and the unemployment rate fell to historic lows. In Finland, credit to the household and corporate sectors grew by 128% and 63%, respectively, and house prices rose 100% from 1985 to 1989. In Norway, 12-month growth in bank loans stayed above 20% for all but one quarter between 1984 and 1986, and private consumption grew 10% in real terms in 1985 alone. In Sweden, lending increased by 73% in real terms from 1985 to 1990, the stock market rose 118% between 1985 and 1988, and the price of owner-occupied housing grew 99% from 1985 to 1991.

The Norwegian economy entered a slowdown in 1986, following a steep fall in oil prices. The Finnish and Swedish economies went into decline in the early 1990s. In each country, banks suffered substantial losses due to nonperforming loans (loss provisions of 3.4%, 2.7% and 4.8% for Finland, Norway and Sweden, respectively, in the period 1990-1993), requiring massive government intervention in the banking systems. This included direct injections of capital, blanket guarantees of the banking sector's obligations (Finland and Sweden), set-up of a management company for troubled assets (Finland and Sweden) and government takeovers of banks. Each country's economic growth fell substantially, with Finland in particular plunging into a deep recession (real GDP declined by 6.5% in 1991). Asset prices crashed; in Finland, for example, the stock market fell by 57%, and house prices fell by 33% from 1990 to 1993. The three nations also suffered speculative attacks on their currencies, which had been set at fixed exchange rates, and all moved to floating currencies. The banking system was able to stay afloat because of government intervention, with only a single liquidation; and, failed banks were merged into solvent banks.



Although intervention led to high fiscal costs (9.0%, 2.0% and 3.6% of GDP in Finland, Norway and Sweden, respectively), the net costs were substantially smaller (5.3%, -0.4% and 0.2%, respectively), as each government could recover a substantial amount of the funds injected into the banking system, with Norway even earning a positive return. However, the total social costs of the boom-bust cycle, including lost economic output and the misallocation of capital under suboptimal lending standards, were certainly much higher. After the crises, each country experienced a rapid recovery.

Analysis

Contributing factors for the credit boom

While deregulation made the credit boom possible, other factors came from the economic environment itself:

Tax systems

Real after-tax interest rates were low or negative for much of the boom period, given the high marginal rates, deductible interest payments on debt and high nominal rates (due to high inflation). This caused a big demand for credit.

External events

The boom coincided with a global economic upswing, with especially high demand for Scandinavian exports of forest products.

Fixed exchange rates

After a history of high inflation and repeated devaluations, maintaining fixed exchange rates required high interest rates. High rates attracted massive inflows of foreign capital following deregulation.

Principal causes of large loan losses

Large loan losses precipitated the banking crises and subsequent economic turmoil. The principal causes for these losses include:

Inability of banks to evaluate credit risk

In the decades prior to liberalization, heavy regulation meant that banks had faced very little credit risk; excess demand for credit meant that banks could cherry-pick the most creditworthy projects. As a result, banks were ill-prepared to screen and monitor loans, and ended up taking on excessive risks.

Distorted bank incentives

Empirical evidence indicates that moral hazard, herd behaviour, and competition for bank resources between credit screening and credit expansion all appear to have been prevalent.

Factors exacerbating the effects of the banking crisis

While the crisis would have caused major economic harm in any environment, several factors further magnified its effects:

External events

Interest rates rose in Scandinavia in the early 1990s because of pegs to the Deutschmark, matching an increase in Germany following reunification. Monetary policy was therefore contractionary exactly when independent central banks would have been cutting rates to stimulate depressed economies. A fall in oil prices for Norway, the loss of the Soviet export market for Finland, and the exchange-rate-mechanism currency crisis also provided negative external shocks at this time.

Tax and financial reform

Finland, Norway and Sweden reformed their tax systems, reducing marginal rates and the tax deduction of interest payments. This led to an increase in real after-tax interest rates, with a contractionary effect on lending and economic activity. Increased financial regulation to correct excesses of the boom also took effect at this time, further dampening lending.

Key insights

1. **A lack of prudential bank oversight may lead to excessive risk-taking** following deregulation, especially if banks are inexperienced in screening credit risks under the previous regulatory regime.
2. **Deductibility of interest payments in the tax system provides an artificial incentive** for households and corporations to take on debt. This type of policy is likely to contribute to excessive lending in the absence of strict regulation.
3. **Fixed-interest-rate regimes can exacerbate a boom-bust cycle**, as central banks cannot use interest rates as a stabilization tool. In the Scandinavian case study, monetary policy was actually procyclical, stimulating the economy during the boom and contracting it further during the bust – the exact opposite of ideal practice.
4. **Banking crises were not inevitable**, despite external and unpredictable events being major contributing factors (e.g. the fall of the Soviet Union). Denmark is a particularly instructive example, as it sustained similar levels of loan losses but maintained tighter, prudential regulation and avoided a banking crisis.
5. **The timing and order of reforms matters;** undertaking tax reforms before deregulation might have mitigated the lending boom.
6. **Effective intervention was able to mitigate the crisis**, maintain confidence in the banking sector, and deliver a rapid recovery in each case. Norway, in particular, was able to attain these goals without resorting to a blanket guarantee of banking sector obligations. Effective practices included penalizing shareholders and/or senior management of failing banks, applying private solutions when possible (e.g. the Norwegian guarantee funds), and merging failing banks into solvent ones with government assistance in place of liquidation.

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Spain – From an inflated real estate and construction sector to economic depression

Executive summary

Why did Spain's housing market bubble appear? When it burst, the country began suffering through its most severe recession in recent times. The result was Spain's largest-ever financial sector restructuring (at a cost in excess of €100 billion), along with large public deficits, high unemployment rates and other economic imbalances which have yet to be corrected. This case study identifies the bubble's source in a range of macroeconomic factors: the decline in risk premia after Spain joined the Eurozone, imbalances of supply and demand, lax lending standards and incentives that boosted investment demand ahead of supply, resulting in an overhang of properties when the bubble burst. A range of indicators, such as affordability ratios and yield-to-bond spreads, should have alerted the regulatory authorities to the emerging crisis. Some macroprudential recommendations are provided in conclusion, in order to avoid such an event in the future, or at least mitigate its consequences.

Background, context and situation

Spain's economy grew strongly from the late 1990s to the mid-2000s, based on strong capital goods investments and private consumption. Cheap financing of the trade deficit was a procyclical catalyst. The strong balance sheet position of households and the private business sector fostered debt-driven expansion, including strong investment in housing. Spain's inclusion into the EMU eliminated the currency risk and helped to attract foreign funding. The ready availability of funding encouraged low margins and lax credit standards, with a significant mispricing of credit risk.

Investment in housing peaked at 10% of GDP in 2007, well above the 5-6% average contribution in other European countries. Despite the increase in construction, strong growth in investment demand led to rising house prices. By the end of 2007, average prices were more than double those of the mid-1990s. When economic growth decelerated and the bubble burst in 2009, housing capital values declined more than 40% between 2008 and year-end 2013. The collapse of the housing market was one of the major factors provoking a large contraction in employment and government revenue, leading to the severe crisis of 2009-2013.

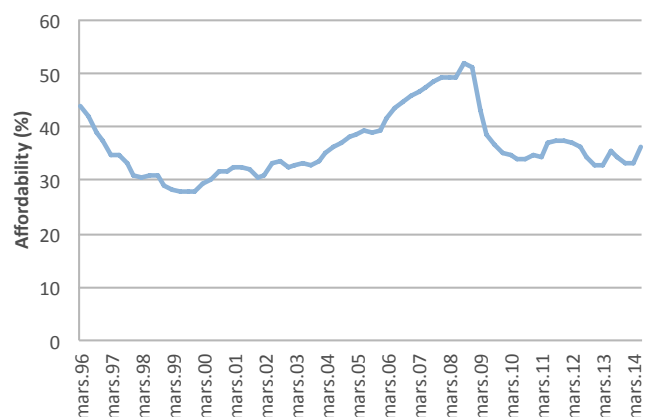


Analysis

A range of indicators were available to alert regulatory authorities, bankers, developers and homebuyers of an impending problem in Spain's housing market:

- **Price-to-disposable-income ratio**
Stable at about four to one from 1996 to 2002, this ratio then began to rise steadily, peaking at close to eight to one in 2007. This high ratio (in historical terms) could only have been maintained if, for valid reasons, structural and sustainable financial-economic changes would have justified such a level. In fact, between 2003 and 2008, the ratio's rise put increased pressure on families and individuals seeking access to the housing market.
- **Affordability ratio**
Calculated as mortgage constant⁵/disposable income, this ratio reflects the interaction of house prices and interest rates. In Spain, housing was most affordable in 2000 when the ratio was below 30% (Figure 1). However, affordability then declined steadily as house prices rose, while interest rates remained low. Affordability peaked at over 50% in 2008 and then declined sharply to about 33% by the end of 2013, impacted by sharp falls in mortgage rates and a 40% decline in average house prices.

Figure 1. Spain: Affordability Ratio

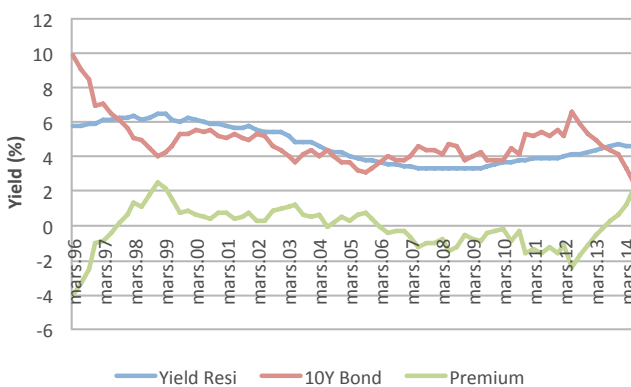




– **Spread of residential yield to 10-year government bond yield (risk premium)**

The yield spread declined steadily, from around 200 basis points in 1998 to trading close to zero between 2002 and 2006, and then plunged into negative territory as dwelling prices rose (Figure 2). The spread remained negative until 2013, but has since risen sharply, returning to 200 basis points in early 2014 in response to the fall in house prices, as well as the decline in bond yields. This path reflects the interaction of low bond yields and falling house prices. In an efficient market with rational investment behaviour, a risky investment's total return (rent/value + g) should be lower than that of a risk-free investment (10-year government bond).

Figure 2. Spain: Yield Spreads and Risk Premiums



Source: Bank of Spain

If these indicators show the existence – and burst – of Spain’s residential price bubble so clearly, how and why did the bubble start? Did signals appear of partially irrational behaviour and/or momentum investing?

Indications of momentum or feedback trading include:

- Large credit-funded investment to fuel acquisitions, as well as lax credit standards* – Mortgage credit growth never fell below 15% per year in 1997-2007, after which it plummeted to 0% in 2009 and has been contracting ever since. The period of exceptionally strong growth coincided with a decline in the average mortgage lending rate, from 12-16% in the early 1990s to 4-6% since 2000.
- Large trading volumes during the bubble’s boom* – Residential transaction volumes were about 1 million units per year in the growth period (2004-2007), compared with about 300,000 units in recent years.

Monthly housing starts rose steadily, from 20,000 in the mid-1990s to about 50,000 in 2006-2007, with the combination of rising prices and high transaction volumes. The boom in residential completions coincided with a sharp fall in investor and owner-occupier demand. The result was a large overhang of unsold houses, exacerbated by regulatory requirements obliging financial institutions to fully and immediately mark repossessed property to market. The current level of 3,000-4,000 starts per month reflects the extent of the collapse in construction activity since 2010.

Key insights

An abnormal increase in credit and strong feedback effects fuelled the large deviation from fundamental value. It was a process that probably found its roots in the elimination of currency risk for foreign credit investors after Spain joined the Eurozone. Growing transaction volumes suggest that additional asset quantities were supplied to the market during the process, creating a large inventory of unsold stock when demand collapsed. This supply overhang put additional pressure on the price correction process from early 2009, after credit was restricted in 2008 and the housing bubble burst. The cancellation of tax incentives to buyers in 2010 limited demand, but has been successful in restoring long-term affordability relationships.

These events lead naturally to suggestions on how to prevent future bubbles. Too many one-sided incentives (tax and/or limited liability) should be avoided, and feedback effects fuelling bubble processes can only be mitigated with a broad financial education programme available to the general public. Financial institutions should continue improving risk assessment methodologies, systems and lending standards. The question remains whether governments should directly intervene once a bubble is under way; it is always debatable, *ex ante*, if and to what extent a market is in such a situation.

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United Arab Emirates – Dubai experiences a typical real estate bubble

Executive summary

The Dubai market has witnessed its first significant real estate cycle over the past eight years. This cycle has many of the characteristics of other immature markets, with unsustainable growth in prices followed by an equally dramatic correction. The four distinct phases of this cycle are:

1. Escalation of prices, driven by a supply shortage and strong capital inflow (2006 to September 2008)
2. Dramatic decline in demand and prices, triggered by the global financial crisis (GFC) and ensuing local debt crises (September 2008 to late 2010)
3. Gradual recovery of demand and prices (late 2010 to mid-2012)
4. Return to unsustainable growth rates in prices and rents (late 2012 to current)

This case study examines the cycle's primary drivers and the lessons learned. Although the market currently has some of the same characteristics of the previous boom, the forthcoming correction is expected to be less dramatic, unless the market is once again subjected to a major external shock of the same magnitude as the GFC.

Keywords

Residential, market maturity, capital controls, excessive investment, GFC

Background, context and situation

Dubai is a relatively young city in global terms. Remarkable growth has occurred over the past 40 years; the city's population, just 370,000 in 1975, is now over 2 million, and it has one of the most dynamic and fastest-growing real estate markets in the world. Jones Lang LaSalle's (JLL) inaugural City Momentum Index (CMI), launched at the World Economic Forum 2014, ranked Dubai as the world's third-most dynamic real estate market, behind only London and San Francisco.

The city's strategic location at the crossroads of Europe, Central Asia, South Asia and Africa has played a major part in this growth, with more than two-thirds of the world's population living within an eight-hour flight time. Significantly, Dubai is the only one of the world's 20 most dynamic cities identified in JLL's CMI that is located between London in the west and Singapore in the east.

Open and investor-friendly regulations, designed to attract foreign investment into the real market, have enhanced Dubai's strategic location. The decision in 2001 to allow foreign investors to acquire freehold title across large parts of the city helped to open up the real estate sector; it also set in motion the trail of events leading to the subsequent dramatic cycle.

While all sectors of the Dubai market have experienced a major cycle over the past eight years, the residential sector most clearly epitomizes this. Movements in average sale prices across the Dubai's residential market illustrate the cycle's magnitude.



Table. Dubai: Average Residential Sale Price

Date	Stage	% change in sale price	Market conditions
Jan. 2006-Aug. 2008	Rapid growth	+ 92	Excess liquidity and limited supply
Aug. 2008-Jan. 2011	Correction	- 36	GFC and local debt crises
Jan. 2011-May 2012	Stabilization	+ 10	Gradual return of confidence
May 2012-Aug. 2014	Rapid growth	+ 61	Market cooling after period of unsustainable growth

Source: Reidin, JLL

The data in the Table relates to average price, with even greater movements occurring in selected areas. Average prices are now about 12% above their 2008 peaks, while rents are still somewhat below peak levels in most locations.

Analysis

While no single factor accounts for Dubai's real estate market cycle, the market's openness to local and overseas capital, as well as the significant level of investment transactions (rather than sales to owner-occupiers), are defining characteristics of its residential market.

The Dubai real estate market continues to attract high levels of investment, with the Land Department estimating more than \$15 billion was invested in the sector over the first half of 2014. Approximately 20% was from local investors, with the largest groups of foreign investors from India (17%), the United Kingdom (10%) and Pakistan (8%), and also from Saudi Arabia, Iran and the Russian Federation. A significant proportion of this investment is in cash, with mortgages accounting for less than 30% of all transactions over the first half of 2014. This makes the market inherently volatile and more difficult to regulate without capital controls.

However, the high level of financial investment is not the only factor shaping the Dubai residential market; each of the following issues plays a part:

- 1. Initial structural or regulatory shock** – Market deregulation, with the freehold sale of land to foreign investors in 2001-2002, set the scene for the subsequent market cycle.
- 2. Supply shortage** – The development industry was relatively inexperienced in the mid-2000s and, consequently, was unable to deliver sufficient high-quality stock to satisfy the burgeoning demand for real estate between 2006 and 2008. While two major mid-market projects (International City and Discovery Gardens) were delivered in this period, supply elsewhere in the market averaged only 20,000 units per year, far less than the demand. Supply levels then fell even further in 2009 and 2010, as cash flow problems hit developers, and many projects were either delayed or cancelled altogether.
- 3. Nation building** – Real estate was identified as a way to promote and support the United Arab Emirates' (UAE) rapid economic growth of the early 2000's. This led to massive investment in ambitious construction and infrastructure projects, with the real estate sector accounting for more than 25% of GDP in 2008-2009. The borrowing to fund many of these projects led to

excessive levels of debt, requiring the government to freeze debt repayments in 2009.

- 4. Lack of transparency** – As with other emerging markets, lenders and investors faced a lack of accurate market data on which to base their decisions. This dearth of information on supply, take-up and pricing contributed to overinvestment in real estate in 2006-2008. While Dubai is the most transparent real estate market in the Middle East, and despite some improvements in disclosure and transparency in recent years, more work is required in this area, as it lags behind more mature global cities in real estate transparency.⁶
- 5. Regulatory environment** – Two areas of the regulatory environment have contributed to volatility in the Dubai real estate market: the openness of the economy, and liberal controls on capital flows. These areas have allowed investment to move in and out of the sector with relative ease, and the sector itself was relatively unregulated in the mid-2000s.
- 6. External economic shock** – The global financial crises severely impacted the UAE economy, with significant growth in 2008 followed by a strong reversal in 2009. The most important effect was a withdrawal of liquidity as well as a withdrawal by foreign and local investors, resulting in a severe debt shortage and the cancellation or delay of many real estate projects. The impact on the residential market was both rapid and dramatic. After peaking in August, average prices fell by about 20% over the second half of 2008, and the market continued to slide through 2009-2010.

Key insights

A clear lesson from the market downturn of 2008-2009 is that speculative money can withdraw from the market quickly and with devastating effect. However, the Dubai market now appears to be broader-based, better regulated and, therefore, less vulnerable than in 2008. JLL therefore suggest that the next correction is likely to be less volatile than that witnessed in 2008-2009.

Recent market data suggest that more stable market conditions have replaced the period of rapid growth in prices. Villa prices increased by just 3% during the third quarter of 2014, while apartment prices saw even less growth (only 1%). This is a welcome slowdown as the market moves into a period of relative stability, with prices expected to move in a relatively narrow range (+/-10%) over the next 12 months in the absence of any external shock.

A number of other factors are likely to result in more stable conditions than those of the previous cycle; these include the following:

1. Significant levels of supply will temper price growth.

Potential purchasers have a wider range of options from which to choose than in 2007-2008. More second-hand stock is now available in the market, in addition to 40,000 residential units expected to be completed in Dubai before the end of 2016.

2. The Dubai market is less dependent on pre-sales than it was during 2007-2008.

While a number of projects were released on a pre-sales basis over the past few months, most of them have been from well-respected developers such as Emaar, and far fewer secondary developers are announcing projects on a pre-sale basis than in 2007-2008. Fewer recent examples exist of master developers selling land plots to subdevelopers; this was a major reason for the previous crash, as these subdevelopers faced funding issues after the global financial crises.

3. More emphasis is placed on phasing projects in line with market demand.

Encouragingly, signs are that developers recognize the need to adopt a more long-term and coordinated approach, with far more emphasis on phasing supply in line with levels of real demand, rather than developing too much real estate too quickly.

4. Better regulations should also help reduce any potential spike in prices.

These include the following:

- The real estate regulator (RERA) now requires developers to demonstrate they have purchased (and entirely paid for) the land, and to lodge 40% of a project's total construction costs in a project-specific escrow account, before any pre-sales can be launched. This should help reduce the amount of highly speculative construction.
- The Dubai Land Department announced two new regulations (the Investor Protection Law and the Code of Corporate Governance for Developers). While neither has yet to be enacted as law, they show a clear shift in government thinking towards better investor protection and the avoidance of another real estate bubble.

5. Regarding funding, both banks and potential off-plan purchasers are more cautious towards the real estate sector.

Given experiences of the previous cycle, banks remain wary about lending on real estate developments when many are still making provisions against nonperforming real estate loans from the last development boom. With this and the tighter restrictions imposed by RERA on "off-plan" sales, the level of available financing is likely to act as a natural anchor, limiting the number and timing of those announced projects that proceed.

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South Africa – The decline and revival of Johannesburg’s central business district: how coordinated action can reverse urban decline

Executive summary

Long since mined out, the presence of viable gold was the only reason for Johannesburg’s establishment. The city is not situated strategically on mountains, rivers or trading routes. It began as a mining camp under colonial and subsequent “apartheid” administrations and then boomed, but it assumed a dysfunctional urban form under laws that separated people along racial lines. The central business district (CBD) was on a seemingly irreversible slide into extreme urban decay by the first democratic elections in 1994. Many buildings were either boarded up or occupied by squatters illegally; the city centre was dirty and unsafe.

Starting with a new “vision” in 1996, developed jointly by government, business and community groups, the CBD gained momentum, very slowly at first, in 2000–2010 through urban strategies, and was “normalized”, encouraged by South Africa’s selection to host the 2010 FIFA World Cup. The city government’s establishment of a development agency, with a remit for area-based regeneration, proved to be a critical decision, as it also encouraged strong partnership arrangements to address many issues in a focused and practical way. The CBD has been “reinvented” as an area for investment, resulting in a strong residential resurgence alongside commercial use, art and culture.

Keywords

Johannesburg, Joburg, central business district (CBD), apartheid, urban decay, office market, residential accommodation, urban upgrading

Background, context and situation

By South Africa’s first democratic election in 1994, Johannesburg, the country’s largest city, was dysfunctional following decades of colonial and apartheid social engineering. Through its first hundred years, no provision had been made to accommodate the majority population’s needs – ownership of all private-sector buildings was in minority hands, and about 80% of buildings were under institutional ownership. Over many decades, many factors had impacted negatively on the CBD. The local authority’s decision in the 1950s to relocate its offices to a neighbouring undeveloped node was seen as a vote of no confidence in the CBD. A number of corporate relocations



followed, and poor private-sector decision-making as well as short-sighted public-sector planning offset a brief mini-boom in corporate office space in the 1960s. While this led to the erection of major new buildings in the 1970s, virtually on the corners of the traditional CBD, it negatively impacted office space clustering and the dispersal of retail.

A steady flow of decentralization followed. In the 1980s, as competing economic nodes, anchored by major shopping malls, were permitted north of the city. These soon attracted CBD tenants; major financial corporations, previously heavily invested in the CBD, actively sought to divest their holdings in it and move their CBD tenants into their decentralized developments. Political paralysis immediately before and after the first democratic elections characterized the 1990s. The newly elected local government had to tackle major internal restructuring of the previous apartheid administration; it also had to redress the underserved townships on the periphery, where most people lived under difficult circumstances. The scale of the issues it inherited overwhelmed the new local government, and those issues were exacerbated by problems the previous apartheid governments had never addressed. One of these was a large demand for appropriately priced residential accommodation in the CBD, which became totally unmanageable and attracted high levels of crime. Urban degeneration and urban flight accelerated. The local authority and the private sector (business and community) agreed on a number of urban renewal strategies, with the local authority becoming more focused and committed to uplifting the CBD in the first decade of the 2000s. The award of the 2010 FIFA World Cup in South Africa became a further catalyst for regeneration.



Analysis

Several factors contributed to the deterioration of the Johannesburg CBD:

1. The CBD's "mining camp" footprint and mentality

Following the discovery of rich gold deposits, the Johannesburg CBD office node developed from a mining camp established in 1886. Mining depended on cheap labour generally housed in poor conditions on the city's outskirts. Thus, from its establishment until the 1990s, the city was designed and managed on racial lines.

2. Poor planning and decision making

No major efforts were made to change the CBD's footprint, which meant narrow streets, small city blocks and limited public space remained. Compounding these problems was a heavy restriction on providing parking in new developments. The proliferation of new economic nodes north of the city, and rezoning of residential space for commercial use along major arterials, impacted negatively on both offices and retail in the CBD.

3. Office market

Major private-sector financial investors largely "controlled" the CBD rentable space. In the 1960s, extremely high rentals drove new investment to the cheaper periphery of the traditional CBD, which dispersed commercial and retail clustering. Many of the same organizations invested heavily in the decentralized nodes, and some were responsible for relocating their CBD tenants to these new developments, creating many empty office buildings in the CBD. Eventually, the organizations sold their poorly performing properties at "giveaway" prices, which impacted negatively on the CBD values. The Carlton Centre (75,355 square metres [m²]; mixed-use) was sold in 1993 for ZAR 33 million (South African rand), or \$3 million (at current exchange rate), with over 70% vacancy at the time; its current value is ZAR 1.5 billion (\$136 million) and is 3% vacant. The majority of the traditional CBD office buildings had floor plates unsuitable for tenants' more modern needs.

4. Residential

Historically, minimal residential accommodation was provided within the CBD. High-density residential accommodation was available on parts of the CBD's periphery. The sheer pressure of the number of the majority population, including migrants from north of the South African border, caused owners of residential accommodation to close their eyes to the apartheid laws during the 1980s and 1990s. The apartheid state's attempts to regulate population movements collapsed; squatters and criminal elements hijacked residential and empty commercial buildings, overcrowding them and retaining the rental income. Services and utilities were terminated because of unpaid rates, and slum conditions emerged.

5. Crime

From 1990 to 2000, crime flourished in the CBD, and commercial and retail flight accelerated to the newer economic nodes. These were perceived as much safer, and had a large middle- to upper-income residential population. Local government was empowered to establish a citywide police force, and CCTV was introduced over a number of years. The creation of City (Business) Improvement Districts, focusing on "crime and grime", were valuable contributors to restoring safety and security to defined areas.

6. Urban regeneration

The CBD's deteriorating condition encouraged the business sector to join with the local community in approaching local government and introducing a number of interventions. International research indicated that intermediary support was missing; as a result, a number of organizations or groups were created that would prove critical in the regeneration process.

- a. A trilateral partnership between business, the municipality and community, the **Central Johannesburg Partnership (CJP)** was created in 1992-1993. The partnership was largely responsible for the first post-democracy vision for the CBD. Later, as a private, non-profit company, and through the creation of Business (or City) Improvement Districts, it focused on security, cleaning and maintenance, upgrading facilities for informal traders and successfully reducing crime. The CJP acted as the catalyst for numerous public-space upgrading projects by brokering public and private financial resources, and was responsible for approaching the provincial government, located in Pretoria, about moving to the Johannesburg CBD.
- b. The **Johannesburg Housing Company (JHC)**, founded in 1995 as a non-governmental, non-profit company, was highly successful in developing innovative solutions to meet the housing needs of low- and moderate-income people seeking a home in the city. Through slum clean-ups, building upgrades, refurbishments and conversions, as well as new-build projects, it developed nearly 4,000 homes, increased inner-city housing stock by about 10%, and transformed what were once decaying buildings into decent rental accommodation.
- c. In 1998, the city government established the **Inner City Office** to coordinate and facilitate all activities in the CBD. The office was converted to the **Johannesburg Development Agency (JDA)** in 2001, with an initial focus on the inner city and a remit to work with local, provincial and central government, as well as the private sector, to stimulate and support area-based economic development. The JDA was later tasked with coordinating the design and construction of a bus rapid transport infrastructure.
- d. The **Trust for Urban Housing Finance (TUHF)** was launched in June 2003 with support from government and private-sector funding. TUHF provides access to financing for emerging entrepreneurs to purchase and refurbish residential buildings within Johannesburg's inner city; its primary aim is to establish entrepreneurs, empower individuals and simultaneously assist with regeneration and urban renewal.
- e. The degeneration and regeneration process introduced a completely **new group of entrepreneurs** who have replaced traditional institutions by their willingness to take risks and be innovative.

The sharp urban decline over the last two decades of the 20th century has been largely stopped, and parts of the CBD are showing very positive upward trends:

- a. Average **vacancy rates** for A and B grade offices:
2003: 40%
2008: 17%
- b. Average office space **rental** (in ZAR):
2003: 18.00/m²
2008: 61.00/m²

The three major constraints to investment are:

- Lack of/poor service delivery
- Crime
- Lack of/poor urban management

Key insights

1. Part of the initial public-sector investment resulted from local authority taking responsibility for providing many of the facilities previously supplied by the CBD. These included large combi-taxi ranks, often with informal trading facilities; a bus rapid transport system; upgrading of public space; and the conversion of city buildings into low-income housing. However, the level of maintenance for new developments/public space, and the lack of enforcement of their own by-laws, have been disappointing.

The private sector is influenced by how it perceives the local authority's visible commitment to and confidence in the CBD. An investment of ZAR 393 million (\$36 million) in specific areas within the CBD/inner city leveraged about ZAR 13.3 billion (\$1.2 billion) in private investment between 2003 and 2008. Private-sector investment has continued at a high rate, as demonstrated by construction of new offices for Zurich Re; a major new retail development in Newtown; numerous refurbishments of commercial and residential buildings into new residential and hotel accommodation; and reinvigoration of multi-use nodes, such as the Maboneng district and Braamfontein.
2. Government at all levels must support the CBDs of major cities by retaining their accommodation in CBDs and not becoming part of the decentralization process, which is largely private-sector-driven. The provincial government's move from Pretoria to Johannesburg is a fine example of this type of support, as is the location of South Africa's constitutional court in the building formerly occupied by one of Johannesburg's most notorious jails of the apartheid era.
3. Partnerships between the local authority and private business are crucial for urban regeneration. Such a partnership was responsible for upgrading the public area in the Braamfontein node adjacent to the CBD, and has subsequently attracted billions of rand in private-sector investment to make this an exciting and sought-after area. Public-private partnerships also drove the upgrading of Gandhi Square (the CBD's main bus terminal), as well as the partial pedestrianization and theming of Main Street and parts of Newtown.

4. Developing various strategies, such as the Vision for the CBD (1996) and the “charter” process of 2000-2010, were excellent ways to advance specified work. Monitoring progress is of little value unless done through a transparent partnership arrangement, with penalties for non-performance.
5. Small investors have shown far greater entrepreneurial responses to the problems of a city in decline than previous large investors.

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Australia – How research and analysis could have limited the amplitude and duration of Sydney’s office market cycles

Executive summary

Following its deregulation, Australia’s financial sector expanded in the late 1980s. Demand for office space in Sydney’s central business district (CBD) rose sharply, the vacancy rate fell to 1.2% in 1987, and real capital values rose by 59% (1984-1989). Rising rents and property values stimulated a wave of new construction. The additional supply came on stream in 1991-1992, just as the economy went into recession. In December 1993, real capital values were 60% below the 1989 peak, and during 1993, the vacancy rate spiked to 23.3%. Office construction was heavily bank-financed, with low levels of tenant pre-commitment.

Thus, financial deregulation facilitated the credit expansion that financed the new supply of offices, as well as adding to demand from both financial and non-financial businesses. A market cycle was inevitable given the circumstances, but its amplitude and duration were extended by abundant and imprudent debt finance, inadequate research by developers and financiers, and an economic recession that arrived just as the office market was most vulnerable.

Keywords

Office, vacancy, deregulation, research

Background, context and situation

Financial deregulation in Australia in the 1980s created conditions for the financial sector to expand, particularly in Sydney’s CBD, and opened the door to new banking and broking institutions. The office vacancy rate fell to 1.2% in 1989, inflation-adjusted prime office rents rose by 41% in 1984-1989, and real capital values increased by 135%. Unsurprisingly, and appropriately, office construction was stimulated, resulting in a 33% net increase of the Sydney CBD’s office space between 1984 and 1992. Many new projects were speculative, with low levels of tenant pre-commitment. The banking sector was heavily exposed to these office developments, as local banks looked to defend, or extend, market share in competition with the new arrivals. The cycle of new supply came on stream in 1991-1992, just as the Australian economy entered a severe recession. In 1993, prime-grade real capital values were 60% below the 1989 peak, and vacancy rose to 23.3%. Weaker demand



for office space was a very minor contributor to the rising vacancy rate, which was almost entirely caused by new construction; occupied office stock in 1993 was only 4.2% below the peak level of 1989.

Analysis

While no single factor accounts for this market cycle, many factors contributed to it:

1. **A structural or regulatory shock** – Financial deregulation occurred in several steps, culminating with the entry of foreign banks in 1985.
2. **An initial market response** – An increase in demand for office space (likely to be of long duration) met a short-term inelastic supply of office space.
3. **Falling vacancy and rising rents** – The market performed its appropriate role as a rationing and signalling mechanism.
4. **A lagged supply response** – Many developers embarked on major projects in an uncoordinated way.
5. **A feedback loop** – Financial deregulation increased the demand for office space, but also increased the availability of credit through the banking system. In addition, competition among credit providers, many of whom were looking to retain or increase market share, lowered lending standards.
6. **State-owned banking institutions** – As prominent lenders to real estate developments, many of these institutions ultimately incurred large losses; larger, non-state banks purchased and thus rescued several of them.
7. **Information scarcity** – Bankers operated in unfamiliar post-deregulation territory, with poor information on commercial real estate market cycles and with limited investment in research and scenario analysis.



8. **Tenant miscalculation** – In a space-constrained market, tenants likely overstated their future needs as an “insurance” against future limitations on their growth.
9. **An economic shock** – The Australian economy entered a severe recession in 1991-1992, just as the bulk of the new office stock came on stream. Tenants’ future space requirements were reduced, and some closed their doors.-

Key insights

1. Beyond the immediate changes contemplated by policy-makers, policy and regulatory changes directed to other sectors of the economy had a significant impact on the Sydney CBD office market. Financial market deregulation had been well flagged, but the timing and process was uncertain. Therefore, **investors should build the risk of regulatory changes into their scenarios.**
2. Financial markets can adapt rapidly to changing environments, and can often even anticipate them through price changes. Real estate markets, however, are slower to adapt because of long supply lags, limited transparency and higher transactions costs. Thus, real estate markets intrinsically have higher levels of price volatility. **Not every market price cycle is a “bubble”.**
3. Real estate financiers and bankers need to take ownership of their own financial exposures, through attention to lending criteria and improved financial modelling.
4. Undisciplined supply, rather than falling demand, was the important factor in the 1992 downturn. **Supply shocks are at least as important as demand shocks, and are often more controllable.**
5. Long time lags were an important contributor to the 1992 downturn. **Mitigating factors would be: more rapid planning approval processes; increased public information about development activity and future inventory levels, to avoid herding behaviour; and reduced transaction costs to facilitate more rapid response to changing market conditions.**
6. While this cycle had clear winners and losers, the net social and economic costs arising from it can be debated. A rational strategy, it could be argued, would have been to allocate resources to office buildings in the late 1980s when capital was abundant, warehouse that space for a few years (if necessary with relatively high vacancy rates) and await improved market conditions, as emerged in the second half of the 1990s. **While headline statistics about vacancy rates and financial losses incurred by investors and banks are informative, they are not conclusive in assessing the net economic and social costs of market cycles.**

Japan – Collapse of the myth of ever-rising land prices in Tokyo

Executive summary

A rapid appreciation of the yen against the US dollar occurred following the G5 nations' Plaza Accord to stabilize foreign exchange rates. After Japan experienced a trade surplus, the Bank of Japan put a drastic and long-term policy of monetary easing in place to suppress a possible recession, until the official bank rate contracted, from 5.0% in early 1986 to 2.5% in February 1987, and an economic boom ensued. In the meantime, the excessive capital supplied to the market flowed to stocks and the real estate market. With the mantra of “the value of land will never go down” – the so-called land mythology – supporting the market sentiment, speculative transactions involving short-term resale became rampant. Between 1986 and 1991, the average commercial land price of the 23-ward area in Tokyo appreciated by 104%.

The Government of Japan began regulating and limiting transaction volumes of financial institutions in March 1990 to cool down the property market and target the property price bubble. However, its impact was far greater than expected, and the Japanese economy entered into a long economic stagnation accompanied by deflation – a period known as the “Lost Two Decades”. From 1991 to 1996, the average commercial land price of the 23-ward area dropped by 73%. This burst of the bubble taught a valuable lesson in the importance of carefully implementing a policy of monetary easing, not only for Japan but for every country in the world.

Keywords

Land, land mythology, bubble economy, Plaza Accord, Lost Two Decades, regulating transaction volume, research

Background, context and situation

After the official bank rate cut in 1986, interest rates continued to fall in Japan, and its banks were no longer able to use traditional methods to make profits from interest margin. On the other hand, the available capital in financial institutions grew significantly because of monetary easing, and that capital flowed into real estate, causing a strong increase in transaction volume. The value of loans from nationwide banks grew from JPY 268 trillion to JPY 458 trillion between the end of 1985 and end of 1991. The Nikkei average grew nearly three-fold in four years, from the closing price of JPY 13,111.32 at the end of 1985 to JPY 38,915.87 at year-end 1989.

At the time, real estate value in Japan was not assessed by its return on investment, but was supported by the so-called land mythology of “the value of land will never go down”, with a heated speculative market that focused on capital gains and triggered the real estate price bubble. Indicating a possible lack of office supply in Tokyo, the Ministry of Land, Infrastructure and Transport announced the “capital reform project” in May 1985, which fuelled competition among



real estate companies and general contractors in acquiring development sites.

The aggressive loan practice by financial institutions to provide financing also helped balloon the number of speculative transactions. As a rule of thumb, financial institutions would generally provide a loan on real estate at about 70% of its value. However, banks at the time often provided loans in excessive amounts, in anticipation of future land-price appreciation.

Under such circumstances, Japan's real estate price bubble ensued until it finally reached a point where worthless land in fields and mountains was sold as speculative investment. Acquisition of property overseas became popular, for example the Mitsubishi Estate's acquisition of Rockefeller Center in New York City, as it was increasingly difficult to source real estate domestically.

To alleviate the excessive property price bubble, the Government of Japan began to regulate lending volume of financial institutions, which suppressed the percentage of real estate loaned against in 1990. The regulation's impact resulted in a credit crunch and a declining appetite for speculative investment that had been supporting high stock and real estate prices, putting an end to the land-price bubble.

As land and stock prices dropped with the recession, the performance of corporations that had received enormous loans from financial institutions declined, and non-performing loans at banks began to expand. The growing allowance for doubtful accounts put pressure on banks' financial condition, causing their business to deteriorate. Major financial institutions escaped bankruptcy when public funds, targeted to aid the banks, were injected after the bubble burst. In December 1999, the maximum amount of public funds that could be used for financial institutions was set at JPY 70 trillion. Despite the government's intervention, many financial institutions failed. In 1997, Hokkaido Takushoku Bank, one of the 13 major banks, and Yamaichi Securities, one of the four major securities firms, went bankrupt and were dissolved.

Analysis

1. **An excessive policy of monetary easing** – Drastic contraction of interest rates caused by a policy of



monetary easing impacted the shift in business for financial institutions and triggered excessive capital flow into the real estate market.

2. **Land mythology** – From the end of the Second World War until the bubble era, real estate prices in Japan had consistently grown, and most of the asset holders had never experienced land price depreciation. This largely caused the never-ending real estate price hike.
3. **Real estate valuation** – Valuation based only on comparable sales, and not accounting for profitability, allowed a proliferation of speculative sales transactions dependent on capital gains, fuelling extreme price appreciation.
4. **The lending practice of financial institutions** – Financial institutions provided loans in anticipation of future property price growth, lending at a higher-than-standard percentage against the asset value, and sometimes overlending. Such aggressive practice was a factor in the increase of speculative real estate investment, and caused a significant increase in loan value that resulted in a prolonged disposal of non-performing loans after the burst of the bubble economy.
5. **The government's delayed response and abrupt shift to monetary tightening** – Faced with proliferating speculative investment and the property price bubble, the government was late in regulating the transaction volume towards real estate financing. As price behaviour served as the basis for implementing finance policy, the abrupt shift to monetary tightening caused a sharp price drop and prolonged stagnation.
6. **The Lost Two Decades** – The end of short-term rapid economic growth led to the financial deterioration of the Japanese government, via expansion of non-performing loans and subsequent injection of public funds that resulted in an extended recession.

Key insights

1. Significant fluctuation in the foreign exchange rate after the Plaza Accord led to a policy of monetary easing. If the excessive focus on exchange rates had been avoided, downscaling the policy of monetary easing may have been possible.

2. Excessive monetary easing caused excessive economic growth. If the Bank of Japan had made a precise judgement on the official rate's level of contraction and the timing of monetary easing, excessive capital may not have entered the market.
3. At the time, valuation of real estate solely relied on estimates of sales comparables from neighbourhood properties. No consideration was given to other valuation approaches, for example focusing on real estate profitability. Real estate's price level during the bubble era was not justifiable from a profitability standpoint, and if that had been used in the process of estimating property value, prices would not have risen so much.
4. Overlending, as well as other aggressive lending practices by financial institutions, helped fuel speculative investment and led to soaring prices. Although this was initially caused by excessive monetary easing, lending judgements based on long-term prospects were desirable, even with abundant cash that required loan allocation.
5. The delay in regulating lending volume, as well as the abrupt shift to monetary tightening, were major factors in the prolonged economic recovery after the burst of the bubble economy. If more attention had been paid to asset price trends, and if the correlation between prices and economic fundamentals had been carefully analysed (instead of a focus solely on price fluctuation), then a soft landing by gradual contraction of monetary easing, in line with economic recovery, might have been possible – and might have shortened the subsequent recession.

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Hong Kong – Back to the 1990s: will history repeat itself?

Executive summary

Hong Kong SAR residential property saw a run-up in prices from the late 1980s through to 1997. The all-grade residential property price index tripled to 364 by 1997 (index 1990=100), and then more than halved to 138 by 2003. Across the market, property prices are estimated to have been 40% above their fundamental level at the peak. A combination of factors outside the property market contributed to the run-up, including:

- Structural factors, such as a limited and densely populated supply of land
- Negative real interest rates caused by the fixed Hong Kong dollar linked to the US dollar
- Underlying demand from the high proportion of the population living in government rented accommodation
- The perception of rising demand from mainland China for residential property in Hong Kong

The Sino-British Joint Declaration of 1984, under which Hong Kong would return to China, established a series of economic and regulatory changes, including a cap on land sales, and saw a rise in economic activity prior to handover in 1997. These transitory changes, combined with long-term structural factors, led to a strong rise in residential property prices. The correction came almost immediately after handover, which coincided with the Asian financial crisis. The simultaneous rise in interest rates saw residential property prices decline by half their value.

The structural factors that contributed to the run-up in prices – negative real interest rates, rising demand and limited land supply – remain in place today. The prevalence of high-rise flats, owned on a quasi-strata title system and in a densely populated area, ensures that supply is extremely price inelastic. The sustained flow of funds into a market with a highly inelastic supply, via the Hong Kong dollar peg and with variable demand, contributes to a boom and bust cycle.

Keywords

High-rise residential, strata title, negative real interest rates

Background, context and situation

Hong Kong SAR comprises Hong Kong Island and a portion of the mainland, the New Territories, which comprise a range of hills and topographical features that make construction challenging. Over 70% of Hong Kong's land area is designated as national parks, further limiting the available land for construction. Consequently, most residential construction is as high-rise apartment blocks,



owned on a system similar to strata title, or deeds of mutual covenant between owners.

The New Territories, held by the British on a lease, were returned along with Hong Kong Island to China in mid-1997 under the Sino-British Joint Declaration, brokered in 1984.

Historically, government bodies in Hong Kong supplied new homes for both rent and sale. Between 1987 and 1997, the private market supplied approximately 30,000 units a year, and government bodies provided 15,000 for sale and 26,500 for rent. While the private market provided a relatively consistent supply, the variance in public housing for sale varied, from about 25,000 units in 1993 to just 4,000 units in 1994, rebounding to 20,000 in 1995. In the mid-1990s, 50% of the population lived in rented public housing; currently, the proportion is closer to 30%, with 15% in subsidized sale flats and the remainder in private housing. Upon its return to China's control, Hong Kong's chief executive announced plans to increase flat supply to 85,000 units per year and reduce the waiting time for public housing.

From 1981 to 1985, real property prices fell because of a combination of rising mortgage rates, an economic slowdown linked to a declining population, and uncertainty associated with negotiations on the return to China.

The pegging of the Hong Kong dollar to the US dollar in 1983 had an important impact on the property market because, as a result, Hong Kong has had negative real interest rates for long periods of time. Interest rates were negative for most of the 1980s, with a brief spell in positive territory in 1985. By 1993, the real interest rate on savings was -8.7%, and remained negative through February 1998. Purchasing property became attractive for savers because mortgage debt was eroded by inflation, and savers faced a lack of alternative vehicles to protect the real value of their savings.

A significant proportion of the Hong Kong government's revenue is derived from land sales. One important aspect of the 1984 Joint Declaration for the handover process was the stated aim to limit annual land sales to 50 hectares from 1985 to 1995, rather than supplying land as the market



needed. This restriction was relaxed in 1994 as part of the government's measures to cool property markets.

A number of infrastructure projects were initiated before the 1997 handover, including the new airport as well as a convention and exhibition centre. The additional investment boosted Hong Kong's economic activity and led to a boom-town feeling, with expatriates arriving to work on the projects during the last few years of Hong Kong under British rule. The boom atmosphere contributed to the perception that property would always be in demand, and that the demand expected from mainland China after the handover would replace that of any departing westerners.

From 1985, a boom started in residential property prices and continued until peaking just after the handover in 1997. Residential property prices rose 193% in 1994.⁷ Using Rating and Valuation Department data indexed at 100 for 1990, the all-classes residential property price index rose to 364 by 1997, after which the index fell to 136 by 2003.

Property prices were estimated to have been 40% above their fundamental level at the peak.⁸ The subsequent bust was triggered by a combination of sharply rising interest rates that coincided with the Asian financial crisis and the end of the handover process. Simultaneously, a decline in demand for residential property could not yet be offset by arriving Chinese from the mainland. Across the market, residential property prices fell on average by 50%, and rents fell by 20%

Analysis

A range of factors led to the boom and bust in residential housing prices in Hong Kong, some of which are still in place today.

The permanent factors include:

- **Limited land supply** – Topographical features and national park restrictions ensure high land prices and dense use.
- **The Hong Kong dollar linked to the US dollar** – This often results in negative real interest rates. Savers have

few alternatives for investing to protect their savings from inflation, thus elevating demand for residential property beyond simple occupancy demand.

- **The large proportion of the population (50% in the mid-1990s, 35% today) in public rented accommodation** – These people were expected to provide a steady source of demand, as more sought to become home owners. These two sources of demand came together in the 1995 government estimate that 13% of people living in public rented housing also owned a private residential unit as a source of savings.
- **A large mainland Chinese population perceived to be on the doorstep** – They are seen as eager to have access to Hong Kong.

In addition, transitory factors linked to the 1984 Joint Declaration and the 1997 handover helped to trigger the boom and bust.

The transitory factors include:

- **The expectation of strong and immediate demand** – This demand for property was seen as coming from mainland China, straight after the handover.
- **A strong rise in economic activity from infrastructure projects (prior to the handover)** – Such projects saw an inflow of immigration demand – often from the United Kingdom, Australia and the United States – for rental property.
- **The limit on land sales (to 50 hectares per year in 1986-1995)** – A limit encouraged the view that the government would not be able to meet land demand, hence prices would rise indefinitely and the downside would be limited. However, even when the government relaxed the restriction in 1994, a prevalent perception was that one “had to buy” before restrictions were reimposed.

- **Housing sales moved to an off-the-plan system** – Housing units were forward-sold before completion; the rate of transactions rose, which was a classic sign of a bubble. The government put cooling measures in place in 1994 and again in 1997. In 1994, the measures were aimed at forward sales, where developers were selling units to speculators who in turn became retail distributors.⁹ Speculator activities were viewed as having amplified price fluctuations.

The price correction trigger did not come from government cooling measures, but from factors outside the property market:

- **A falloff in demand from western immigrants that was not immediately replaced** by Chinese immigration following the handover
- **A currency attack on the Hong Kong dollar** as a result of the Asian financial crisis
- **A sudden rise in interest rates, along with falling consumer price inflation** from lack of demand for rented accommodation

The downturn had a substantial effect on the real economy, and Hong Kong entered a period of deflation. Declines in rents accompanied falling property prices that affected the measured inflation rate. Households with negative equity in their homes tend to save more, thereby reducing aggregate demand and emphasizing the economic downturn.

The Hong Kong SAR government started its first five-year sale programme in July 1997. However, the Asian financial crisis prompted the government to cease land sales by auction or tender from June 1998 until March 1999, in order to counter the downturn in the market.

Key insights

1. Hong Kong has a highly inelastic housing supply with a flexible level of demand from the open economy.
2. The currency link continues to provide a strong inflow of funds – just as it did in the 1990s, along with negative real interest rates.
3. The government policy on land availability contributes to the high price level of flats, while the market's volatility arises from several factors, such as the US dollar-linked exchange rate, the openness of the economy, changing political regimes and abrupt policy changes related to land availability.

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China – Pricking the Shanghai bubble: government intervention in a newly commercialized market

Executive summary

From 1998, China's housing market was reformed – from a state-managed system providing free housing to state employees, to a privatized market in which residents could buy commercial housing on an open market. Shanghai's residential market saw a phenomenal increase in both supply and average prices when the markets for foreigners and locals were merged in 2001–2008. Factors fuelling this growth included strong expansion of gross domestic product (GDP), rapidly increasing incomes, accelerated urbanization, strong household formation and a lack of investment alternatives for residents. Following the global financial crisis (GFC) and a loss of confidence in the market, government stimulus measures further drove rapid growth in house prices. Burgeoning investment demand during this stimulus period in 2009–2010 decoupled prices from market fundamentals, leading the government to introduce policy measures for curbing investment demand and slowing price growth in the residential market.

Background, context and situation

China began to move towards a modern housing market in 1998 with the commercialization of the housing sector, and the introduction of commercial mortgages in 1999. In 2001, Shanghai took a further step towards an open market by merging the separate housing markets for foreign and local residents. The previously isolated market for foreigners (mostly Hong Kong residents) became open to all buyers, beginning a period of rapid growth in the housing market.

From 2002–2007, Shanghai's residential market grew dramatically. Transaction volume in the primary market reached 16.7 million m² in 2006 and peaked at 21.5 million m² in 2007. Prices grew steadily over this period as increasingly more buyers entered the market and the quality of stock steadily improved. Investment, rather than end-user demand, was fuelling much of the market's growth, prompting Shanghai's government to respond by tightening second-home mortgage policies in 2008. However, in the same year, the GFC led to significant worries about the economy's health and caused the first serious price correction ever of the Shanghai market, with prices falling 12.4% quarter-on-quarter in the third quarter of 2008. While the government's massive stimulus plan of RMB 4 trillion (Chinese renminbi) in 2008 helped restore confidence, the Shanghai government also loosened mortgage policies to prevent prices from sliding further and damaging the local economy's health. The rapid economic growth ushered in by the government's stimulus, combined with huge investor demand for new residential units in Shanghai, led to record price growth. The average transaction price in Shanghai's residential market rose by 19.1% year-on-year to RMB 16,040 per m² in 2009, and by a further 35.5% to RMB 21,728 per m² in 2010.

As it became clear that prices were growing at an unsustainable pace, and that investment demand and speculation was generating much of this growth, the government began to introduce policies aimed at curbing investment demand and slowing the pace of price growth in Shanghai. In 2011, Home Purchase Restrictions (HPRs) were used to control investment demand and stabilize prices. Under the new regulations, local residents with two or more homes, and non-local residents with one home, were barred from making any additional home purchases. The purchase restrictions worked effectively to curb investment demand and tame price growth, which was just 2.2% year-on-year in 2011.



Analysis

Shanghai's residential market has several long-term demand drivers that could be expected to spur steady growth in demand and prices over time:

- **Urbanization and immigration:** Shanghai's population grew from approximately 14 million in 2000 to more than 21 million in 2012, creating strong underlying demand for housing.
- **Household formation:** With the average size of households shrinking gradually while new marriages remain high, the number of households has seen steady growth since 2000, increasing demand for housing, particularly for first-time homebuyers.
- **Upgrade of living conditions:** This is occurring in older government-provided legacy housing.
- **Rising incomes and explosive growth of the middle class:** These drivers allow for greater spending on private housing. Disposable income grew at a compound annual growth rate of about 9.9% in 2000-2012.

By 2010, another important factor in Shanghai's residential pricing growth was heavy demand from investors looking to buy residential units to profit from capital value appreciation. This had pushed prices to grow significantly faster than GDP or disposable income. Several factors led to strong demand from investors for residential property in Shanghai:

- 1. A lack of alternative investment options in China:** Due to limitations on outbound investment, Chinese looking to invest their money were confined to onshore investments.
- 2. Historically poor performance of China's domestic stock markets:** The average investor had little interest in buying into the stock market.
- 3. Fixed deposit rates:** Such rates are set by the government and historically have provided very limited returns, with an annual interest rate of 2% or less. Prior to the GFC, inflation rates reached as high as 8.7%, meaning that depositors were receiving a negative real return on their assets at commercial banks.
- 4. Few alternative investment products:** The markets for mutual funds, bond funds or real estate investment trusts were still immature or non-existent in China.

Considering these factors, the residential market became the default strategy for investors in China looking to make a good return on their investment and protect against inflation. Unfortunately, the rapid influx of investment capital quickly drove up prices and made housing less affordable for the average first-time homebuyer, or for the Shanghai resident looking to upgrade living conditions. Moreover, the danger existed that if an asset bubble formed in the residential

market, any rapid decline in prices following a price correction could damage the health of the overall economy and lead to social or political instability.

Key insights

- HPRs and other tightening measures by the local Shanghai government effectively controlled inflation in home prices, and allowed for first- and second-time homebuyers to become the main participants in the market.
- The first use of these measures in 2010 set a precedent for further action by the central and local governments to take an active approach in managing China's residential market. This has prevented market mechanisms from ever fully dictating the direction of home prices.
- From 2011, the government continued to fine-tune policies, including HPRs, mortgage rates and requirements on down payments, to prevent home prices from either falling for an extended period of time or climbing at a faster pace than income growth.
- Many developers had designed and built residential properties in 2001-2010 that primarily catered to investors (an important segment of buyers). After government policy suppressed that source of demand, the lack of housing built for first-time homebuyers and low-income earners became apparent. The second important government measure to control the market, in addition to restrictions on the demand side, was an ambitious social-housing development plan that aimed to address supply issues. From 2011 to 2015, the plan called for developing about 62 million m² of social housing to address developers' failure to build more affordable property.

India – How policy reforms led to bull runs in the Mumbai and Bangalore office markets

Executive summary

In the past two-and-a-half decades, India witnessed two real estate cycles; each had distinctive factors, as well as some that they shared. While the distinctive factors help to understand the Indian real estate market's characteristics, identifying the common factors could strengthen the ability to predict a cycle (or a property price bubble). Besides, cities in India have their distinctive market characteristics and, as a result, they can behave differently during a market cycle. In this case study highlighting the office markets in Mumbai and Bangalore, while both markets exhibited similar trends in broad terms, important differences existed – for example, in price volatility, vacancies and developers' responses. Exploring each market's characteristics and common features across two cycles provides some insight into the indicators that signal real estate bubbles in the context of India.

Keywords

Indian real estate cycles, office market dynamics in Indian cities

Background, context and situation

The first known real estate cycle in India occurred in 1992-1999, after the government had initiated economic liberalization policies in 1991. For the first time, foreign participation was opened for investments, resulting in over 100% average annual growth of foreign direct investment (FDI) inflows from 1992 to 1995. With non-resident Indians and persons of Indian origin buying properties, and foreign

entities increasingly leasing offices in the country, a bull run in real estate prices began in late 1992 and peaked in 1995. At the peak, some of the Indian economy's harsh realities – a limited skilled workforce and limited market transparency, among others – emerged as roadblocks to further growth. A fear of overheating property prices and the Asian financial crisis of mid-1997 undermined sentiment, and led to falling prices, which eventually bottomed in 1999.

The real estate sector experienced its second cycle five years later. India's contribution to tackling the Y2K bug highlighted the country's abundance of engineering talent, and led to a boom in outsourcing information technology (IT). Additionally, the New Telecommunications Policy, Information Technology Act, Special Economic Zones (SEZ) Act and FDI policy reforms, introduced over the next five years, helped create the perfect storm. The bull phase of this cycle occurred during the second quarter of 2005 and the second quarter of 2008, and the bear phase between the third quarter of 2008 and third quarter of 2010.

Broadly, real estate prices in all major Indian cities followed a similar pattern during the second cycle, but with differences in their volatility and impact on key demand-supply variables. The focus here is on variations between the office markets of Mumbai and Bangalore. During the bull phase, while commercial capital values in Mumbai almost tripled, the rise in the Bangalore office market was moderate (about 40%). Bangalore's developers were more aligned with market demand and added 23 million square feet of office space during the bull run, whereas Mumbai developers added only 12 million square feet of new supply. Vacancies in Bangalore remained range-bound at around 8% throughout this phase, while in Mumbai, vacancies dropped significantly, from 12% in 2005 to a low of 2% in 2008. Similarly, during the bear phase, both capital values and rents in Mumbai witnessed a nearly 50% decline; meanwhile, the falls in Bangalore were limited.



Analysis

Aggressive policy reforms can lead to a bull run. Both real estate cycles show a similar pattern of being policy-induced. The earlier cycle followed a massive economic liberalization policy, while the second was a consequence of growth-oriented reforms. Both domestic and foreign investors responded by stepping up investments enabled by cheap and easily available credit.

Heightened investment activity raises capital. More than one-third of the \$22 billion invested in Indian real estate by private equity funds in 2005-2013 came in just one year (2007); this was because India offered yields of close to 11%, when most other major emerging nations offered commercial yields of only 6-9%. Additionally, reforms on FDI, SEZ and favourable IT-sector policies supported the expectation of a long-run phase in the Indian real estate sector. Developers also took advantage of this frenzy to raise cheap equity capital for buying increasingly expensive land parcels. The bulk of the equity initial public offerings from real estate developers was raised between 2006 and 2009, after which raising of capital fell sharply.

Global events usually precede bear phases. In the first cycle, while prices gradually fell as a result of a global economic slowdown, the real damage came from the Asian financial crisis, which led to prices falling sharply. Similarly, in the second cycle, the global financial crisis directly impacted sentiment across all geographies and all asset classes, including real estate. The belief that India could decouple itself from the global economy, solely on the basis of domestic market strength, was proven to be incorrect.

The duration of cycles has shortened. The first cycle was almost seven years, while the second lasted about five. The difference could be due to better access to mortgage funding, cheaper credit, more transparency in the sector, wider participation among buyers, and the developers' ability to quickly react to a situation.

Real estate has inherent local characteristics. Both Mumbai and Bangalore have different real estate market characteristics. As India's commercial capital, Mumbai hosts a wider industry base and has a legacy of residential and commercial development. Bangalore, on the other hand, is highly dependent on industries such as IT-information technology enabled services (IT-ITES) and business process outsourcing, among others. Moreover, the two cities have different developers with different market philosophies. In Bangalore, developers usually commit to commercial buildings in consultation with occupiers, thereby having a better understanding of future demand while also offering customized space. In contrast, developers in Mumbai typically gauge market sentiment and construct space on a speculative basis, predicting a certain level of growth in demand yet increasing the chance that demand will be misjudged during uncertain times.-

Key insights

- 1. The type of industry can influence real estate characteristics.** Different industries have different real estate requirements. Industries such as IT-ITES, pharmaceuticals, fast-moving consumer goods and insurance have a huge employee base at one location and, therefore, require large campuses that are largely built-to-suit assets. Developers of such properties have a better understanding of future demand, as they consult closely with clients. In a multi-disciplinary, industry-based location such as Mumbai, developers find it easier to construct commercial space catering to all industries. However, if demand is misjudged (the chances of which are high in such locations), prices are more volatile.
- 2. Cities need government intervention to help reduce the impact of land price swings.** Much of the land in India's city centres is currently unavailable for development because of political, legal or labour-related litigation; this results in scarcity and rising land prices. Developers may face risks if they buy excess land during the bull phase in anticipation of further price appreciation and future development. Major Indian cities currently need government intervention to release large land parcels that would make real estate affordable in cities and reduce the amplitude of market cycles.
- 3. Bureaucratic hurdles limit developers' ability to react to market situations.** On average, project approvals take about 12-24 months in India, affecting developers' construction plans. A number of developers who acquired land during the bull phase (second quarter of 2005 to second quarter of 2008) could not start construction because of delays in approval. This was evident in Mumbai, where most of the land purchases occurred during the bull phase at high valuations, while building completions coincided with the bear phase. As a result, Mumbai developers experienced higher vacancy rates and falling rents. However, in Bangalore, where approvals were faster, completions often occurred before the market downturn.
- 4. The bull phase can be associated with a weak relationship between asset prices and macroeconomic factors.** Though interest rates and inflation have a fundamental impact on borrowing costs and expectations on returns, this relationship is often weak for all asset classes in a typical bull run. Despite rising inflation and borrowing costs, demand for construction activity and the availability of bank credit for construction rose during the bull phase. Similarly, the correlation between real estate values and equity indices (typically a low correlation) is higher during the bull phase, which may signal the formation of a bubble.
- 5. The regulator must keep an eye on household savings.** When real estate prices peaked in India (in 1995 and 2007), growth in household financial savings became negative, which is unusual for this indicator. Simultaneously, the growth in physical savings rose sharply during the peak year, much above its medium-term average growth rate, and possibly suggesting a bubble in the property market.

United States (Arizona, California, Florida and Nevada)

– Desert Storm: housing boom and bust in the Sand States

Executive summary

The boom and subsequent bust in the US housing cycle of the 2000s was particularly intense in Arizona, California, Florida and Nevada. The amplitude of cycles in these “Sand States” – so called due to their common geographic features – is puzzling, given their high elasticity of housing supply. Indeed, the simultaneous acceleration in prices, along with the growth in the housing stock, brings conventional theory into question.

The secular trend in population growth (two to four times the national average) may have been a factor in the extraordinary house price increases in the Sand States; however, previous housing cycles did not demonstrate a great deal of price variability. The differentiating factor in the recent cycle is the role of credit expansion, through channels of subprime loans and alternative mortgage products. The concentration of these instruments was disproportionately high among the Sand States. Lack of underwriting guidelines further increased the riskiness of these mortgage loans.

Keywords

Housing cycles, subprime mortgages, asset bubbles, Sand States

Background, context and situation

The US housing market experienced a sharp boom in the first half of the 2000s, followed by a steep bust in the second half of the decade. According to the S&P/Case-Shiller 20-city composite home price index, house prices

more than doubled from January 2000 to their peak in July 2006, followed by a 35% drop until February 2012 (trough). The widespread and pronounced decline in house prices resulted in 31% of homeowners (with a mortgage) being in a state of negative equity. The US housing market's decline and associated mortgage defaults are widely accepted as having ignited the national and global financial crisis of 2008.

The price cycle's amplitude was particularly deep in Arizona, Nevada, Florida and inland California (the Sand States). The peak-to-trough change in the house price index for metropolitan statistical areas (MSAs) within these states were: Phoenix (-56%), Las Vegas (-62%), Tampa (-48%) and Los Angeles (-42%). On average, these MSAs experienced a 250% price increase from 2000 to 2006, outpacing the national rate by two-and-a-half times.

The rapid population growth and strong employment increases in Arizona, Nevada and Florida (California tracked the national rate) are certainly contributing factors to these robust housing markets. However, the relatively high housing-supply elasticity in the Sand States, with the exception of coastal California and Miami, means that any increase in demand will be quickly balanced by a boost in new construction. Indeed, this occurred during previous boom periods, when housing supply growth kept prices subdued. The phenomenon that has puzzled researchers and policy-makers is: why did the extraordinary price run-ups coincide with rapid growth in the housing stock?

The Sand States became systemically important because of their disproportionately high share of foreclosure activity. While these states accounted for about a quarter of the national share of mortgages outstanding in 2008, they had over 42% of all foreclosure starts.

Analysis

1. Housing imbalances – In the first half of the 2000s, population growth and economic expansion created a strong demand for housing, which drove up house prices at a faster pace than income growth. According to conventional affordability measures (median income to median home price), housing imbalances emerged by 2005. Strained affordability normally caps demand, as fewer borrowers can qualify for a traditional mortgage.



2. **Non-traditional mortgages (NTM)** – The introduction and expansion of alternative mortgage products, such as interest-only, negative amortization and hybrid ARMs, increased housing affordability by lowering the monthly payment, compared to the traditional fixed-rate, fully amortizing level payment loan. These non-traditional mortgages are not necessarily more risky; however, when combined with lower underwriting standards (no income verification, low down payment), they can significantly amplify the hazard of default. By 2006, half of all NTM originations were made in the Sand States.
3. **Subprime credit expansion** – The disproportionate increase in the share of subprime credit further fuelled housing demand by creating a cohort of homebuyers who would not otherwise have qualified for a mortgage. Rapid house price appreciation masked the deterioration in underwriting standards. However, once prices began to drop in these markets, the rate of foreclosures exposed the underlying riskiness of the subprime loans made to unqualified borrowers. The Sand States had some of the highest concentrations of subprime mortgages. Between 2006 and 2008, more than half of all US foreclosures were on subprime loans with default rates that nearly tripled, from 6% in 2005 to 17% in 2009.
4. **Speculation** – The abnormal pace of house price appreciation in the Sand States attracted speculators to these markets. Irrational expectation about future price appreciation based on past performance is associated with speculation. Non-occupier, investor and second-home mortgage originations increased considerably in Arizona, Florida and Nevada between 2000 and 2005. In California, as prices in the coastal areas reached record levels, speculator demand spilled over to the inland peripheral markets.
5. **Labour market imbalance** – The strong demand for housing in supply-elastic markets of the Sand States led to a construction boom. In 2003-2006, the rate of new housing starts in these states was double the national average. Consequently, job growth disproportionately tilted toward the construction sector, representing one of four new jobs created. By 2008, the spike in unemployment rates ranked California, Florida and Nevada among the ten highest in the country. Job losses in the local economy created a feedback loop that further intensified mortgage defaults, foreclosures and house price declines.

Key insights

1. Conventional theory asserts that house prices rise higher, and housing bubbles last longer, in less elastic markets where supply is constrained. In inelastic markets, an upward demand shock affects price more than it does supply. Conversely, in more elastic markets, demand is met with new construction, and response on pricing is therefore subdued. In principle, once new supply hits the market, the bubble should quickly dissipate. The experience of the Sand States challenges this proposition and underscores cheap credit's role in the housing cycle.

2. As the downturn gathered pace, underwriting guidelines were considerably tightened, and alternative mortgage products disappeared from the market. In September 2008, the Federal Housing Finance Agency placed Fannie Mae and Freddie Mac under conservatorship to avert their insolvency. As a result, the federal government has guaranteed or insured 99% of all mortgage originations in subsequent years. An initial policy of tightening guidelines required a higher down payment in areas where house prices had declined in two out of the previous four quarters. However, due to political pressures from consumer advocacy groups, the “declining market” policy was abandoned in May 2008, five months after its implementation. Critics argued that it had further depressed sales and prices by disqualifying potential borrowers.
3. Securitization is often criticized for creating moral hazard in borrower screening. Underwriters have limited liability because loans are sold to investors in the secondary market. Title IX of the Dodd-Frank Act of 2010 addresses this issue by requiring a 5% risk retention provision in loans eligible for sale to the secondary market. To be exempt from the 5% rule, a qualified mortgage (QM) must meet certain criteria, such as verification of borrower's income, no pre-payment penalty and at least a 20% down payment. Non-QM lending has forced many lenders to season the loans on their balance sheets, ensuring fewer defaults before selling them to investors.
4. Temporary legislative initiatives, and later the Housing and Economic Act of 2008, raised conforming mortgage loan limits in certain high-cost areas of the US, many of which are in California. Conforming loans are eligible for sale to the government-sponsored enterprises for securitization. This source of funding for jumbo mortgages was much needed in the absence of private-label mortgage-backed securities, with issuance evaporated by 2007.

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Brazil – Residential property prices indicate the start of a new real estate era

Executive summary

The Brazilian residential real estate market began a new era in 2005-2007. Initial public offerings of 21 publicly-listed development companies raised about \$10 billion in capital, approximately 70% of which was subscribed by foreign investors. As a result, the Sistema Financeiro da Habitação (SFH), a residential finance system distinctive to Brazil and very different from structures found in major economies, could supply the previously repressed demand for housing. Despite the development power generated by the new equity raised, as well as an excessive issuance of debt instruments by the companies, the expanded construction capacity matched the demand. Illiquid inventories are not apparent.

The new market scale caused an explosion of costs that were initially reflected in land prices. The costs pushed dwelling prices well ahead of inflation, and stimulated the redesign of many projects to meet the limited purchasing power of typical families. This turmoil resulted in a bubble. Between 2005 and the market's peak in March 2011, dwelling prices rose by a compound annual growth rate (CAGR) of 19.4%, compared with a consumer price CAGR of 5.1%. From this point, prices declined by 0.5% by the end of 2013. Since then, prices have remained stable. In the first quarter of 2011, market absorption decreased significantly and land prices stabilized.

Keywords

Bubble, Brazilian residential property prices

Background, context and situation

Brazil experienced a great shift in the residential market starting in 2005-2007, when 21 companies were publicly listed through initial public offerings, raising about \$10 billion to finance the construction of new houses in the country's major cities. This capital, added to construction credit through the SFH, led to a surge in activity that induced a shortage of resources – materials, equipment and qualified workers in different specialities. Urban land prices increased substantially, particularly as new construction concentrated on apartment buildings in central metropolitan areas.

Development costs expanded far above the basic inflation index (IPCA, the consumer price index edited by the Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics)). Thus, offered prices had a cycle of exaggerated growth, particularly after 2009 and until 2011. In 2005-2013, the average annual inflation rate was 5.2%, vs 16.0% for development costs and 16.3% for residential property prices. Over the same period, the average family's purchasing power increased 9.4% per year.

Data on residential property prices in Brazil are based on the IVGR-BACEN index. The Central Bank of Brazil (BACEN) uses this database of the valuations issued for mortgage loans in nine of the country's major metropolitan regions. Analysing the IVGR index against development costs reveals a boom in 2009-2011, followed by a collapse from March 2011 to December 2013. The disconnection of prices against the evolution of costs shows that transaction prices exceeded "fair value" in this short period, indicating the presence of a bubble. After March 2011, price movement was clearly connected to inflation in costs, including for land and construction.

Analysis

- A price bubble results from an imbalance in residential markets; such situations occur in market niches, as in neighbourhoods or classes of products in cities. The knowledge about real estate prices and values, and examples of distortions, such as the most recent US experience, confirm that residential market equilibrium



cannot be analysed as a whole within a country, but rather as dispersed by its niches. A comparison of Miami and Cleveland (USA) using the S&P/Case-Shiller American residential price index can confirm this. For Brazil, only a more general index is available (the national IVGR); therefore, the sector economy can only be viewed from a global perspective, which may not fit a particular market niche. Using the IVGR, a bubble was evident; it peaked in March 2011 and burst by December 2013. However, regarding the class of high-end buildings in São Paulo, for example, prices are still at peak level, with no regression forecasted for the near future.

- The drivers for the imbalance are different, with regard to situations and markets, but all end up provoking speculation, which is the main factor for biases in prices. Based on most of the available information, general irresponsibility on credit concession was the primary cause of the recent unevenness on the American market. This drove demand over the offer, considering the organic demand (from families) plus the increased demand from speculators that was provoked by greediness and supported by credit.
- Developers can calculate their offering prices by considering costs – the need for equity, the amount and cost of credit to build, and a margin that pays a reasonable profit – accounting for the equity and the inherent development risk. Buyers (families) cannot judge prices in the same way, but have to decide about the property's value. Valuation is done through benchmark comparisons. If demand is hard-pressed by artificial factors, such as speculation or credit concession under weak guarantees, margins will exceed reasonable levels and the offered prices will be higher than the properties' fair value (the fair value accounts for a reasonable margin). This leads to the market bubble.
- The Brazilian residential market experienced a cycle of excessive land and construction costs; this led to an affordability challenge for families, given their average purchasing power. In nominal BRL (Brazil real), prices grew from January 2005 until March 2011 (bubble peak) at a compound annual growth rate (CAGR) of 19.4%, vs a 15.8% CAGR for development costs and purchasing power at 9.4%. With the bubble's burst (March 2011 to December 2013), the CAGR for prices was 4.9%, for costs 7.9% and purchasing power was at 4.4%. Prices taken against costs show the bubble formation and liquidation: with fair value indexed at 100 in January 2005, the market value was 121.2 in March 2011 (prices were 21.2% over fair value) and 102.1 in December 2013.
- Considering the SFH, which is government-controlled and partly government-guaranteed, the peaking and fall of prices (not in nominal BRL, but discounting development-cost inflation) had no impact on or connection with financial distress. Based on the evidence, the root cause of why property prices became disconnected from their fair values was property speculation fuelled by increasing inflation rates (consumer price index), which led the Brazilian central bank to raise interest rates. As occurred in the United States with the recent bubble, no support existed for

high prices, as family purchasing power did not grow in line with the indices, and the financial system kept its rules unchanged (e.g. loan to value, interest, payment system, term).

Key insights

Currently, it appears that Brazilian residential property prices have stabilized. No evidence exists of speculative pressures in the housing market, and the standards remain very rigid. The SFH system mandates that banks must carry mortgages on their balance sheets, and loan-to-value indices cannot surpass 80% (the system average is about 65%). No factors are likely to depress prices, other than possibly a decline in land prices. House prices are expected to roughly track construction cost inflation (about 6.5% per year) for the next two years.

Although speculative pressures no longer exist, the recent cycle has established new benchmarks between household purchasing power and dwelling prices. The new relationship is not foreseen to change in the near future. The index of purchasing power against average house prices (January 2005 indexed at 100) showed a drop to 56 in December 2013, indicating a sharp decline in affordability for the typical Brazilian homebuyer. Developers are responding by building smaller apartments or ejecting families to metropolitan peripheries, which means those in São Paulo, the country's major market, have a one-and-a-half to two hour commute from home to work.

Construction costs in Brazil are based on traditional methods in a very labour-intensive environment. However, a clear trend exists of developers investing in capital-intensive development methods, based on, for example, pre-moulded parts, which provide higher productivity and lower costs compared to present indices. As these procedures are introduced, the cost of new homes will moderate over the next four to five years, and affordability will improve.

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Mexico – Lessons from the Mexico City real estate bubble

Executive summary

Through the second half of the 1980s and early 1990s, capital flows to Latin America expanded substantially. Despite limited data, evidence suggests that liquidity permeated into the real estate sector, pushing up demand and housing prices through easier credit conditions. The banking sector intermediation at the time had fewer restrictions to borrow from abroad and to lend domestically – a type of mortgage-carry trade transaction. In addition, massive capital flows generally contributed to the real exchange rate appreciating. This case study shows the growth of the real estate sector up to 1993, a sudden stop of capital flows in 1994 and the rapid deterioration of the sector, among others, which led to a widespread banking crisis.

Keywords

Capital flows, real estate prices, mortgage credit, asset bubbles

Background, context and situation

Two phenomena were building up in Mexico. First, capital flows contributed to an important expansion of credit in the country, particularly in housing. Mortgage credit represented about one-third of capital flows into Mexico between 1991 and 1993. While capital flows kept rising in this period, so did the price of real estate assets and housing rents. Although data for real estate prices is not readily available, some residential price indicators signal that a real estate cycle in Mexico reached its peak by about 1993.

An important expansion of mortgage credit reflected lower issuance standards; banks had relatively low credit

provisions (for example, those that included only the past-due payments and not the total outstanding loan), and banks competed by lowering down payments. Furthermore, the extensive use of a dual index mortgage, allowing for negative amortization, exacerbated the loss of net housing equity when house prices started to decrease.

Analysis

During the first half of the 1990s, Mexico went through a real estate cycle fuelled by ample liquidity available from abroad. Banks played an important role in intermediating resources. By 1993, real interest rates in mortgage loans increased to double digits. Low issuance standards and the existence of a dual index mortgage compounded the build-up of vulnerabilities. When capital flows suddenly stopped in 1994 and 1995, mostly as a consequence of the Mexican crisis, credit conditions deteriorated, lending ceased, house prices decreased (over 30% in real terms in some types of dwellings) and credit provisions by banks were insufficient to face the increase in past-due loans.

Mexico learned from its experience and promptly took the necessary measures to make the banking system more resilient, and to contribute to healthier conditions through the real estate cycle. Among these measures were (1) a modification of accounting rules for credit provisions to banks in 1997 that made them stronger and more transparent; (2) a new regulatory measure, introduced in the same year and obliging banks to hold a specific amount of liquid assets in relation to short-term liabilities; and (3) the introduction, via an amendment to the measure, of stricter eligibility requirements for liquid assets, and specific requirements to limit the structural mismatch of banks' assets and liabilities in foreign currency. This regulation was a useful tool to mitigate vulnerabilities arising from banks' dependence on foreign resources to fund assets denominated in local currency.

Currently, domestic deposits fully support the expansion of bank credit (i.e. no intermediation of foreign financing into the housing sector). Nevertheless, care is required with the current capital inflow episode, as flows may be intermediated through non-banks. The recent global liquidity



in the financial market could bring about an expansion of this type of intermediation. Real Estate Investment Trusts (FIBRAs) are one channel through which the real estate sector can receive funding. FIBRAs are assets that allow shareholders to invest in real estate through the *Bolsa Mexicana de Valores* (Mexican stock exchange). The first FIBRA public offering of certificates in Mexico was in 2011; they have grown substantially ever since, and have become an effective vehicle for channelling resources into real estate. Nonetheless, developments in the real estate sector that could potentially contribute to forming an asset bubble should be closely monitored.

Key insights

At least three policy implications can be taken from Mexico's experience:

1. The banking sector must effectively intermediate massive capital flows to prevent vulnerabilities; the recent capital inflow episode and the resilience of the banking system in Mexico indicate that an appropriate regulatory framework can effectively prevent these vulnerabilities from building up.
2. An adequate design for a mortgage instrument that prevents excessive risk-taking is vital for guaranteeing a healthy mortgage market.
3. The increase of capital inflows through non-bank intermediaries or through investment vehicles continues to be an important element in supporting growth of the Mexican economy. Nevertheless, policy-makers should remain vigilant to avoid any mispricing in real estate markets.

Recently, the National Banking and Securities Commission (CNBV) approved a new regulation for FIBRAs, effective June 2014. Overall, the new regulation aims to control their growth and strengthen FIBRA guidelines. One of the most important aspects of the new regulation is a limit on indebtedness to 50 per cent of the trust's total assets. Among other objectives, these measures will reduce vulnerabilities in the real estate market.

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Endnotes

1. A floating or fluctuating exchange rate is a type of exchange-rate regime in which a currency's value is allowed to fluctuate in response to market mechanisms of the foreign-exchange market. A currency that uses a floating exchange rate is known as a floating currency. A floating currency is contrasted with a fixed currency.
2. For a definition of M3, see: <http://lexicon.ft.com/Term?term=m0,-m1,-m2,-m3,-m4>.
3. This case study was written in collaboration with the Deutsche Bundesbank and the Swiss National Bank.
4. The homeownership rates, as published by Eurostat, also include home owners' relatives as home owners (on the assumption that they have their residence at the home owners' secondary residences). For Austria, the homeownership rate excluding relatives is 51% (including relatives: 58%); in Germany, the respective rates are 43% and 53%, and for Switzerland, 37% and 44%.
5. Based on 80% financing of an average home (over 90 m²) under currently prevailing conditions.
6. JLL (2013).
7. Hui and Lui (2002).
8. Kalra et al. (2000).
9. Ibid.



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