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The longer view

There are times when a cool strategic overview of events has never seemed more necessary but has also never seemed more difficult to find. At the time of writing, The UK Parliament has just voted to rule out a so-called no deal BREXIT a day after it voted down for the second time the deal negotiated with the EU by Prime Minister Theresa May. Just to complicate matters the vote against no-deal is not binding on the Government and a vote on whether to delay BREXIT will follow shortly. It is therefore still unclear whether the UK will leave the EU on 29th March with a deal (but if so what deal?), or without a deal or whether BREXIT will be delayed or even cancelled. In the meantime, the UK housing market is looking less than buoyant and housing providers including the housing association sector are attempting to map risks that appear to shift almost by the day.

Internationally, the BREXIT situation represents a tangled web of uncertainty, which captures world attention, and which creates real issues for those attempting to think strategically within the housing finance sector. Add to that a number of other developments, including rising political tensions in three continents plus housing market downturns in countries as far apart as Canada and Australia, and the need for answers to difficult questions has seldom been more apparent.

Some of the most incisive thinkers within the housing finance sector write for Housing Finance International [HFI]. We are pleased to present a perspective that focusses not just on what happens now or may happen next month or next year, but which analyses the present in the context of the past and which takes the longer and broader view when looking ahead. The articles in HFI do at least offer detailed and informed analysis of a range of issues facing the industry across the globe and provide a broader perspective that that helps build an understanding that may ultimately make the intractable global issues easier to deal with. The Spring 2019 issue of HFI is no exception.

Our first main article is a timely reminder that sometimes one cannot rely on top-down approaches and that solutions can often be best pursued at a local and community level. In his article, *Community-led housing initiatives in Brazil: Historical review, current situation, and intervention perspectives*, Nabil Bonduki takes a perceptive look at the development of community-led housing in Brazil since the 1980's. Having accepted a definition of community-led housing as "The practice in which the community manages the solutions to their own housing problems…", Bonduki looks at the achievements of the sector and puts its activities within the context of housing policy in Brazil over the past 50 years or more. In the course of his analysis, he examines some important issues, notably how government can find it difficult to incorporate or even recognise the aims and dynamics of community-led development and the pressure exerted by interests whose aims can cut across those of local communities.

Denmark has a unique system of mortgage funding and would be worthy of an article in the journal on this account alone. However, Jens Lunde, in his article, *Aspects of the changing Danish housing market*, also takes a wider view. He analyses the shifting balance of tenures and confirms that owner-occupation is stagnating while private renting has been increasing. Lunde focusses on house price movements before and after the Global Financial Crisis and raises the question of whether a very recent price drop may precede a market downturn. Lunde also draws attention to the way in which the price performance of individual properties can deviate from the trends identified by the market as a whole.

Morocco seldom features centrally in the pages of HFI, so a new article by Olivier Hassler, *An inspiring example of a guarantee fund for informal sector households: FOGARIM in Morocco*, is a very welcome addition to our line-up for this issue. Informal sector households almost always pose a challenge for mortgage lenders because of difficulties in documenting incomes and due to the perceived insecurity of earnings in the sector. FOGARIM is a guarantee scheme through which state backed guarantees share the risk of lending into this sector. Hassler shows how this is used to pursue the policy aims of improving financial inclusion, contributing towards greater financial stability and utilising credit for housing development rather than relying on enhanced public expenditure.

Climate change looks set to remain an overriding issue facing humankind for the foreseeable future. The EU has set itself a challenging energy-efficiency target for 2030, which will require cooperation from all sectors. In Europe the existing building stock accounts for 40% of total energy use. This inevitably focusses attention on housing as a cause of climate change. Given that less than 1% of the existing housing stock is replaced each year, any initiative to improve the energy efficiency of housing must deal with the low energy efficiency of existing homes. It is in this context that the European Mortgage Federation-European Covered Bond Council [EMF-ECBC] has launched its Energy Efficient Mortgages Initiative. The initiative aims to promote the provision of attractive mortgages to enable and incentivise households to fund improvements to the energy efficiency of their homes. It also aims to collect data to substantiate a link between property value and the energy efficiency of a property as well as a link between mortgage default risk and energy efficiency. In his article *Energy Efficient Mortgages Initiative: The engagement of the mortgage industry to deliver sustainable finance for the housing sector*, Luca Bertalot sets out the aims and progress of the initiative.

The housing market in China remains a source of speculation amongst market commentators, not least because of the wider importance of China within the world economy. In the article *China's urban housing market: situation, challenges and policy orientation*, Yusong Deng analyses the differences in the market; between the largest cities and the smaller urban centres and between regions. Deng shows how significant differences in house prices are driven by differences in new housing supply but also by differences in demand, which are themselves a function of broader economic factors. Overall, Deng predicts that sales of new homes and house price increases will be lower in 2019 than in 2018. The article also looks at the Chinese Government's interventions to manage the market and suggests that long-term prudent measures will be needed to ensure stability going forward.

Finally, those interested in using pension assets to fund housing development, or perplexed that pensions have not played a larger part in that development, should read the Latin America and Caribbean [LAC] regional article in this issue, where Claudia Magalhães Eloy looks at investment of pension assets in housing across the region and highlights some important issues.

It already appears that 2019 will be a year of change. Economic prospects are less certain, political tensions have risen in some countries and housing finance markets are less easy to predict. As events unfold, HFI will continue to provide a backdrop of rigorous and balanced analysis for the long-term.

Andrew Heywood

Contributors' biographies

Luca Bertalot is Secretary General of the European Mortgage Federation - European Covered Bond Council. Previously, he was a financial analyst in Italy and Australia. He is a graduate in Economics and Financial Markets (University of Rome, Tor Vergata) and has also studied at the University of Mannheim and the Wharton School - University of Pennsylvania.

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Claudia Magalhães Eloy is a consultant on housing finance and subsidy policy in Brazil, who currently works for FIPE [Fundação Instituto de Pesquisas Econômicas] and has worked for the World Bank [TA] and for the Brazilian Ministry of Cities and Companhia de Desenvolvimento Urbano e Habitacional of São Paulo [CDHU]. Claudia has also participated in the development of the National Housing Plan, in the analysis of the Housing Finance System. She holds a PHD in Urban Planning at the University of São Paulo [USP], a Master in City Planning at the University of Pennsylvania, a Master in Public Administration at Bahia's Federal University [UFBA] and a BA in Architecture and Urban Planning [UFBA], with a specialization in Real Estate Finance at the Brazilian Economists Order [OEB]. She also attended Wharton's International Housing Finance Program.

Olivier Hassler worked for the World Bank Housing Finance program within the Financial and Private Sector Development Vice-Presidency from 2001 to 2011. He has been an independent housing finance consultant since 2012. He is also the non-executive chairman of the French mortgage refinancing facility, CRH. In his activity for Development Financial Institutions, he has been involved in projects, technical assistance and advisory work in numerous countries in Africa, Middle East/North Africa, Latin America and South Asia. His work focuses on the foundations of housing finance markets, regulatory frameworks, funding instruments, access of lower income households to housing finance, and public assistance policies. Olivier Hassler holds a post-Master's degree in Economics (Université de Paris-Sorbonne) and the Diploma of the Institut d'Etudes Politiques de Paris.
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Kecia Rust is the Executive Director of the Centre for Affordable Housing Finance in Africa, and manages the Secretariat of the African Union for Housing Finance. She is a housing policy specialist and is particularly interested in access to housing finance and the functioning of affordable property markets. Kecia holds a Masters of Management degree (1998), earned from the Graduate School of Public and Development Management, University of the Witwatersrand. She lives in Johannesburg, South Africa.

Mark Weinrich holds graduate degrees in political science and economics from the University of Freiburg, Germany. He is the General Secretary of the International Union for Housing Finance and the manager for international public affairs at the Association of Private German Bausparkassen.

Promoting innovation in African housing markets

By Kecia Rust, Secretariat, African Union for Housing Finance

The African Union for Housing Finance held its 34th annual conference in Abidjan, Côte d'Ivoire, from 23-25 October 2018. Co-hosted by Making Finance Work for Africa (MFW4A), the International Finance Corporation (IFC), Caisse Régionale De Refinancement Hypothécaire (CRRH-UEMOA), and the African Development Bank (AfDB), the meeting focused on "Building Africa's Financing Chain". Over 190 experts and practitioners from 29 countries participated in the meeting, the first ever of the AUHF's conferences to have been held in Francophone Africa. After two days of deliberations, the members of the AUHF agreed on the "Abidjan Declaration for Housing Finance", which now becomes their lobbying document and action agenda for the year going forward.

A key focus of the conference was on innovation along the housing financing chain. All conference presentations are available on the website: http://www.auhf.co.za/conference/building-africas-housing-financing-chain/. Among the range of innovations presented, a number are being driven by AUHF members:

The availability of bulk infrastructure is a challenge in many affordable housing developments, where local authorities lack the financial capacity to prepare the ground for construction. AUHF member, CABS (Central African Building Society) addressed the challenge by initiating a public private partnership and raising US$62 million from pension funds, which covered the costs of bulk infrastructure for the development. In this way, CABS brought together the parties to see the development through to the point where buyers were granted mortgages to buy the newly constructed homes. Without their effort, the market opportunity would not have been realised.

Weaknesses in the housing delivery chain were also addressed by new AUHF member, iBuild Global, which has developed a mobile app that establishes a home building marketplace. Households can use the app to define a building project on which they would like the app's registered builders to bid. Builders bid for the work, and households use both their quotation, and the rating they've received from previous customers working with the app, to make their decision. Meanwhile, lenders use the app as a distribution channel for their loans, which gives them certainty that the loan is indeed used for housing purposes. In this way, the app connects households to builders, contractors, and lenders, extending the market available to each through the power of the technology.

Focusing on the challenge of affordability, the Nigeria Mortgage Refinance Company (NMRC) presented on its initiative to develop uniform underwriting standards for informal sector borrowers. The approach allows lenders to extend their products and services to borrowers who would otherwise not qualify for credit, both supporting the objective of financial inclusion while extending the market for credit.

A particularly interesting innovation brings all the pieces of the housing finance value chain together, enabling private capital to invest in the affordable housing opportunity without feeling they are on their own in managing unknown levels of risk. In 2018, a financial sector development agency, FSD Africa, made an investment into private equity firm, Sofala Capital Pty Ltd, and in AUHF member Zambian Home Loans. In investing GBP 1.6 million into Sofala Capital, FSD Africa took a 25 percent stake in the equity company. Sofala Capital then on-invested GBP 850 000 of this money into two companies: Zambian Home Loans (taking a 30 percent equity position) and iBuild Home Loans (not do be confused with the iBuild app), taking up a 50 percent equity position. A further GBP 400 000 grant was offered from FSD Africa to Sofala Capital, and a GBP 500 000 credit line to Zambian Home Loans. While FSD Africa made this investment, ZHL's majority shareholder is African Life Financial Services Ltd, which is leveraging the concessional finance to achieve a stronger financial return for its investment. Between 2005 and 2016, blended finance has mobilized over US$50 billion in total, towards the realisation of the Sustainable Development Goals in developing countries. Housing focused deals are now beginning to materialize in this space.

Investment in housing and housing finance has increased dramatically in the Southern African Development Community (SADC) region in the past twenty years, with significant growth in volumes in the past six years.[1] Top investors include DFIs, government agencies, pension funds, private companies (particularly Chinese companies, and banks. In part, the recent growth has had to do with Central Banks' attention on the health and suitability of their macro-economic and financial frameworks, as well as on improvements being made in the housing delivery value chain. More broadly, stakeholders are keen to access the opportunity to further their own particular goals, whether public or private, through the demand for affordable housing. The key to their success is focused attention on niche interventions along the horizontal housing delivery chain and the vertical housing financing chain, rather than the grand delivery gestures that have characterized efforts in the past. Already, specific players are taking this step and demonstrating the richness of opportunity. This work can be supported by the development finance sector, by providing capital and other risk management interventions that encourage greater participation by the private sector, and focused attention to regulatory and environmental constraints by the public sector.

At the 34th AGM of the AUHF, held on 25 October 2018, the members elected a new Board of Directors. The eight member Board serves for a period of two years, and comprises the following members:

- Mr Joseph Chikolwa, Managing Director of Zambia National Building Society, as AUHF Chairperson
- Mr Andrew Chimphondah, Chief Executive of Shelter Afrique, as AUHF Vice Chairperson

[1] See CAHF's report series on this topic here http://housingfinanceafrica.org/projects/landscapes-housing-investment-africa/

- Dr Chii Akporji, Executive Director of Nigeria Mortgage Refinance Company, as Secretary (Dr Akporji has unfortunately tendered her resignation and is no longer a member of the Board)
- Mr Cas Coovadia, Managing Director of the Banking Association of South Africa as Treasurer
- Mr Christian Agossa, Director General of Caisse Régionale de Refinancement Hypothécaire de l'UEMOA, CRRH-UEMOA
- Mr Mehluli Mpofu, Deputy Managing Director of Central Africa Building Society (CABS)
- Mr Mfundo Mabaso, Growth Head of FNB Home Finance, a division of FirstRand Bank Limited
- Mr Oscar Mgaya, Chief Executive Officer of Tanzania Mortgage Refinance Company

The AUHF is currently planning for its 35th Annual Conference, which it is co-hosting together with the International Union for Housing Finance in Cape Town, South Africa, from 4-6 November 2019. The meeting, being held together with the IUHF's World Congress, will focus on the theme ***Realising Affordability in Global Housing Markets***. For more information, visit www.auhfconference.com

Asia-Pacific Union for Housing Finance: regional developments

By Zaigham Mahmood Rizvi

Australia

Australia needs to triple its social housing by 2036.

Australia needs to triple its small stock of social housing over the next 20 years to cover both the existing backlog and newly emerging need.

That is the central finding of the new research report on the housing infrastructure needs of low-income earners, published by the Australian Housing and Urban Research Institute [AHURI]. By this reckoning, 25 years of inadequate investment has left Australia facing a shortfall of 433,000 social housing dwellings. The current construction rate – little more than 3,000 dwellings a year – does not even keep pace with rising need, let alone make inroads into today's backlog.

The report also shows that Australia needs to avoid overly complex private financing "innovations". These have proven ineffective elsewhere and were recently abolished by the UK Treasury.

Habitat for Humanity reports about housing in Australia

In Australia, it is estimated that there is a shortage of more than 500,000 affordable houses.

About 60% of low-income families experience 'housing stress', that is, they spend more than 40% of their household disposable income on rent.

According to the "2015 Annual Demographia International Housing Affordability Survey", Australia is among the world's top three most severely unaffordable housing markets.

Despite being a rich country, Australia has a housing affordability crisis and it is hitting poorest families the hardest. The supply of affordable housing can be affected by planning, regulatory and financial barriers.

Bangladesh

ADB identifies constraints to housing finance in Bangladesh

Manila based Asian Development Bank conducted a feasibility study on constraints to housing finance access for low and middle-income households in Bangladesh. The report was submitted to the government of Bangladesh. It identified weak legal enforcement in the mortgage market, supply-side challenges, inadequate incentives and increasing construction costs as major constraints for lower and middle-class households to get access to housing finance. Other barriers included engagement of multiple institutions. gaps in regulatory process and enforcement, high registration costs and land prices and, poor land availability.

Permanent housing consists of only 19% of dwellings in Bangladesh where only 7% of the rural households have permanent housing. Despite this, only the high-income households are being served especially, in Dhaka and Chottogram. The contribution to GDP of housing is under 3% whereas our neighbours India (7.77%) and Bhutan (11.8%) show much higher numbers.

India

SC upholds Mumbai slum redevelopment policy with extra FSI

MUMBAI/NEW DELHI: The Supreme Court on Friday upheld a Bombay high court decision to approve Maharashtra government's Mumbai slum redevelopment policy with increased floor space index [FSI]to accommodate the burgeoning migrant population in the city.

In dismissing a long-pending appeal by NGO Janhit Manch, a bench of Chief Justice of India Ranjan Gogoi and Justices Sanjay K Kaul and K M Joseph said there was no ground to interfere with the HC order, which approved the Maharashtra government's comprehensive slum rehabilitation scheme envisaging an innovative concept of using land as resource and allowing FSI as an incentive.

Justice Kaul, writing the judgment for the bench, said the trend of rushing to the apex court with local issues must stop and the judiciary must guard against blurring the line of Constitution-mandated separation of power merely because of the perception of an individual which was different from the policy decision of the government.

Chennai: FSI for commercial buildings increased from 1.5 to 2.0

In Chennai, two months after increasing the Floor Space Index [FSI] for residential construction from 1.5 to 2.0, the state Government has matched it for commercial developments.

This would result in a substantial jump in the FSI of commercial properties on a 60 feet road from 2.8 to 4.87 including the premium FSI, given that it adheres to the other development regulations of the Chennai Metropolitan Development Authority [CMDA].

The housing and urban development department has issued an order to implement the revision in FSI for commercial buildings including hospital and IT buildings.

Accordingly, the FSI non high rise buildings (structures not exceeding stilt + 5 floors up to 17.25m. in height) have been raised to 2.0, while the high-rise buildings that are over and above five floors can have an FSI of 3.25.

Indian real estate normalized in 2018: Praveen Jain, President, NAREDCO-Haryana

In the context of the Indian real estate market in the year 2018, this year can certainly be considered as better for the industry in comparison to the last two years. The reasons for this can be attributed to the normalization of the situations mainly with regards to demonetization, implementation of GST and RERA [Real Estate Regulation Act]. This year saw the after-effects of the above-mentioned factors having been subsided and the real estate industry; buyers, investors, developers and all stakeholders, coming to terms with them in the normalized circumstances.

In the past two years, the major factors like demonetization, implementation of GST and formulation of new policies like RERA have affected the real estate market, but now the things have normalized and now offer better prospects. The implementation of RERA which is buyer-friendly and addresses the issues and problems prevailing in the real estate market, has boosted buyers' confidence in buying and investing in property and is expected to improve the dealings in the year 2019.

In this year, the major emphasis was on the sale of 'ready to move in' homes and on affordable housing to cater to the needs of the teeming millions and to accomplish the PM's mission of 'Housing for All by 2022'. This year, all out efforts have been going on for the supply of affordable housing to keep pace with the ever-increasing demand for the same. This has resulted in considerable success in the provision of affordable housing and shall continue in the coming year 2019.

Greater Hyderabad civic body to use drones for better vigilance

The Greater Hyderabad Municipal Corporation [GHMC] is planning to use drones to come down heavily on encroachments onto city green spaces and lakes as well as illegal construction.

The Corporation's directorate of enforcement, vigilance and disaster management will also use drones in a pilot project for disaster management in case of urban flooding and building collapse.

The civic body is planning to form a team specially for drone monitoring soon if the project yields results. A drone, belonging to Cyberabad police, was tested on Thursday for the project.

Indonesia

In an effort to combat the housing needs of Indonesia's growing population, President Joko Widodo launched the One Million Houses Program in 2015. The Ministry of Public Works and Public Housing is optimistic that the goal may be reached in 2018 given that already 582,638 units have been constructed. Since the program's launch in 2015, the number of houses constructed each year has slowly increased.

In 2015, just under 700,000 homes were built, increasing to approximately 800,000 in 2016 and around 904,000 by end-2017. The target for this year is estimated at close to 1.1 million[1].

Known locally as PSR, the Million Homes Program earmarks 70% of completed homes for low-income households [MBR] with the remaining 30% offered to those with higher incomes [non-MBR]. The One Million Houses Program is a joint movement by all housing stakeholders including, the Central Government, housing developers, banks, private companies and the public that collectively aims to overcome the housing backlog in Indonesia.

To increase the supply of livable houses, especially those that are affordable for MBR, there are four challenges to be faced, namely:

The level of affordability for MBR is still low, in terms of buying a house from a developer, building independently or improving the quality of homes that are unfit for habitation.

The availability of funds to enable housing financing schemes for MBR is limited.

MBR access to housing finance sources (financial institutions) to obtain housing loans [KPR] is still limited and the latter is still short-term so that they cannot be sustainable for long-term mortgages.

And while MBR does have purchasing power, their ability to access this is difficult, hence the government's initiative to facilitate subsidised housing solutions.

Malaysia

The Malaysian central bank, Bank Negara has started a new scheme for low-income Malaysian households earning less than RM2,300, by creating a fund of RM1 billion. This is aimed at the bottom 40% group of people known as B40 group. In this category, the purchase price of the house is limited to RM50,000, interest rates are limited to 3.5% per annum, and monthly installments are lowered by 23%. The fund is being used for financing landed properties, flats, and apartments priced below RM50,000 for a period of 40 years, and the beneficiaries could be 70 years of age or lower. The borrowers would not be allowed to sell their houses within five years of the payment of last installments of loans, or else would be penalized by imposing a 2% penalty on outstanding loans.

On initiation of the incentive scheme for the poor (B40 group), as stated above, the House Buyer's Association [HBA] also has come up with the suggestion for providing some assistance to the middle-income group, popularly known as M40 Group, by the Government. While it lauded the recent launch of Bank Negara Malaysia's RM1 billion Fund for Affordable Homes for the B40 group, HBA said that affordable housing finance [AHF] should also be extended to include properties that cost up to RM300,000 and to increase the monthly household income eligibility to RM5,000 per month. HBA suggests that the same conditions for the Fund for Affordable Homes can be imposed, such as limiting the scheme to only first-time homebuyers and no resale of the property for the first 10 years after the last loan disbursement. The HBA also maintains that government intervention in the property market is essential to balance current market demand and supply mismatch and to ensure every homebuyer could own a shelter that they could afford.

How to help facilitate affordable housing in Malaysia

To promote affordable housing in the country, it is necessary to ensure responsible financing practices by financial service providers [FSPs], so that households can borrow within their means. Following are the guidelines for responsible financing:

1) Maximum tenure for home financing is 35 years.
2) Affordability assessment takes into account all existing debt obligations, including financing from all FSPs and other non-bank entities.
3) No prescribed debt-service-ratio [DSR] level but FSPs shall ensure that the DSR level is prudent enough to prevent the customers from becoming over-leveraged.
4) Proof of income may include salary slip, EPF statement, saving account statement or income tax submission.
5) Borrowers with no permanent employment or who are self-employed may be required to provide evidence of income for a period of at least 6 months.

Measures to promote sustainability of the property market:

Aimed at ensuring a stable domestic property market and promoting the continued affordability of homes for the general public as well as promoting financial prudence by borrowers, the following steps are envisaged by the Government:

1) For individuals: 70% loan to value [LTV] ratio for third property or above.
2) For non-individuals: 60% LTV ratio for 3rd properties or above.
3) Ban of developer's Interest-Bearing Scheme [DIBS].

[1] Source: Ministry of Public Works and Housing, Indonesia

Financing Performance: Home Financing by Banking System

HIGHLIGHTS IN Q3 2018

- Outstanding housing loans by the banking system expanded by 8% as at end-September 2018 to RM548.6 billion.
- Financing remains available for eligible borrowers, with 70% of housing loan borrowers being first-time owners of properties priced below RM500,000 (<RM250,000: 48%; RM250,000 – RM500,000: 22%).
- During the first nine months of 2018, banks approved RM114.9 billion of house financing to about 268,000 borrowers.
- The overall housing loan approval rate remains above 70% as at Q3 2018 (average 2013-2017: 75.2%).
- The lower than 5-year's average approval rate reflects the issue of housing unaffordability arising from the mismatch between the supply and demand of houses.
- 61% of the newly approved housing loans are for the purchase of houses priced below RM500,000 (<RM250,000: 25.1%; RM250,000 – RM500,000: 35.7%).
- By location, 80% of the newly approved housing loans are for the purchase of residential properties in Selangor, Kuala Lumpur, Johor and Penang.

The graph 1 shows the growth of outstanding housing loans in the Malaysian banking system.

Pakistan

The Government of Pakistan is concerned about the housing shortage in the country. With annual additional requirements hovering around 10-12 million units (as per World Bank's estimation). The inactivity in housing construction is resulting in more than 100 upstream and downstream industries lying idle. Thus, the present Government has decided to tackle the issue effectively, and as a priority.

Hence, firstly a housing taskforce has been formed under acknowledged housing, affordable housing and slums regeneration expert, Mr. Zaigham Mahmood Rizvi, with 21 other prominent experts in the housing and housing finance sectors. This task force has chapters in all the other provincial capitals, working separately and in unison with the central Task Force housed in Islamabad.

This Housing Task Force [HTF] would pave the way for the establishment of a fully-fledged housing authority called Naya Pakistan Housing Authority. This Authority will be an independent, autonomous body, will work through a Director General/Chairman aided by an independent Board of Directors, under the direct authority of the Prime Minister of Pakistan, Mr. Imran Khan, so that the housing issues in the country can be addressed as speedily as possible. The ground work and legal work for the formation of the Authority is presently in progress.

Pakistan has a housing backlog of almost 10m units, and demand is growing at a rate of 0.7 million per year

"Lamudi," a Berlin-based online real estate marketplace with operations in 34 countries, had commented: "By 2016, Pakistan's housing shortage had reached around 10 million units and is expected to grow every year by 0.7 million units'' reports Pakistan's daily the News International. ''Lamudi'' adds, ''this is an alarming situation and needs to be dealt with immediately. Most of this shortage is due to lack of housing available for the lower income strata and an underdeveloped mortgage finance market. The World Bank has been developing a house financing plan for Pakistan to help deal with the housing shortage crisis. WB along with PMRC [Pakistan Mortgage Refinancing Company] are going to help in development of the mortgage sector, focusing mainly on the lower income brackets. The World Bank will be providing funds to banks through PMRC to increase the lending volume, specifically to lower income group. The target is to help expand the housing finance sector in such a way that it is profitable for the banks but also more easily accessible than conventional loans. On-lending support is another way the World Bank plans to help banks increase their lending power; banks will be able to lend the money they have borrowed from other organizations/people."

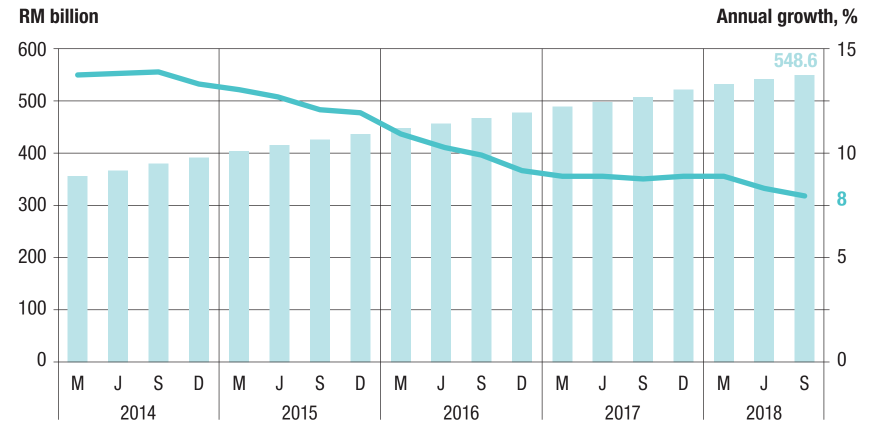
Pakistan's province, Balochistan signs agreement for LRMIS

The Baluchistan Government has signed an agreement with a consortium of a joint venture partnership between Systems Limited and Ultra Soft System [SUS-JV] for the establishment of the Land Record Management Information System [LRMIS], a news source reported. This agreement is worth PKR 248 million.

LRMIS in Baluchistan is an extension of similar systems performing successfully in Khyber Pakhtunkhwa and Punjab. It is expected that the project will be completed in three years. LRMIS is a modern system based on modern technology that will innovate the current system. Simple methods will be used to make land records accessible to public.

Earlier this year, 121 out of 150 land record centres were upgraded and connected with the online system in Punjab which allows property owners to access their land records from any land record centre in Punjab. This has eased the land record ownership issues and made the process faster.

GRAPH 1 Outstanding housing loans



Naya Pakistan Housing Program drew 41 bidders, Pakistan's Prime Minister was informed

Prime Minister Imran Khan was informed at a meeting that, over 40 bidders and construction companies had applied to provide land and construct housing units under the Naya Pakistan Housing Programme [NPHP] of the Federal Government. Prime Minister Imran Khan chaired the briefing on Ministry of Housing and Works at Prime Minister's Office on Wednesday

Briefing the meeting on the progress of the programme, Housing and Works Secretary Dr Imran Zeb said that an encouraging response had been received from bidders/companies to the government initiative.

He said that 41 bidders/companies had applied to construct housing units and provide land for plots/apartments/houses in major cities of the country.

The secretary also apprised the Prime Minister of the functions of the ministry and its attached departments and organisations such as the Pakistan Public Works Department [Pak-PWD], the Estate Office, the National Housing Authority, the Pakistan Housing Authority Foundation, the Federal Government Employees Housing Foundation and the National Construction Limited.

It's a good time to invest in Pakistan's real estate

The Third Pakistan Property Exhibition was held in Abu Dhabi, under the auspices of the International Real Estate and Investment show, at the end of last year. The Pakistan Embassy, Pakistan Business Council and Pakistan Association Dubai, showcased the country's leading developers and realty agents under one roof to present the best options for investment, provide for spot sales and learn about the leading insights into the market. Visitors saw properties from cities including Islamabad, Lahore, Karachi, Gwadar, Gujranwala and many more.

Pakistan's real estate industry continues to evolve as companies try to resolve real estate complexities in order to increase its growth, experts have revealed.

The real estate market in Pakistan is tapping into new global trends. Apart from new demographic changes, Pakistan has also witnessed a heavy intercity migration over the last five years due to security and economic benefits that specific cities offer. These components, along with the rise of safe property investment bets in various parts of the country and abroad, are encouraging Pakistanis and non-resident Pakistanis [NRPs] to invest in valuable long-term investments compared to short-term purchases.

Pakistan Government urged to improve property registration process

The Lahore Chamber of Commerce and Industry, the country's prominent trade and industries governing body, has urged the government to adopt modern techniques, including a one-stop operation, in order to facilitate the business community in matters related to the registration of property.

In a statement on Monday, LCCI President Almas Hyder said that registration of property was a big headache for the businessmen, as it excessively consumed both time and money.

"If we want to secure an impressive place in the international trading arena, then we must improve our ease of doing business indicators," he said, adding that at present, Pakistan was ranked at 161st in the global index as far as registration of property was concerned.

"In Pakistan, the businessmen have to follow six procedures to register a property which takes around 25 days and costs 4.2% of the property value. On the other hand, New Zealand holds first position with just two procedures and a single day for property registration," he noted.

Europe: trends in house prices and construction

↳ **By Mark Weinrich**

House prices, as measured by the house price index published by Eurostat, the statistical office of the European Union, rose by 4.3% in both the euro area and the European Union in the third quarter of 2018 compared with the same quarter of the previous year. The growth trend that began in 2015 thus continues amid still very favorable lending conditions and an improving economic picture. This acceleration is fairly general, albeit at different levels of house price growth, with two countries exhibiting negative annual rates of change in the third quarter and another two with positive rates of more than 10%. Prices fell in Sweden (-2.1%) and Italy (-0.8%), while the highest annual increases in house prices in the third quarter of 2018 were recorded in Slovenia (+15.1%) and the Netherlands (+10.2%), closely followed by Ireland (+9.1%).[1]

The house price development in Sweden has already received particular attention in this column, given years of buoyant growth and with the Swedish government implementing regulatory measures aimed at cooling the market. In last year's column on real estate markets, only the Valueguard-KTH Housing Index, HOX Sweden, which is more up to date than the Eurostat figures, showed the decline in house prices in Sweden. Now, also the Eurostat data confirms this decline. However, much more interesting is that the HOX data clearly shows that the market is stabilising. It will be of real interest to see whether Sweden's policymakers have successfully engineered the "soft landing" in the housing market that they had been hoping for.

In most countries house price increases over the past few years have raised concerns regarding the implications for housing affordability for both owners and renters. A report of the World Bank published in November 2018 (Living and Leaving: Housing, Mobility and Welfare in the European Union[2]) concludes that housing in European metropolitan areas has become unaffordable for many groups because new construction is not keeping up with demand. Greece, Bulgaria, Denmark, Germany, Romania and the United Kingdom are the countries where families are the most overburdened by the cost of housing, while those in Malta, Cyprus, Finland, Ireland, Estonia and France are those where housing is most affordable within the European Union.

In 2018, the construction volume in the Euroconstruct area[3] increased by 2.8% on a yearly basis to 1.56 trillion Euro.[4] Although this is still a strong growth, it was significantly lower than in 2017 when construction activities expanded by more than 4%. The Euroconstruct network predicts that growth rates will fall slightly below 2% in 2019 and will slow down continuously until the end of the forecast period in 2021 when construction volume will grow by only a moderate 1½%. The research network therefore expects in the next two years no decline in construction activities. If this prediction proves to be true, then the construction sector, starting with 2014, would have grown for at least eight years in a row.

The main drivers of this growth are the improved economic environment and interest rates which continue to be very low. Immigration and ongoing urbanization also play an important role. Added to this comes the increased willingness of the public sector to invest. In general, in many countries there is a noticeable need to create new housing and to modernize or expand the infrastructure. At the same time however, the increased capacity utilization of the construction industry and the growing labour shortage in the sector has the consequence that the prices for construction services increased significantly more in 2018 than in 2014 and 2015.

However, since 2018, the contributions of the sub-segments (residential construction, non-residential construction and civil engineering) to growth have changed. Residential construction, which accounted for around 48% of total construction in 2018, grew by around 5½% in both 2016 and 2017, with the "new building sector" growing by 9% and 10% respectively. In 2018 the growth rate halved, and from 2019 on the annual increase in residential construction activity is likely to be only around 1% or slightly lower. According to the forecast, non-residential construction will also grow more slowly in the future than in previous years. On the other hand, the civil engineering sector has meanwhile become the growth locomotive. This sector has grown by 5% in 2018 and is forecasted to grow by 4½% in 2019.

According to estimates for the Euroconstruct area, the number of completions in 2018 increased by 142,000 units to 1.75 million. For the three-year period since 2016, the total increase amounts to 330,000 residential units. From this total, 246,000 dwellings were in multi-family buildings and only 84,000 units were one- and two-family houses. The forecast for 2019 is that the number of completions in 2019 will increase by another 8,000 housing completions to 1.84 million units. Thereafter, however, it is unlikely that housing completions will increase a lot more. Building permits for housing reached their peak in 2017. Until 2020, the total number of building permits will decrease moderately while the permits for one- and two-family houses are expected to stagnate at the level of 2017. These decreasing figures for building permits of course have consequences for new residential construction volumes.

Although the construction sector in Europe has expanded dynamically since 2014, it is very likely that the construction volume in 2021 will still be about 15% behind 2007's level for the 19 Euroconstruct countries. However, this might be a good sign, given the extreme situations in Ireland, Spain and Portugal at that time which have led to a severe crisis not only for these countries but for the whole of Europe.

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1 All data on house prices are from Eurostat: https://ec.europa.eu/eurostat/documents/2995521/9507790/2-18012019-AP-EN.pdf/

2 https://www.worldbank.org/en/region/eca/publication/living-and-leaving

3 Countries which belong to the Euroconstruct network are France, Germany, Italy, Spain, United Kingdom, Denmark, Finland, Ireland, Norway, Sweden, Austria, Belgium, Netherlands, Portugal, Switzerland, Czech Republic, Hungary Poland, and Slovak Republic.

4 Compare for the following: http://www.euroconstruct.org/ec/press/pr2018_86

Latin America and the Caribbean: How significant a funding source could pension funds become for the housing sector in LA&C countries

↳ By Claudia Magalhães Eloy

Global pension funds have deep and growing pots of capital to allocate and are increasingly diversifying their investment portfolios. In Latin America alone, according to Moises Vidal and Tom Avazian[1], assets under management [AUM] within those funds exceed $900bn (Sept/2015) and are doubling in value every five to six years in Brazil, Mexico, Chile, Peru and Colombia. Although Uruguay, Bolivia, Costa Rica and the Dominican Republic are much smaller markets, total assets more than doubled over a four-year period, between 2007 and 2011. The three largest pension asset holders in the region are Brazil, with $251 billion, Chile with $172 billion[2] and Mexico, $154 billion, as of December, 2016[3].

Indeed, pension funds are among the largest sources of private sector investments and their need to establish long-term stable-return investments is fairly compatible with housing funding needs. Yet, a recent World Bank report[4] observes that data showing the extent to which, and how pension funds are investing in housing is still limited. It also points out that regions where funding for affordable housing is most pressing are generally the jurisdictions with the lowest pension fund coverage for its citizens:

"In terms of the value of assets held by private pension funds as a percentage of GDP, the weighted average for OECD countries is in the region of 140% of GDP, whereas for developing economies (in the OECD sample), the weighted average is 40% of GDP."

Despite data limitations the report notes that in its OECD sample, even amongst the largest, most sophisticated and mature pension funds, investments in 'land and buildings' remain relatively minimal, compared to other asset categories (bills and bonds, shares and mutual funds). It also notes that "given the low interest rate environment since the global financial crisis, these funds are increasingly looking for long-term, stable returns, uncorrelated with global markets".

The report addresses the many ways assets accumulated in pension funds can be invested in the housing sector: directly in housing projects; equity investment in housing developers or mortgage lenders; purchase of housing bonds or funds; provision of wholesale funding to intermediaries; participation in real estate investment trusts [REITS]; investments in covered bonds, mortgage-backed securities or bonds issued by mortgage-liquidity facilities; direct offer of mortgages or the underwriting of loans, in addition to allowing pension members to use their savings to purchase a home. The main challenge is how to promote housing investment instruments with the right risk-to-return profile to attract pension funds using a country specific approach.

In order to mobilize pension fund assets for housing investments the right kinds of incentives must be in place, as the report argues. In Colombia, for instance, tax exemption on yields for banks and other potential investors pushed yields down, while affording no value to tax-exempt pension funds and thus limiting pension funds' demand for mortgage-backed securities. A national social impact agenda, supportive of investments in the housing sector, could make a significant contribution. At least the removal of existing constraints must be looked into.

Throughout Latin America, regulatory requirements for pension funds constrain the asset types in which they may invest as well as limit the exposure by category and to single issuers, with a tendency to restrict investment to high-quality domestic assets (government bonds) and highly-rated fixed income instruments. In Brazil, recent regulation (May 2018) has prohibited direct real estate investments[5] and mandated that previously acquired real estate property be either sold out or transferred into real estate funds, within the next 12 years. Investment limits in REITS [FIIs] and MBS are set at a maximum of 20% of total assets, while mortgage and covered bonds[6], up to 80%, in both cases also subject to issuer limits of 20% per bank and 10% in the case of other issuers.

A limited supply of investment-grade instruments in emerging capital markets has restricted alternatives to investing in government bonds: in 2008, investment in government securities still represented more than 50% of total pension fund investments in Bolivia, El Salvador, Mexico and Uruguay (IPEA, 2012). Some countries have encouraged pension funds

1 https://www.treasury-management.com/article/4/339/2846/the-global-surge-in-latin-america-pension-funds.html

2 Chile stands out after a major pension fund system reform in the early 1980s, with the creation of private Administradoras de Fondos de Pensiones [AFPs] that manage individual account, defined contribution capitalized plans. Since then, it has been followed by other country reforms in the region, making Latin America a leading region in introducing individual capitalization schemes as a compulsory component of pension systems. On an opposite and more recent path, Argentina and Bolivia have gone back from private individual capitalization systems to state systems (Sistema Público de Reparto) in 2008 and 2010, respectively. Defined Benefit Plans are still dominant in the region, in terms of assets and affiliates

3 https://citywireamericas.com/news/latam-pension-funds-among-fastest-growing-retirement-markets-in-the-world/a988893.

4 Sing, Linda; Stewart, Fiona; Walley, Simon. *Housing Finance: Investment Opportunities for Pension Funds*; The World Bank Group, 2018.

5 Real estate property for rental or sale; real estate developments; plots of land.

6 Letra de Crédito Imobiliário [LCI] and Letra Imobiliária Garantida [LIG].

to diversify away from government bonds – in Mexico there has been a significant decrease since 2008, though such investments remain predominant.

More recently observed regulatory trends allow more diversification and management discretion which indeed, could stimulate greater investment in housing. The allocation of assets is thus guided by national/statutory requirements; management's decisions within its range of discretion and, in the case of multifunds[7], investors' risk-based profile[8].

In Chile, mortgage bonds (Letras de Crédito) had already been important fixed-income investment instruments for insurers and pension funds since the 80s, when the country created a fully funded pension system with individual retirement accounts. The passthrough feature of Letras proved difficult for institutional investors to manage as prepayments rose and there has been a shift from those mortgage bonds toward securitization since the early 2000s, with institutional investors still being major buyers (World Bank, 2018). Since 2008, after a regulatory change raised foreign investment limits to 80% of total assets overall investment in mortgage bonds and securities has reduced in Chile[9].

Nonetheless, the right constraints may play a positive role. Limits on exposures to foreign assets helped preserve pensions' asset values notably after the 2008 global financial crisis. Moreover, relaxing investment restrictions could prompt unsound investments in the case of funds tied to state-owned companies, thus requiring sound governance structures[10].

Risk-based supervision has been an emerging trend in the last decade. In 2005, the Chilean Pension Superintendent began a multi-year implementation process designed to integrate all relevant risks into supervision (fiduciary, financial, operational, technological, and so forth), a preventative approach, focusing on firms' risk management and internal controls (IPEA, 2012). As regulation tightens risk management and governance rules, as well as demands more transparency, pension fund trustees tend to be more conservative, leaning toward more sound and commonly accepted vehicles and sectors[11].

Concentration of pension assets among a few funds is another characteristic of the sector in the region. Brazil houses the three largest funds in the region: Previ (Banco do Brasil), Petros (Petrobras) and Funcef (CAIXA). Very large funds tend to overlook small mortgage bond and securities issuances (RMBS, covered-bonds, letras), especially since investments are also subject to exposure limits per issuer[12]. Thus, mortgage bond and securities issuances in the region must be sizeable in order to attract the interest of those big funds.

Liquidity is also a major concern: with about USD 3.2 billion in annual disbursements to retirees, Previ´s investment strategy focuses on more liquid instruments and companies[13]. Therefore, pension funds are major secondary market makers but, at the same time, must rely on dynamic developed markets for investment decisions. Santillán–Salgado et al (2019) finds evidence of the substantial role of the private pension funds [AFPs] in the maturation and consolidation of the Chilean capital market and in the increase in domestic savings, creating a capital base that has boosted the construction industry, among others[14].

Profitability of pension funds in the region also stands out, according to an IPEA (2012)[15] study. After examining the profitability of pension funds in Chile, Mexico, and Peru, over a 10-year period, it found persistently higher profits (overall three times higher ROE) than comparable industries, suggesting pension fund markets lacked competitive pressure[16]. In 2010, 87% of all pension fund affiliates in Chile were concentrated in three AFPs. In addition, fees charged by pension funds in the region – most frequently on contributions as a percentage of a worker's income – are 50 and 100 basis-points higher than those of large US occupational funds and mutual funds, though most Latin American countries have set statutory limits on fees[17]. Currently, in Mexico, Chile and Uruguay, funds must inform net rate of returns and fees in their mandatory statements sent out to the affiliates. Those intertwined characteristics – concentration in large funds, fee structure and profitability – may interfere in investment strategy and should be further investigated.

Unlocking savings from pension funds for housing is not a trivial task, many aspects must be considered. It should be noted that requirements basic to functioning sizable and sustainable housing markets consist of stable macro-fundamentals plus a robust registration and regulatory framework. Yet, in many LAC countries important pending reforms, mainly to the tax and pension system[18]; the predominance of banks in financing activities; and, even now, the crowding out of private capital markets by treasury bond issuance are still key to local capital market development and integration of pension fund investments with housing markets.

In Brazil, even with the reference rate currently below 7% per year local pension funds are still more attracted to options other than real estate instruments/investments (fixed income funds and national treasury bonds indexed in price index, stocks and stock funds, multimarket funds). Notably in the housing sector there has never been relevant investments and there is no sign of such a tendency in the short or medium terms, according to some local asset managers.

Last, but not least, on average, only 45 of every 100 workers are contributing to or affiliated with a pension scheme in the region[19], which seems to indicate room for significant

[7] A series of funds distinguished by the degree of risk allowed in the portfolio.

[8] The emergence of multifunds has introduced a new variable into the investment equation: the level of financial literacy among pension members. Over the last decade, finance education programs have been set up across the region.

[9] In Brazil, the current limit on foreign investment is 10% of the total fund´s assets. In 2018, overall foreign investment accounted for just 0,5% total of assets.

[10] Previ, the region´s largest fund, now has a governance rating that considers such factors as a company's risk-management and compliance policies, transparency, conflicts of interest and involvement of management or shareholders in corrupt practices, as well as independent internal auditing committees and other formal mechanisms for evaluating management. https://www.bloombergquint.com/business/biggest-pension-fund-in-brazil-turns-into-a-50-billion-activist#gs.0k0r4f.

[11] In Brazil, new regulation (Res. 4661/2018) mandates that if a pension fund loses money in a PE investment, the administrator responsible for the investment decision must respond for at least 3% of the total invested by the fund.

[12] In Brazil, pension funds (EFPC) can only invest up to 20% of total assets per financial institution and up to 10% on an individual securitizing company (Res. CMN 4444/2015; 4661/2018). Moreover, they can only invest up to 25% of net assets of individual banks, REITs or bonds/securities issuances.

[13] https://www.bloombergquint.com/business/biggest-pension-fund-in-brazil-turns-into-a-50-billion-activist#gs.0k0r4f

[14] Santillán–Salgado, Roberto & López, David & Montenegro, Justo. (2019). Las Administradoras de Fondos de Pensiones y el desarrollo del mercado de capitales en Chile. Ensayos Revista de Economia. XXIX. 53-76.

[15] Kritzer, Barbara; Kay, Stephen; Sinha, Tapen. Next generation of individual account pension reforms in Latin America. IPEA, 2012. Available at http://www.ipea.gov.br.

[16] The report of the Federal Commission for Competition (Comisión Federal de Competencia, 2006) to the Senate stated: "The AFOREs have earned extraordinary profits that are difficult to attribute to their competitiveness or to the value generated for the workers." The Marcel Commiccion in Chile (2006) observed that most workers did not compare administrative fees before choosing an AFP, thus firms had less of an incentive to compete by lowering fees and rather often used gifts and other inducements to lure new members. IPEA, 2012.

[17] IPEA, 2012, citing Impavido, Lasagabaster and García-Huitrón (2010).

[18] Notably Brazil, with a newly proposed major reform just recently submitted to congress.

[19] For a thorough study on sustainability, coverage and adequacy of pension funds in the region, with country by country system profiles, please refer to "Pensions at a Glance: Latin America and the Caribbean", a joint publication of the OECD, the Interamerican Development Bank and the World Bank, 2014.

pension market growth. However, another common issue in LA&C countries is the large number of informal sector workers and the fact that most of those informal workers are at the lower end of the income distribution[20]. Social non-contributory pensions, where available, tend to be limited due to fiscal restrictions[21]. The World Bank (2018) emphasizes the need to have mortgage products which cater to those informal workers and allow for the link between pension and housing savings to provide the scale of capital required.

While pension system reforms in the region had focused on the creation of individual savings accounts some decades ago, recent reforms have focused on the prevention of poverty and expanding pension coverage remains the most significant policy challenge (IPEA, 2012). Low coverage takes into account the proportion of workers participating in pension schemes as well as the proportion of the elderly (a significantly growing population in LA&C[22]) receiving pension income, according to the OECD, IDB and WB (2014): "most of the elderly poor in the region live in multi-generational households suggesting that their welfare is closely tied to that of their family". There is, thus, an inherent link between pension and housing policies. Whether this could be good timing to promote pension fund investments into the housing sector in LA&C remains to be seen.

The World Bank concludes its report with a range of considerations for creating a facilitative environment for pension funds to engage in long-term investments in the housing sector:

- To provide comprehensive, accurate and detailed data on assets under management by pension funds, with breakdowns by type of investments and of real estate (commercial or residential property), as well as quantitative data on how the different housing instruments have performed;
- To establish a conducive legislative and regulatory environment to promote pension funds' investment in housing based on successful cases;
- To customize instruments compatible with the pension fund savings profile using a country-specific design;
- To put in place preconditions that attract foreign pension fund investment, notably where the local pension fund sector is inadequate to meet housing funding needs;
- To improve registration, titling and administrative processes;
- To encourage political will and design supporting policies to advocate investment in housing.

Tapping into those funds´ coffers for the housing sector would indeed contribute to long-term funding needs. Nonetheless, affordability remains a fundamental key obstacle for the development of the housing sector in LA&C, not just because urban land is scarce and prices tend to escalate in locations with better infrastructure throughout the region´s metropolitan areas, but simply because many people do not earn enough to afford an adequate home. In our next issue we will debate some regional cases that have attempted to tackle the (un)affordability challenge and revisit their outcomes.

[20] IPEA (2012) finds evidence that informality is positively correlated with social security contributions as a percentage of the wages. The study reviews literature, based on the Chilean and Colombian cases, contradictory as to whether expanding pension system coverage leads to the formalization of the labor market. They find evidence that the informal sector has shrunk during the 1990–2005 period in Argentina, Brazil, and Chile, while there has been an increase in the informal sector of other countries in the region.

[21] "A pilot plan to incorporate the marginal population in Mexico into a contributory pension program by offering a peso-for-peso subsidy failed primarily because most marginal workers were budget constrained and did not participate. That is, they could not afford to save anything on their own even with the incentive of a matching contribution from the government." (IPEA, 2012). "Social pensions are most important in Guyana and Bolivia, followed by Venezuela and Brazil (OECD, IDB, WB, 2014).

[22] In Latin America, people over 65 accounted for 7.5% of total population in 2015 and it is estimated that they will represent 24.7% in 2065, while the population age 80 or over will represent 9% (UN, CEPAL: Nuevas tendecias en los sistemas de pensiones en América Latina (https://www.cepal.org/sites/default/files/news/files/nuevas_tendencias_en_los_sistemas_de_pensiones_en_america_latina._alberto_arenas_de_mesa.pdf).

Ten years later, the U.S. is still debating Fannie and Freddie

↳ **By Alex J. Pollock**

The giant U.S. Government-guaranteed mortgage companies, Fannie Mae and Freddie Mac, were and are unique features of American housing finance compared to other countries. In the days before their 2008 fall into insolvency and government conservatorship, which also saw their previously feared political power fizzle, Fannie and Freddie used to claim they were "the envy of the world." In those days, they could always get many members of the U.S. Congress to repeat that claim, even though it wasn't true.

But Fannie and Freddie were huge and still are – their combined 2018 total assets are \$5.5 trillion. (This amount is about the same as the combined GDPs of the United Kingdom and France.) Fannie and Freddie were, and continue to be, dominant factors in U.S. housing finance markets. But they remain in government conservatorship more than ten years after the collapse of the housing bubble they helped inflate and after the Government bailed them out. Even after more than ten years of debating, the Government can't figure out what to do with them next. All kinds of plans have been proposed by various politicians, trade associations, financial commentators, think tanks, and investors. None has been adopted. The amount of talk has been vast, but no agreed-upon path has emerged out of the fog of endless debate.

The central problem is this: Fannie and Freddie have always been dependent on the guarantee of their obligations by the U.S. Government. The guarantee was said to be "implicit," but it was absolutely real, as events proved. Based on this guarantee, they sold trillions of dollars of bonds and mortgage-backed securities around the world. They never could have done this without their credit support from the Government, and when they failed, the Government protected the buyers. Although there is still not a formal guarantee, their backing by the Government is even more indubitable now, since the U.S. Treasury has agreed to put in enough new senior preferred stock to keep the net worth of each from falling below zero.

Before the housing bubble shriveled, Fannie and Freddie did have some capital of their own, though a small amount relative to their obligations. In 2006, before their fall, they had combined total equity of \$66 billion. That may sound significant, but it was to support assets plus outstanding guarantees already totaling \$5.5 trillion, giving them a capital ratio of a risible 1.2%. In other words, they were leveraged 83 to 1. Such was the advantage of being darlings of the Government. To get up to international risk-based capital standards, I calculate they would then have needed \$90 billion more in capital than they had.

Now, ten years after their government bailout, their combined equity is \$10.7 billion, giving them a capital ratio of a mere 0.2%. In other words, their capital rounds to zero, and their leverage is 514 to one. To meet international standards, they would now require an additional \$124 billion in capital. Without capital, Fannie and Freddie at this point rely not just in large measure, but utterly and completely, on their government guarantee. Indeed, they could not stay in business for even one more minute without it, and this has continued for ten years.

In good times, running on the Government's credit can be very profitable, and so Fannie and Freddie have been, following the recovery of U.S. house prices which began in 2012. Why have they not built up any capital at all since then? Well, in that same year, the Treasury Department and the Conservator for Fannie and Freddie (the Federal Housing Finance Agency), agreed that each quarter, essentially all of the profits of Fannie and Freddie would be paid to the Treasury, thence going to offset the federal deficit.

This agreement between two parts of the Government that the Government would take all the profits until further notice has been viewed as unfair and illegal by investors in the common and junior preferred stocks of Fannie and Freddie, which continue to exist. Hedge fund investors, employing top legal talent, have generated various lawsuits against the Government, none of which has succeeded.

It is essential to understand the most important macro effect of Fannie and Freddie. This was and is to run up the leverage and therefore the risk of the entire mortgage and housing sectors. Thanks to them, the aggregate leverage of the system is much higher than would otherwise have been possible, and house prices get inflated relative to incomes and down payments. As this leveraging proceeds, it shifts more and more of the risk of mortgage credit from the lenders and from private capital to the government and to the taxpayers. Fannie and Freddie did and do create major systemic risk.

This sounds like a bad idea, and it is. But once the Government has gotten itself deeply committed to such a scheme, and the mortgage and housing sectors have gotten used to enjoying the credit subsidy and economic rents involved, it is very hard to change.

Numerous important interest groups benefit from Fannie and Freddie's running up the systemic leverage and risk. These include:

- Homebuilders, who benefit from more easily selling bigger and more profitable houses.
- Realtors, who likewise profit when selling houses is made easier and get bigger commissions when house prices rise.
- Wall Street firms, whose business of selling mortgage-related securities around the world is easier and bigger when they have government guaranteed bonds to sell.
- Banks, who have become organized to make mortgage loans and pass the credit risk to the government.
- Mortgage banks, who do not have the capital to hold loans themselves and likewise can pass the risk to somebody else.
- Municipal governments, who like the higher real estate taxes generated by high property prices.
- Investors in mortgages who don't want to have to worry about credit risk because the taxpayers have it instead.

- Affordable housing groups, who get subsidies from Fannie and Freddie.
- Politicians, whose constituents and contributors include the aforementioned groups.

This daunting Gordian knot of private and political interests, all of whom get advantages from the economic distortions of Fannie and Freddie, all of which are always busy lobbying or being lobbied, makes it highly unlikely that the currently divided Congress will do any better at reform than its predecessors of the last decade. My own view is that the probability of meaningful legislation for Fannie and Freddie over the next year is zero.

But a different source of change is now a frequent subject of discussion and speculation. This is direct administrative action by the Federal Housing Finance Agency [FHFA] and the U.S. Treasury. The FHFA has a new Director coming, Mark Calabria, nominated by President Trump and apparently headed for confirmation by the Senate. Mr. Calabria has deep experience in the issues of Fannie and Freddie and might use his wide powers as their conservator and regulator for reform, including renegotiating their bailout deal with the Treasury.

Two essential reform items are putting Fannie and Freddie's capital requirements on the same basis as every other too-big-to-fail financial institution; and making them pay a fair price to the government for its ongoing credit support. This should be in line with what all the big banks have to pay for deposit insurance, which is their form of government guarantee.

Might such things happen by administrative action? They might. But not without a lot of lobbying, arguing and complaining by all of the interest groups listed above.

Community-led housing initiatives in Brazil: Historical review, current situation, and intervention perspectives

By Nabil Bonduki

1. Introduction

The engagement of communities in movements, associations, cooperatives, and other forms of organization has been critical for the progress of public policies in Brazil during the past 40 years. Housing movements were particularly important for the formulation and deployment of related programs.

Community organizations and cooperatives made several contributions to housing initiatives – the most important one was the creation of a new-dwelling production and management model, based on self-management. Despite the great difficulty in being accepted, these programs succeeded in providing low cost, good quality housing to low-income families with the help of future dwellers in the process.

Devised in the 1980s at municipal level, the proposal was an alternative to both traditional state procedures of affordable housing production (where government agencies hired and managed private construction companies, without any participation of the communities they would serve), and informal, individual self-construction practices in proprietary or occupied lots. In both cases, workers faced great difficulty in obtaining a house that was often situated far from workplaces, precariously built, and took years to be finished.

The National Union of Popular Housing [UNMP, in the Brazilian acronym], one of the proposal's leading advocates, defines self-management as: "The practice in which the community manages the solutions to their own housing problems. The community organizes popular movements, associations, and cooperatives to decide how to overcome housing challenges, whether in relation (Bonduki 1998). to urbanization or dwelling production. Self-management is also the strategy of choice to control public resources and to carry out the work while defining the land where the housing complex will be built, devising the project, screening the technical team, and determining construction techniques. It is the organization of the communal life and the realization of the right to proper housing." (UNMM website)

The objective of this article is to present a brief history of how the proposal came to be circumscribed within the trajectory of Brazilian housing policy; to show how it was consolidated as an alternative to solve housing problems; and to identify current dilemmas, challenges, and perspectives.

2. The urban and housing situation in Brazil

Brazil is the largest country in Latin America. With a current population of 205 million, it was the world's fastest growing country in the second half of the 20th century. In 1950, 18 million people lived in urban areas – 36% of the population. In 2010, this number grew to 160 million, or 85% of the population. There is a massive concentration in large agglomerations, with 63 million people living in 10 metropolitan areas – half of them in the two largest ones, São Paulo and Rio de Janeiro (IBGE 2012).

Building housing, infrastructure, and urban and social services for these 140 million people who migrated to the cities in the past 60 years, in a poor country with one of the worst social inequality rates in the world, was a challenge the Brazilian Government did not know how to overcome.

Public agencies and pension institutes either produced or financed around 170,000 affordable housing units until 1960, but the country had not consolidated any relevant policy until then.

Created in 1964, the first national housing policy counted on permanent funding, was managed by conjoined groups of public and private agents in every state and was tied to economic development strategies. The creation of the National Bank of Housing [BNH] and the Financial Housing System [SFH] were important tokens of this policy, which was strongly centralized in the Federal Government.

Between 1964 and 1986, BNH funded the construction of 4.2 million houses, among which 1.7 million were destined for the middle-income segment and 2.5 million for the lower-income segment. Although it was significant, the production met only 20% of the demand in a period marked by intense urbanization. Affordable housing units were homogeneous, situated in peripheral areas and oblivious to regional and cultural differences. Financial considerations prevailed over urban, environmental, and social ones. (Aragão1999; Maricato, 1987; Bonduki, 2014)

Since there were no direct subsidies, informal workers and those who could not provide proof of income were automatically excluded. Having no options, the majority of the population built their own houses in precarious settlements without any support from the State, which, in its turn, concentrated efforts on conventional building controlled by construction companies and did not launch any alternative programs.

In the 1980s, Brazil faced major economic and unemployment crises, SFH suffered with financial imbalances and BNH was extinguished (1986). At a moment of great mobilization for re-democratization, the Constitution of 1988 was the first to include Urban Policy, introducing the Principle of Social Function of Property and the Right to the City.

Despite having outlived BNH, SFH had its investment capabilities severely reduced, whereas the Federal Government was incapable of restructuring a new housing policy. In contrast, local governments took center stage by implementing their own housing programs, especially in more progressist municipalities. These programs included innovative guidelines, such as the regulation and urbanization of *favelas* and illegal plots; the incorporation of popular practices, such as individual or collective self-construction, communal work; and popular engagement in the formulation of policies, programs, and projects.

Albeit in small numbers, municipalities implemented alternative, innovative programs in the 1990s to cater to the lower-income population, being more respectful of local realities and relying on stronger diversity and participation. This moment was also the onset of the first self-management experiences in São Paulo, which will be discussed at a later stage.

In the 21st century, multiple initiatives brought the heavy work back into the hands of the Federal Government: The introduction of the Right to Housing in the Constitution (2000); the enactment of the City Statute (2001); the creation of the Ministry of Cities (2003); the formulation of a new housing policy (2004); the approval of the Bill of the Citizens' Initiative, that created the National System and Funds for Affordable Housing (2005); and the formulation of the National Housing Plan (2007–8), as well as sanitation and mobility initiatives.

The new National Housing Policy [PNH] in force since 2004 (Brasil 2004) includes a new financing model based on the combination of funding from SFH and subsidy to cater for families whose income is not enough to access financing options; the creation of massive urbanization programs to end precarious settlements and produce new houses; and the regulation of stable laws and legal certainty to foster production and market financing (Brazil, 2004).

Between 2003 and 2008, there was a significant increase in investments from all housing funds, and programs focused on low-income populations were expanded. The Solidary Credit Program, launched in 2004, was the first federal self-management program created by the government (Accioly, 2009).

Growing revenues led the Government to introduce a bold investment plan in 2007: The Growth Acceleration Program [PAC] included the urbanization of precarious settlements, among other initiatives, and reached unparalleled proportions. The National Housing Plan (PlanHab), devised between 2007–2008, drew on a favorable scenario in which Brazil seemed to be able to finally tackle its endemic housing problem and meet its housing needs within 15 years.

PlanHab is an important benchmark to rethink housing policies in Brazil. Its propositions were supported by in-depth technical studies and discussed with all sectors of society. The plan included a self-management-based housing program to be led by cooperatives and community associations, as well as the financing of urbanized lots, construction material, and technical advice to provide institutional and financial support for individual self-construction.

However, PlanHab was never put in practice – the strategy was replaced by the My House, My Life Program (PMCMV), in 2009, without much public debate. The program was proposed by the Government in response to the pressure created by the civil construction and real estate sectors, who feared the impact of the international real estate crisis (Bonduki, 2014; Rolnik,2015).

PMCMV looked at overcoming the economic crisis and hardship faced by those sectors by fostering massive dwelling production. The program was devised as an instrument to create jobs, streamline the economy and bring relief to national companies. Albeit relevant, these objectives were not enough to resolve the country's housing problem.

The program was proposed by the private sector to cater for the middle segment, but it ended up focusing on poorer families (Tier 1, up to US$500 in family income) in response to the pressure created by housing movements and the political and social commitments made by the Lula and Dilma governments. Nevertheless, the private sector remained as the program's main propelling force.

This framework streamlined the program's implementation and was also convenient for the Government: It served as an anti-cyclical instrument to measure up immediate political gains while attending a relevant social agenda and pleasing the business sector.

Driven by this conciliatory set of goals, the Government expanded tax funding and SFH resources for housing development. The input surpassed even the most optimistic scenarios proposed by PlanHab. An option was made to have the private sector provide finished units even in urban situations where this was neither necessary nor a priority.

Quantitative results were striking. As the Table 1 shows, around 5.4 million new units were commissioned in nine years – more than the 4.2 million houses financed by BNH in 22 years. Between 2009 and 2014 (Lula Government and the 1st Dilma government), 3.75 million houses were commissioned – 45% of which were financed by the Tier 1 population, an impressive figure.

More recently (2015–2017), the participation of Tier 1 went through a dramatic decline: It only accounted for 5% of 1.7 million commissioned units. There were two main causes: The Federal Government's growing fiscal deficit, that precluded the high number of subsidies in Tier 1, and the change in the Government's political profile after the impeachment of President Dilma (considered a *Coup d'État*) in 2016, when the commitment to the poorer population was deprioritized.

At a later stage, this article will show that the pressure created by housing movements was critical for the creation of two programs directly tied to collective self-management models: The My House, My Life Program – Entities [PMCMV-E] and the My House, My Life Program – Rural [PMCMV - R]. In both cases, the Federal Government subsidizes construction in partnership with associations, cooperatives, and other 3rd sector organizations. In spite of their relevance, these programs represented a minor slice of the PMCMV set, representing only 5.4% of the total number of contracts.

3. The emergence of housing production through collective self-management models

The conceptions behind housing production based on self-managed processes in Brazil is the result of a partnership between the Government, which has an important role in land acquisition and in providing funding and/or housing subsidies; a community organization (association or cooperative), usually created by housing movements or labor unions, in charge of all aspects of the undertaking; and, finally, on-site social and technical advisory (architecture, engineering, and urban planning), in charge of project development, site inspection and managerial support.

In order to understand this proposal, it is necessary to follow the trajectory of these three agents, especially from the 1970s, when society strove to reorganize while fighting for re-democratization. Low-income neighborhoods were central during this fight, as strong social mobilization emerged from those areas.

Since the 1940s, intense urbanization and lack of housing policies for the poor population led to a rapid growth of informal city spaces – irregular plots and the favelas. Precarious urban and housing conditions and shortage of services and infrastructure paved the way for the inception of community organizations.

Initially, groups such as Neighborhood Associations were closely knit with populist political leadership, giving rise to clientelism-based relationships. In the 1970s, the Catholic social doctrine reshaped the character of popular organizations. In areas occupied by the poor population (especially in favelas and precarious plots), the Church created a number of Basic Ecclesial Communities [CEBs] that came to strengthen the autonomous, popular organization of traditional political forces in the fight for urban improvements, such as utilities (water and power) and daycare, and also the regulation and urbanization of illegal plots and other land for housing initiatives. (Singer & Brant, 1982; Sader, 1986; Gohn, 1991).

'In the mid-1970s, those who did not benefit from the Brazilian miracle began to organize social protests. … Driven by the Liberation Theology, the Catholic Church had a critical role in the onset of urban social movements.' (Maricato, 2001).

These initiatives were also connected to the fight for re-democratization and built up strength in São Paulo thanks to Archbishop Dom Paulo Evaristo Arns, who supported the foundation of CEBs in the poorer neighborhoods and fostered reflection upon the country's social situation. The study 'São Paulo 1975: Crescimento e Pobreza' (Camargo et al., 1976) sought to demonstrate that poverty and inequality in urban peripheries were part of a same project that gave rise to the Brazilian Miracle during the military rule.

The economic crisis led to high unemployment rates and the eviction of thousands of poor tenants from their homes in the 1980s. The Church was paramount in the foundation of the *Movimento dos Sem Terra* (Urban Landless Movement), who organized land occupations and demanded alternative housing programs to cater for the poorer population. The CEBs, whose main values were solidarity and support, saw collective work and self-management initiatives as relevant elements both for ensuring housing and fostering community engagement.

Technical advice was offered by professionals – mainly architects – who were engaged with social movements. In addition to providing political and technical advice to the community, they saw this work as a means to deliver housing projects of architectural and urban quality, something that was not provided by the military rule, as well as a chance to expand horizons and break away from the profession's elitist nature (Espaços e Debates, 1983).

The support of university students for social projects was nothing new. In the 1950s and 1960s, architecture students took part in the *Movimento Universitário de Desfavelamento* [MUD], a movement that supported affordable housing for dwellers who were being evicted from the favela torn down by the Government. In Rio de Janeiro, the *Quadra* (NGO formed by architects) partnered with the Federation of Favelas in the State of Guanabara [FAFEG], in 1967, to fight against the policy that would evict the dwellers from the favelas. Together they devised the urbanization project of the *favela* Brás de Pina and ensured the permanence of dwellers that occupied the area in decent living conditions based on the 'Land to Those who live in It' principle (Santos, 1981).

In 1978, the Union of Architectural Workers of São Paulo created the *Cooperativa dos Arquitetos* (Cooperative of Architects), that gathered young professionals willing to work at the peripheries to help families who did not even know the role of an architect. The experience did not reach the expected outcomes but contributed to the formulation of a public service to provide free technical assistance for affordable housing – the proposal became a federal law in 2008.

In 1982, Architecture & Urbanism students and professors from the São Paulo's College of Fine Arts founded the Housing Lab (Lab-Hab) with the aim to support housing movements. While seeking alternatives to end the housing crisis, the Lab proposed the creation of a dwelling production project based on collective work and self-management, inspired by the Uruguayan *cooperativas de ayuda-mutua* (cooperatives of mutual help) (Bonduki,1991; Castillo, Aline Del; Vallés, Raul, 2015).

From this experience, other architecture schools created offices with similar missions and encouraged their students to collaborate with the community. As a consequence, not-for-profit organizations were funded in São Paulo to provide housing technical advisory. They were formed by activist professionals engaged in the cause and helped strengthen community organizations.

Related movements promoted massive land occupations throughout the 1980s with the support of architects and other professionals. Growing mobilization efforts pushed for greater participation of municipalities in the housing problem at a time there was no national housing policy in place.

Albeit essential, community organization and the composition of technical advisory groups were not enough to ensure the implementation of any self-management-based housing production able to survive the pilot stage. Only a more effective presence of the Government would be able to scale the initiative to prove itself viable. For that, it was critical that the Government embraced the proposal.

Following re-democratization and direct elections, local governments became the main interlocutor of popular organizations and their social demands. Mayors elected in 1988 showcased a progressist agenda and were led to run housing programs, regardless of the national policy. Since their budget did not come from SFH, they had more flexibility to assign funds to alternative programs.

This context gave rise to a set of innovative state and municipal experiences based on principles like heterogeneity, diversity, incentive to collaborative processes, partnerships with organized society, and the articulation of housing complex and urban policy. This gave rise to alternative projects, such as the urbanization and regulation of *favelas* and precarious settlements; support for individual self-construction; interventions in cortiço (slum or tenements and housing production in central areas; technical assistance for low-income population in housing-related matters, and, especially, the use of collective work and self-management practices in the construction of new dwellings.

4. The pioneering experience in the city of São Paulo

After a few pilots in the 1980s, an opportunity emerged to implement these alternative proposals on a massive scale in São Paulo, the country's largest city (9.6 million inhabitants in 1991). This followed the surprising election of Luiza Erundina, whose mandate (1989–1992) stood out as a lab for alternative experiences, laying the foundation for new housing policies. Prior to that, Erundina assisted dwellers from *favelas* and *cortiços* as a social worker hired by the City Hall. She was then elected councilor and her engagement in housing movements put her under the spotlight.

This alternative conception formulated and deployed by the Superintendence of Affordable Housing [HABI], was brought to life by the realization of 250 housing projects, organized in programs like self-managed collective work, urbanization of *favelas*, intervention in cortiços and central areas, and legal assistance (Bonduki, 2014; Bonduki; Andrade; Rossetto, 1993).

The community was engaged in all these programs and they all deserved equal attention, but this article will focus on the self-managed-based collective housing production and on the details of its regulation, as it became a benchmark for other related programs that followed suit at municipal, state, and federal levels.

This was not a small program, even though it relied exclusively on municipal funds from Funaps (Fund for the Assistance of Dwellers in Sub-normal Housing Conditions). In four years, around 11,000 houses were commissioned in 109 housing developments that boasted a great variety of projects and solutions.

Controlled by HABI, Funaps was founded in 1979 to assist in situations of emergency by providing individual subsidized funding to dwellers of *favelas* and *cortiços*. The program was named *Funaps Comunitário* (Communal Funaps) in contrast with the previously existing *Funaps Individual* (Individual Funaps).

The program was regulated in the first year of the Erundina Government and built on experiences carried out throughout the 1980s. The ventures were formalized through an alliance between Funaps and a communal construction association formed by the venture's future dwellers. Entities to be focused on were previously defined in collaborative instances spread across the city, called Regional Housing Forums.

The alliance determined that the funds listed in the budget and in the physical-financial schedule should be transferred to the community association in charge of executing the work, that in its turn should be carried out collectively by the future dwellers and organized by the association. A small part of the workforce (10% in house complexes and 14% in four-story building blocks) could be compensated for the work done.

In order to develop the project and to perform site inspections, the association needed to hire not-for-profit organizations to provide technical advice. They supported the association in all management aspects, such as the organization of the collective work and purchase of materials. Thanks to the program, many entities specialized in technical advice were founded – there were 24 entities by 1992, the last year of the Erundina Government.

Most of the ventures were housing complexes; In those, 82% of the funding should be destined to purchase materials, 10% for the payment of a specialized workforce, 4% for technical advice, and 4% for the organization of the building site. The cap for one single unit (US$ 7,000 in 1992; value not adjusted) was 40% lower than that advised by construction companies in their programs. In addition, the houses in the former were larger than the ones in the latter in most of the cases. The average cost per square meter (US$ 110 in 1992; value not adjusted) was 50% lower than the official figures registered by traditional processes (Bonduki,1997).

Several factors contributed to keeping costs low: The free workforce provided by future dwellers, the elimination of the construction company's profit margins (Benefits and Indirect Expenses – BDI), material purchased directly by the association, who obtained better pricing than that achieved in public bidding, and the collective, local production of pre-manufactured components (ladders, windowsills, and roof slabs) on site.

Other savings were indirect. Furthermore, the funding destined for building the construction site was also used to build a community center that served as the association's office during the works and for keeping equipment and materials. After the end of the works, the space was then given to the community.

The self-managed collective work combined organized production financed by the Government with the future dwellers' experience in individual self-construction practices, who had built their own house in stages by administering the workforce, purchasing material and organizing how the space was fulfilled without any technical or financial support.

Due to productivity gains warranted by the collective work, technical advice, the introduction of pre-manufactured components, the collective purchase of materials, and a paid specialized workforce, costs were lower than those of conventional management models and the outcome was of better quality than that of individual self-construction.

In addition to building houses, the program also wished to nurture communal spirit, which was reinforced through a number of supporting social actions, such as cultural workshops for youngsters, community vegetable gardens, daycare, community kitchens, and technical and political lectures that took place during the weekends while future dwellers worked on site.

Another crucial aspect was the access to land at a moment when financing the purchase of a lot was increasingly hard for the low-income population. In order to bring the program to life, the City Hall realized a massive expropriation of four million square meters of unused land, prioritizing areas where infrastructure was ready to use, including central areas. This led to the construction of small complexes and introduced a new logic of urban insertion of affordable housing, hence breaking the paradigm of keeping large complexes in peripheral areas perpetrated by BNH during the military rule. (Bonduki; Andrade; Rossetto, 1993).

The expropriation of urban empty land contributed to the policy's objective proposed by the Master Plan in 1991 that was intended to end the speculation over idle land. The plan was never approved. Several benefits were brought about by the program: Lower infrastructure costs; closer proximity between the house and the workplace; better access to urban equipment, public services and transportation; and avoiding the emergence of segregated neighborhoods. As a result, housing complexes were more diverse, demonstrated high-quality architecture and were properly sited in the urban area.

In 1996, the Communal Self Construction & Self-Management Program and other programs led by the communities were included in the Brazilian Report for the United Nations Conference on Human Settlement – Habitat II as successful examples of housing solutions, helping to consolidate a new way of solving the housing problem. (Bonduki, 1996).

Despite the low cost and all the recognition, the projects were not carried forward. When Erundina left the City Hall in 1993, the new mayor interrupted all works and projects, hunted down community leaders, tried to dispute the program's benefits and enhanced its flaws instead of fixing them. Abandoned sites caused major losses and greatly increased delivery deadlines. The construction was only resumed after the Municipal Accounting Court performed an in-depth auditing process and found that the program produced cheaper and better houses than those produced by construction companies.

5. The expansion and recognition of the proposal nationwide (1991–2003)

Due to the repercussion of the São Paulo's Communal Self Construction and Self-Management Program, housing movements across the country included similar proposals in their agendas. Although some municipalities and states built their proposals upon that experience, they showed varied outcomes: The program's success depended on the existence of organized associations, and competent leadership and technical advice to handle the complex management framework that was non-existent in most places. The attempts to implement the proposal in challenging scenarios eventually failed.

In addition, municipalities had limited budgets to invest in housing programs. São Paulo was an exceptional case and, yet, the city's budget was insufficient to expand the program. Consequently, the movements lobbied for the creation of a new national fund, fed by federal resources, to enable financing of housing programs (particularly those based on self-management models) for low-income families.

Based on a mechanism included in the Constitution of 1988, the movements devised the Bill of Popular Initiative in 1991, in which they proposed the creation of a National Housing Fund. They were inspired by Funaps and its important role in the initiatives carried out in São Paulo. The movements launched a national campaign to acquire new advocates across the country and relied on the support of associations, movements, activists, and the Catholic Church. They gathered one million signatures and delivered the project to the National Congress, where it remained untouched for over a decade until being incorporated into the housing policy proposed by the Lula Government (Paz 1996).

During this period, cities like Belo Horizonte, Ipatinga, Fortaleza, Diadema, and Santo André developed similar (albeit smaller) programs and helped extend the proposal's reach nationwide. In Rio Grande do Sul, small towns developed cooperative-led programs specially to cater for population in rural areas.

In the state of São Paulo, the movements pushed the State Government to create programs built upon the one previously implemented by the city of São Paulo. In 1991, the Government regulated a successful partnership program with community associations, but the project faced resistance because it gave autonomy to movements, which was feared by the conservative Government in power at the time.

In 1995, the State Government created the State Program of Communal Work (*Programa Paulista de Mutirão*). The program abandoned part of the original guidelines in order to limit associations' autonomy in various respects, such as the design of projects by entity-chosen technical teams. This expanded the Government's control over the program and led to new protests. It also reduced projects' flexibility and diversity, bringing them closer to the standards adopted by conventional ventures. The outcome was nevertheless impressive: 44,200 houses were produced between 1992 and 2013, considering all phases and partnership models with community organizations (CDHU, 2016).

The process also brought to the surface the difficulty faced by state agencies in dealing with self-managed models, where the power lies with the community – this resistance was perceived even amongst progressive governments.

6. Self-management arrives in the Federal Government in 2003

Upon the creation of the Ministry of Cities during the first Lula Government – whose agenda included incentives for self-managed processes –, expectations were that the proposal would go forward by leaps and bounds. However, housing movements needed to intensify mobilization and push for more negotiation to get the program off the drawing board.

Four national housing and urban associations (National Union for Affordable Housing, Center for Popular Movements, National Confederation of Dwellers' Associations, and **National Fighting Movement for Housing**) devised their agendas over 20 years of debate with different governments. It included the creation of the National Fund of Affordable Housing, subsidies for low-income families, the end of financing restrictions, a budget for technical support, transparency in the project selection processes, and the use of public land for social housing (Mineiro & Rodrigues, 2012).

One of their most important demands was the creation of a self-management-based program within the scope of the National Fund of Affordable Housing. In April of 2003, the National Union for Affordable Housing [UNMP] sent an official letter to the Ministry of Cities stating that self-management, "was not just a way to build houses, neighborhoods and social equipment, but social power as well. By controlling public resources and processes, we fight against clientelism and government's manipulation of the population and social organizations … When ventures are built through self-management, the population gains knowledge and independence, the houses are delivered with higher quality, there is no profit share, and, by extension, lower-income families have better access to the programs. In this sense, the inclusion of self-managed processes in housing production is critical to changing prevailing models. We propose that housing movements themselves be the ventures' agents, so that they can develop the projects, purchase real estate, carry out the construction/renovation works and administer lease-purchase agreements." (UNMP, 2003 in Mineiro & Rodrigues,2012)

It is worth noting that the concepts of communal self-construction and self-management have gone through changes since that pioneering experience in São Paulo in the late 1980s. Its traditional form – the collective work of future dwellers over weekends – included in the movement's original proposals, which were still influenced by the Catholic Church's notion of solidarity, took a back seat. The concept developed in a way that taking part in the construction lost its importance compared to the participation in the venture's management. The community ought to take an active role in social work, administering resources, defining materials and determining the building system. This was the predominant vision within the debate about a national program based on self-management models.

It took one year for the Government to propose a self-management-based housing program: The Solidary Credit Program [PCS], commissioned with resources from the Social Development Fund [FDS] created in 1991. The fund, never before used to finance housing production, offered more favorable financing conditions than SFH.

PCS was approved in 2004. The Government's selection process for projects received 2,759 applications, evidencing the massive demand for this housing management modality. The board selected 684 proposals, which would have their land documentation and full project analyzed by the program's operating agent (a national public bank, Caixa Econômica Federal).

The entities faced great difficulty in meeting the bank's requirements – this was common among self-management-based programs, and community associations needed to overcome multiple barriers to have the commissioning approved. Therefore, only 158 housing ventures (23% of pre-selected projects) were commissioned between 2005 and 2007 (Mineiro & Rodrigues, 2012).

Throughout this period, movements struggled to change the financing granting process (considered extremely demanding) and the attitude towards their model – especially from Caixa Econômica Federal, who did not trust the program and hampered the concretization of proposals. After a lot of pressure and negotiation, successive changes in regulations and officers' attitudes gradually facilitated the commissioning process.

Despite having commissioned 20,140 housing units through partnerships with community organizations, the movements saw PCS as a temporary solution: They hoped for the creation of a larger self-management program within the scope of the National Fund of Affordable Housing. However, the Government's economic team was trying to block the approval of this Fund because it meant more public money to subsidize housing for low-income people.

After 14 years of proceedings, the National Fund for Affordable Housing [FNHIS; Law no. 11, 124/2005] was approved in 2005. However, it has never been implemented by the Government – hence, the outcomes were negligible and frustrated movements and organizations, which had hoped the Fund would serve as an instrument to ensure subsidies to support and finance affordable housing programs for the low-income population. The agenda did not go as planned; the creation of the Program of Social Housing Production within the scope of FNHIS revealed the Government's ambiguous vision regarding the theme. Celebrated by the movements, the program's first project selection was completed in March of 2009, but the proposal did not get off the ground and ended up being absorbed by PMCVM – Entities. This will be discussed in detail at a later stage.

The National Housing Plan [PlanHab], devised between 2007-2009, recognized self-management by associations and cooperatives as a subprogram of the Programmatic Line of Housing Production and Acquisition, with the aim to, "promote the provision of urban housing units to Tier 1 (max income of US$500) and Tier 2 (income between US$500-US$1,500) through self-managed enterprises carried out by private, not-for-profit organizations (foundations, societies, unions, community associations, housing cooperatives, and the like) partnered with technical agents." (Brazil, 2009)

For PlanHab, 'self-management involved reciprocal help from final beneficiaries in the production, management, and maintenance of housing ventures, which may belong to the cooperatives.'

However, as already mentioned, PlanHab was buried by the global financial crisis of 2008. Without due consideration of the proposed strategies, the Government opted for a strong intervention in the housing sector to cater for the real estate and private civil construction sectors, who were threatened by the crisis. The Government launched PMCMV with the promise to deliver one million houses, built with budgeting from different funding entities.

The program stemmed from the negotiation with entrepreneurs; hence, it did not include self-management-based modalities neither did it prioritize the lower-income population. Unsatisfied with the program, housing movements organized occupations and protests to demand the prioritization of the lower-income segment and to approve the adoption of self-management models in partnership with community organizations to produce part of the units.

To comply with its conciliatory nature and its commitments to multiple social sectors, the Lula government was forced to listen to the movements. Two self-management-based programs were created within the scope of the PMCMV: My House, My Life – Entities [PMCMV-E], aimed at the urban housing movement and My House, My Life – Rural [PMCMV-R], aimed at farmers and rural workers with incomes lower than US$500). The individuals catered for by these two programs were organized through either public or private representative entities. The My House, My Life – Rural was largely accepted across the rural settlements organized by the Landless Rural Workers Movement.

Both programs catered for the lower-income population [PMCMV Tier 1] and were carried out by means of subsidy; the beneficiaries were to pay a symbolic fee of 10% of the minimum wage (around US$30).

From a quantitative standpoint, these programs represented a very small proportion of the PMCMV: 5.5% of the commissioned units. Still, the number of commissioned housing units within the scope of the two programs was significant: 298,142 units (78,151 in PMCMV-E and 217,971 in PCMV-R). It is worth noting that this represents around 19% of commissioned units in Tier 1.

These figures show that self-management-based programs can greatly contribute to mitigating the housing shortage among low-income families, besides providing higher quality at lower costs. It is important to point out that the PMCMV was never designed to strengthen self-management models – it was considered a political concession to housing movements, and not part of the strategy to meet the country's housing needs. For this reason, nothing was done to enhance associations' and cooperatives' management skills, nor to streamline the bureaucratic process for self-management-based projects.

The conceptual foundation of self-management-based national programs was that the community organization's role in the ventures' management was more important than the physical work of future dwellers in the construction site. Hence, four construction regimes were adopted for the production: a) individual self-construction (by the beneficiaries); b) communal work by the beneficiaries organized by the association; c) direct administration by the association with the support of a third-party workforce for the execution of services; d) a contractor assuming all the work under the control of the association.

Most of the projects adopted the Direct Administration model combined with partial communal self-construction. In this regime, the entity hires a multidisciplinary technical team to design the project, perform site inspections, and to comprise a management group for administrative tasks, purchase of materials, and hiring workers and/or services. Each construction stage is commissioned according to its complexity and relies on the services of several contractors (Mineiro & Rodrigues, 2012).

In this modality, there is no construction company in charge of the enterprise. The families

TABLE 1 My House, My Life Program – Brazil 2009–2017
Number of units contracted by income level and management process

			2009–2010	2011–2014	2015–2018	TOTAL
TIER 1	**Self-Management**	*MCMV – Entities*	8,024	45,858	24,269	78,151
		MCMV – Rural	6,817	159,839	53,315	219,971
		Self-Management Sub-Total	14,841	205,797	77,584	298,142
	Construction Companies		467,900	1,020,908	80,979	1,569,787
	Tier 1 - Total		482,741	1,226,605	158,563	1,867,909
TIER 2			375,764	1,216,341	1,360,411	2,952,516
TIER 3			146,623	307,054	196,047	649,724
TOTAL			1,005,128	2,750,000	1,715,021	5,470,149

Source: Caixa Econômica Federal

manage works through assemblies, commissions, and communal self-construction. Since the entities have no cash flow, the budget is granted upfront for each stage of the construction. The budget for the conclusion of one stage is only granted once the previous stage has been completed.

This model proved to be more cost-efficient and deliver higher quality units, besides being more fulfilling for the beneficiaries. Nevertheless, it has not been incorporated by the Government, which resists yielding power to community organizations. The entities' and the technical teams' managerial skills are often questioned, but no efforts have been made to empower these entities – the movements themselves took on this role.

Despite the difficulties, this management model generates very positive results in terms of costs and benefits. In São Paulo, the self-management-based process has a long tradition and relies on seasoned leadership and technical teams. For that reason, their housing complexes are of great building quality, their diversified designs are conceived collaboratively and, most importantly, they cost about 30% less than those built by the private sector. The price per square meter for Tier 1 units in the communal management model is US$530, whereas, in the private management model, it may reach US$850 in similar locations and building standards. Since the financing cap remains the same regardless of the management system, the units produced through self-management models are larger and offer better common areas and spaces.

However, some entities approved by the program as promoters agreed to receive projects ready, entirely developed by a construction company, without any participation by beneficiaries. This is a good deal for the contractors but does not generate community work, nor a better and cheaper housing complex. This attitude distorts the objectives of the proposal. The mechanism is used by construction companies to leverage the program's benefits – such as upfront payment and waiver of the company's risk assessments – and does not effectively embrace the communal, self-management process.

In spite of the positive results, the program is currently at risk, as well as Tier 1 beneficiaries of all the programs. As the Table 1 shows, there was a great reduction in the number of commissioned units in all Tier 1 modalities, including PMCMV-E and PMCMV-R, in the third phase of the program (2015–2018). While the houses delivered for Tier 1 beneficiaries represented 46% of total commissioned units between 2009 and 2014, they represented only 9% of the total after 2015. This is the result of the political changes the country went through in 2016 after President Dilma's impeachment, as well as the fiscal crisis: Tier 1 units are fully subsidized and rely on federal funds, whereas Tiers 2 and 3 are funded by the housing financing system and, although being partially subsidized, still provide financial returns.

After taking office in 2019, the Jair Bolsonaro government extinguished the Ministry of Cities, completely suspended new commissions for self-management-based programs and closed all negotiation channels with social movements. Therefore, the country currently experiences uncertainty with respect to the continuation of community-led initiatives in housing production. Should no changes be made to the current scenario, there would be no alternative to rising numbers of precarious settlements and an increase in the housing deficit, currently set around seven million units.

7. Challenges, potentialities, and perspectives at a moment of uncertainty

Community participation in housing projects has been paramount for the debate regarding programs and policies and to deliver houses with higher quality at lower costs.

In light of the huge housing deficit faced by the Brazilian population, the lack of resources and the governments' difficulty in providing housing for lower-income families, the capacity of community associations to manage dwelling projects on behalf of their members should be viewed positively and carefully analyzed as a viable alternative to large-scale housing production.

Experiences in São Paulo and other cities showed great advantages in comparison to conventional management systems. In short, the benefits include: Lower production costs (savings of up to 30%); superior, more diversified projects; dwellers' participation in project elaboration and definition of construction materials; more community engagement in the dialogue with the government to obtain collective equipment; and strengthening of communal organization.

Producing more with less should be the ultimate goal in a country with limited resources for social investment. Therefore, it is difficult to understand the reason for the government's lack of interest in supporting and expanding self-management-based models. This was already evident with progressive governments, like Lula's and Dilma's. The prospect is even darker with the current Government, which closed all dialogue channels with social movements and actively seeks to weaken them.

In addition to this pessimistic scenario, multiple challenges must be overcome in order to consolidate this alternative method of housing production. The greatest challenge is the creation of a legal framework that can regulate cooperative-led self-management models as an instrument for housing policy within the scope of a solidarity economy.

The conceptualization of self-management as a non-state public management system completely different from private management models is critical, as this understanding would lead governments to ensure better conditions for its development, such as tax exemption for those working on site, preliminary land acquisition, special conditions for project approval, etc. Although community entities are already recognized as promotors, they are not seen as representatives of the dwellers – rather, they are seen as mediators between governments and final beneficiaries, as if they were real estate agencies.

Finally, it is necessary to ensure that all agents engaged in the process are qualified: Community leaders, technical teams, and government representatives in charge of inspecting the projects. The creation of a collaborative culture is crucial for the self-management model to become a scalable solution to the grave Brazilian housing problem.

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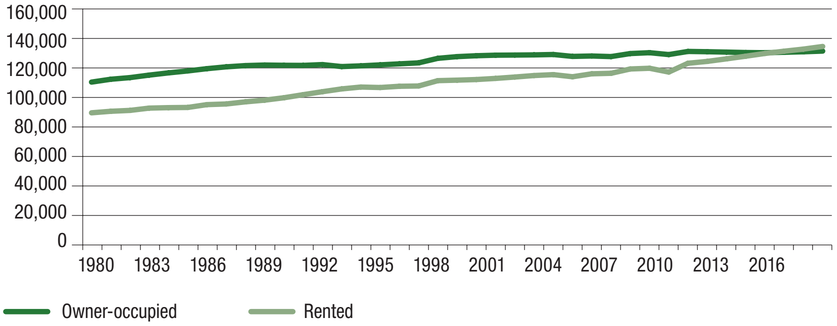
Aspects of the changing Danish housing market

↳ By Jens Lunde

I welcome this opportunity to share aspects of the recent developments of the Danish housing market with you.

Denmark faces an election for the Parliament before the end of June under the constitution, but the Prime Minister has not yet decided the day for the election. My conviction is that this will not change the conditions affecting the housing market in the short run. Denmark did not join the euro but the Danish central bank's interest setting shadows the ECB interest policy, which is why no isolated Danish change of the monetary short-term interest rates will happen.

FIGURE 1 The number of households in owner-occupied and in rented dwellings 1980-2017

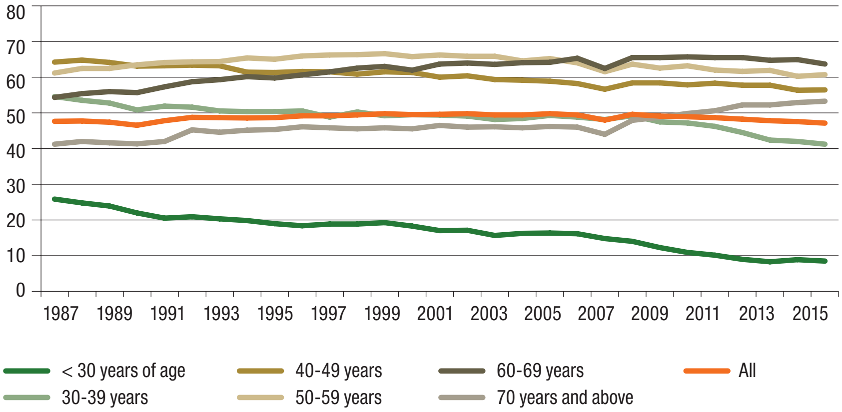


Source: Statistic Denmark

1. Changing tenure structure

When people, media and economists are talking about the "housing market", they focus on owner-occupiers, as most economic housing analysis does also. The Danish housing market comprises four tenures with owner-occupation (49.2%) as the largest and then social housing (18.9%), private rental housing (14.1%) and private co-operative housing (7.1%)[1]. Usually, a country's tenure structure only changes slowly over the years. The owner-occupation segment was slightly above 50% over the decades from 1960 to 2000, while over these years the private rental segment halved and the proportion of social housing doubled.

FIGURE 2 Percentage of owner-occupier households (exclusive self-employed) in the different age groups 1987-2015



Source: "Lovmodelsekretatiatet", Ministry for Economic Affairs and the Interior, with the help of Nicolai S. Møller, who made data available

Besides private renting and social housing, the families in the rented dwellings also include private cooperative housing, as in this tenure the households are members of the cooperative, which owns the property. There were 983.000 persons in social housing households in 2018 and 366.000 in private cooperatives; both numbers had increased around 8% since 2010.

In 2018, 506,000 persons were tenants in properties owned by private persons – an increase of 31% since 2010; possibly most of these were in former owner-occupied dwellings, where the owners had been unable to sell the property or were still technically insolvent after the housing crisis years. However, 420.000 tenants were living in properties owned by companies, which was the largest increase (70%) since 2010; many of these dwellings were new-build residential properties. This might illustrate the extreme low interest rate level, where many investors – contrary to earlier periods – find residential properties is a profitable alternative.

Even though the average owner-occupation ratio has been nearly stable, the group of homeowners is aging. The ratios for families below 40 years of age have fallen, while the ratios for families above 60 years have risen as seen in Figure 2. Over the whole period covered by the data, less people below 30 years of age became homeowners, but this development cannot be explained by changes in housing policy but instead by general structural changes

[1] In parenthesis, the tenure's share of the housing stock in percent for 2011 is mentioned. In addition, 6% is not in use, the public owns 2%, and 2% is "unknown". (Source: Whitehead et al. 2012)

in the Danish society. After the housing crises began in 2006, the decline in the younger age groups became slightly stronger.

2. The private rental market

The private rental housing market has suffered from stiff regulation since World War II, but this situation is changing fast. Not many "cheap" private rental dwellings exist any longer. Aging, plus wear and tear have done their job and renovation of properties is physically necessary over the years. Flats built after 1990, and flats in renovated earlier commercial properties have unregulated rent setting. In addition, private houses and flats (not earlier rent regulated) can set rents freely.

Over decades, the return on investment for new build rental residential properties was below the required rate-of-return. But the still lower interest rate level and the large investors' search for higher yield alternatives to bonds has created the background for building private residential properties, especially in more attractive areas in Copenhagen.

Moreover, there is actually a demand for private renting. New younger households choose the lowest payment solution and actually this is often private renting, due to the low interest rate level. This solution is generally as cheap as social housing. Besides it has been more difficult to get access to raise a mortgage loan to buy (see below). Still a number of owner-occupiers are technically insolvent, so they are forced to rent out instead of selling. And new potential owners may fear technical insolvency which can lead to foreclosure, so they prefer to rent.

An important change to rent regulation, the so called "§ 5, stk. 2" rules, were introduced in 1996. New investors use these rules to increase the future rental income. Through repeat trading of these properties still more renovations – and rent increases – can be created and in the end the rent level is lifted to the market level. Recently hedge funds have invested in private residential properties and have used this method – and according to anecdotal knowledge – have also used more aggressive methods such as paying tenants to move "voluntarily" to create a confidential return and to increase the value of the properties – in order to withdraw them from the market.

AirBnB also has a base in Copenhagen with the third highest ratio of announced AirBnB offers to number of inhabitants after Florence and Venice but it has spread over the whole country. Obviously, this service competes with the hotels. Besides, it is an alternative for private landlords to re-allocate their offers of dwellings to this special tenure, and the dwellings are in reality taken out of the ordinary rental market. In addition, AirBnB is an option for owner-occupiers and for members of private co-operatives, who are unable to sell or are technically insolvent, because their debt is higher than their property value.

3. Social housing

The English term affordable housing is not used in a Danish context but the official/legal term "almene boliger", i.e. "public housing" is used. Historically this type of housing was seen as "housing for all people" and it was created through cooperative principles. Over time new build units have been subsidised – directly and indirectly – by the state and municipality. Social housing cooperatives pay land tax but are tax-free in the sense that they do not pay any tax on the rental surplus like private rental properties or a property value tax like owner-occupiers. The term "social housing" is used for practical purposes.

A serious problem is the rate of crime and incidence of social problems in the social housing areas. Therefore, a so-called ghetto list has been defined by the following criteria:

a) The unemployed proportion of the inhabitants is 40% higher than the average,

b) The proportion of the inhabitants, who have been convicted for breaking the criminal code, the law on drugs and the weapon law is as least three times the national average,

c) Low educational levels, and

d) The average gross income for inhabitants between 15 and 64 years of age is less than 55% of the average gross income in the region.

At 1st December 2018 there were 29 cooperative housing societies on the official list against 22 a year before.

A large majority of the Members of Parliament have agreed to reduce insecurity, crime and integration problems in these areas. The target is to change the composition of the inhabitants, to mix the housing tenures and to create a better connection to the town that the housing society belongs to. Thus, the proportion of family dwellings in the area has to be reduced to a maximum of 40% before 2030 and changes to the physical structures – inclusive demolition might be a measure, which can easily be discussed and criticised. Also, some dwellings' tenure status can be changed to owner-occupation and, if practically possible, new private houses can be built.

The mortgage financing of social housing was changed in November 2017, when the "Government decided that in future social housing in Denmark is to be financed via issuance of government-guaranteed mortgage bonds in separate capital centres.….This restructuring is expected to yield the Government a saving of more than kr. 9 billion by 2025, primarily because interest costs will be lower." (Danmarks Nationalbank, 2018b, p 1). The argument behind the change is that earlier private and social housing mortgage loans were funded by sale of bonds on the same terms and conditions, even though the mortgage banks carried a credit risk with the private loans, while the state in reality guaranteed the loans for social housing. – This change did not influence the proportion of the rent allocated to capital costs on new build social housing, which still is determined by law at 2.8% of the purchase price; thus, the mortgage choice has no consequence for the rent.

In 2017, 3300 social housing dwellings were built, which was about 13% of the total number of completed dwellings.

4. Private co-operative housing

Private co-operative dwellings are the most common tenure in the capital (Copenhagen and Frederiksberg), where tenants in old private rental dwellings had the right to buy these properties, if the landlord wanted to sell the property to another owner, and if they created a cooperative for this purpose. Also, these cooperatives pay land tax but are tax-exempt in the sense that they do not pay any tax on the rental surplus like private rental properties or a property value tax like owner-occupiers.

Last year some legal reforms of the tenure were enacted. The purpose was to create more "robust private cooperative organisations". The background was that some large cooperative organisations became bankrupt and even close to foreclosure, after a decade where the sale of private rental residential properties and the creation of private cooperatives were part of the background to the outbreak of the Danish banking crisis in 2008. In addition, many of these cooperatives raised mortgage loans with adjustable interest rates [ARM's] + a SWAP, and by use of this structure, the borrowers wanted to protect themselves against rising interest rates[2]. Instead, they were hit by faster falling interest rates, which made their

[2] It can be seen that they swapped their ARM loan to a FRM loan without an embedded call option.

debt increase and increase. This made some large private cooperative organisations bankrupt and caused large losses for Nykredit bank, part of the Nykredit group which includes the largest mortgage bank.

The legal change involved:

a) Some tightening of the conditions for creating a private cooperative housing company,

b) Some rules for the rent setting by formers members of a cooperative housing company after a bankruptcy, and

c) Tightening of the private cooperative company's access to loan finance.

It is pointless to list the detailed legal changes, but they all had the purpose of making the tenure more robust. They were informed by the bad experiences that arose from the combined housing and banking crisis, where the private cooperative tenure sometimes nearly "exploded".

Private cooperative housing companies pay land tax. They are frequently found owning multi-floor residential properties and frequently based in the capital region. It is expected and has been signaled from the tax authorities that these flats and the owner-occupied flats in the area will be particularly hit by an extraordinary increase in the land taxes each year from 2021 on.

5. Owner-occupied housing

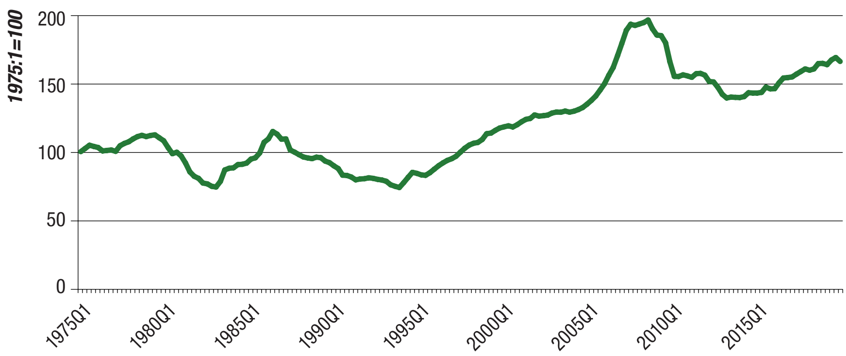
Based on the argument that owner-occupation works in market conditions, this tenure takes up most of the last part of this article. In the daily news and in most economic analysis, the housing market is synchronic with the market for owner-occupied houses and flats – even though it only covers half of the dwellings and half of the households. However, owner-occupied houses and flats are on average the largest homes, which is why they contains around 57% of the Danes.

Much of the housing discussion on this tenure has focusses on housing prices.

6. House price changes and development

The official statistics on house prices are based on the changes in the ratio: sale price/public assessed property price, as used in Figure 3 below, where the nominal house prices are deflated with the implicit consumer price deflator to create changes in real prices. – but statistics on average buying prices and on average m^2 prices are also published.

FIGURE 3 Real house price development, 1. Quarter 1975 – 3. Quarter 2018



Source: Monadata from Danmarks Nationalbank, quarterly house price index.. After 2005 data from Statistics Denmark]. Figure by cand.polit Henrik Pedersen and Jens Lunde

Figure 3 show that real house prices did reach an all-time high point in 2006-08 and then fell until 2012. Afterwards real house prices again showed a remarkable increase – to peak once again in Q2 2018 but at a lower value. But is this latest drop only temporary or will it start a new downturn in the cycle?

Prices for owner-occupied flats peaked in the summer of 2006 while house prices turned around a year later, possibly because the flats are concentrated in the capital area. Also, prices for flats are more volatile as seen recently, where the nominal prices for owner-occupied flats increased 62% from Q1 2012 to Q2 2018, while nominal house prices only increased by 28% over the same period – but both price indices did start to fall over the summer of 2018.

One quarter's change is too short a period to conclude on but possibly this has been the start of a new housing price downturn. The data in the monthly house price statistics confirm that the prices for houses and flats are falling slowly and by December 2018, both indices were back at the December 2017 level.

The official expectations are that house prices will not fall further. Thus, the Government has observed the subdued house price development in 2018 but nevertheless expects a nominal increase in prices for one-family houses of 4.2% in 2018, 3.3% in 2019 and 2.5% in 2020; and the prices for owner-occupied flats are expected to increase, (Ministry for economic affairs, 2018). Similarly, The Danish Economic Council expects that real house prices will increase 2.3 to 2.5% over the next couple of years, even though the number of sales has been falling and the rate of price increase for flats and houses has flattened, (DORS, 2018). In an analysis from September 2018, the Danish Central B(2018a) expects a nominal house price increase at 3.8% in 2018, 3.1% in 2019 and 2.7% in 2020. Thus, the official house price expectations do not allow for a high possibility of a new house price downturn. However, they are more skeptical about the future price development of owner-occupied flats. For example, the Ministry for Economic Affairs signals that these prices might precede a turnaround – but expects a period with subdued flat prices rather than falling prices, (2018, p.63).

Analysis of Figure 3 could confirm that in the long run real house prices are increasing and possibly are following the increase in incomes. However, a large part of the increasing real house prices might be explained by falling interest rates over the last 30 years, (Lunde, 2016, p. 116). Also, the real house price development might go into reverse, i.e. real house houses will return to the long-run mean or move around that mean with no long-run upward trend in real house prices.

Owners, real estate agents, politicians, media, lenders and possibly others may have an interest in suggesting that it is rather profitable to be an owner-occupier. They rarely remember to tell about the risk of owning and owners with bad experiences forget to tell their colleagues, friends and others that they have failed. Let us take one more look at figure 3: the index value in Q3 2018 is 2½ times as high as at the trough of Q2 1993, or 117% higher or 3.15% per year. The best explanation of the increase might be that the interest rate level has been rapidly falling over the 25 years, see Lunde (2016. p. 116), and it seems unlikely that the extremely low interest rates can continue forever.

However, a small gradual increase in real house prices might be realistic. The statistical problem is that it is rather difficult to adjust for the improvement in quality of the houses over the years, even though the Danish house price statistic is of good quality, because price changes are calculated with reference to the growth in the sale price/public assessed property value ratio.

7. Regional and local house price development

An important issue in Denmark over recent decades has been the regional differences and the population's migration from the rural districts into the larger towns and especially into Copenhagen.

An examination of the nominal house price development in the Danish regions in Figure 4 shows that the prices are nearly moving in parallel until the peaks in 2006-2008. The peak is found in 2006 in the capital region, a year later in the eastern part of Jutland (with Aarhus) and more or less two years later in the rest of the country. The house price fall was most pronounced in the West and South Zealand in the years after, but house price development has turned around in all regions. Nevertheless, we can still find examples of empty, bad quality, unsaleable and derelict houses in smaller towns, villages and rural districts.

Also, a comparison of the price development in different Danish provincial towns (municipalities) for January 2010 to November 2018 shows that house prices for towns in the capital region had moved a little faster upwards than for the other towns – but all moved in parallel.

8. Idiosyncratic house price risk

There exists an idiosyncratic house price risk, which is that the price development for a single house does not follow the price development for similar houses in the region/municipality/town, i.e. there is not a perfect correlation between the price developments for single houses.

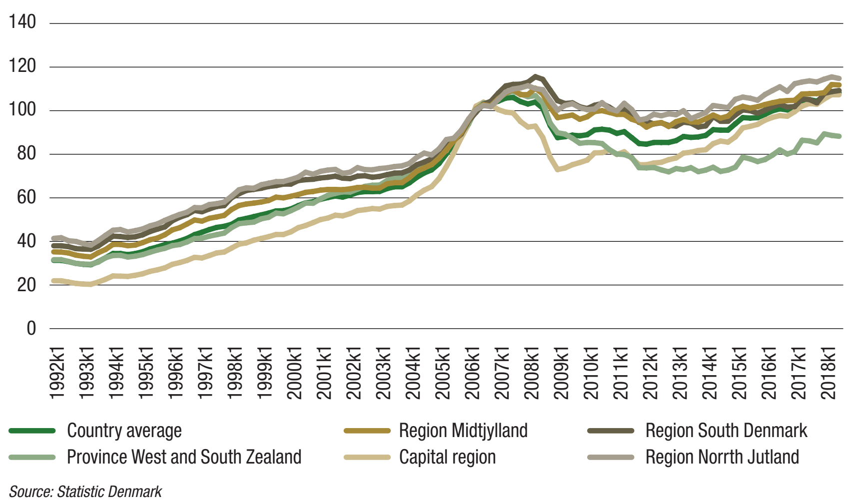
Thomas Lundholm wrote his master thesis in 2015, where he looked at the owner-occupiers' house price risk, and where he had found the data in the public database www.boliga.dk, (Lundholm, 2015). For all houses, which had been traded more than once over the years 1992-2014, he compared the buying and selling price for the house to find the percentage of houses, which were sold at a loss in capital terms. For example, 7.0% of the houses bought in 1996 and sold in 1999 were sold at a loss.

It is not surprising that it is most likely for houses bought around the house price peak in 2006-08 to be sold at a loss. 63.5% of the houses bought in 2006 and sold in 2012 sold at a loss. In general, approximately 60% of houses bought in 2006-08 and sold up to 2014 were sold at a loss but for these years, one may be more surprised that approximately 40% were sold with a capital gain. However, the most surprising aspect of his analysis was that some houses, bought in the years with fast rising house prices up to 2006, were sold at a loss – for example, 3.6% of the houses, bought in 1998 and sold in 2007.

9. Changes to the Danish housing finance system

The Danish mortgage system is efficient, based on capital market interest rates and is technically "cheap" from a borrower perspective. Bob Pannell then of the UK Council of Mortgage Lenders, gave a highly positive evaluation of the Danish mortgage system through the title of his article: "Denmark: possibly the Best Housing Finance System in the World?" (2003). – A recent presentation of the Danish mortgage model is found in Lunde (2016, pp. 111-113).

FIGURE 4 Nominal house price index for selected regions 1992Q1 – 2018 Q3



Source: Statistic Denmark

The funding is created by selling mortgage bonds on the capital market – at Nasdaq Nordic – where in principle the prices for the bonds are changing from minute to minute. The investor receives the bond's interest rate, and the borrower has to pay the same amount as interest but has also to pay a fee to the mortgage bank, which make the debtor's interest rate somewhat higher than the investor's. These fees depend on whether the loan type is fixed interest [FRM], adjustable interest [ARM], interest-only [IO] and with or without repayment, and the security behind the loan as measured by the loan-to-value. Thus, for the largest mortgage bank Nykredit, the actual fees vary between 0.45% and 2.45%. Therefore, borrowers can easily pay positive interest costs when they raise a loan, although the bond investor receives a negative interest rate.

In the wake of the housing and financial crisis the regulatory regime for the financial system has been thoroughly overhauled. The resulting changes are more far-reaching than any other regulatory changes since the beginning of the 1990s. Moreover, the changes represent an important legal change. Previously, changes of mortgage conditions were determined by law and thus by decision in the Parliament. Now the Danish FSA [Finanstilsynet] has taken over that legislative role under the responsibility of the Minister and the Ministry. Also, the Danish Central Bank has played a very active role.

Denmark established a Systemic Risk Council in 2013 with the task of monitoring, identifying and contributing to limiting systemic risks, as systemic risks can trigger financial crises. The Systemic Risk Council can make statements on financial issues, including the development in systemic risks and financial regulation, which the Council finds important in relation to financial stability. The statements may vary in strength and may take the form of observations, warnings and recommendations.

At the beginning of December 2014, the Danish FSA introduced a "new regulatory mortgage diamond for mortgage banks" to help to avoid increased risk taking. These rules are seen as an addition to the existing solvency rules. The five "diamonds" are:

a) The growth rate in lending to customers in the single segments must be below 15 % per year. (The four customer segments are: private owner-occupiers, private residential properties, farms, other commercials.)

b) The borrowers' interest rate risk: the proportion of the outstanding loans, where LTV is above 75 %, and where the interest rate is for two years or less, must be below 25%.

c) Limit on the interest-only feature for private borrowers.

d) Loan with short funding: the part of the outstanding loans which are refunded must in a single quarter be below 12.5% of the total amount of outstanding loans and annually less than 25% of the loan portfolio.

e) Large exposures: the sum of the 20 largest exposures must be less than the bank's "pure" equity.

Moreover, the Danish FSA issued guidance on what constitutes an "adequate" down payment for the buying of a house or flat. This was in practice directed against first time buyers. The suitable down payment was defined in the text as the buyer having to place 5% of the buying price as equity; the new rule was implemented on 1st November 2015. Thus, the intention is to avoid 100% credit financed buying.

However, this represents a rather soft regulation, as the transaction costs would be around 10% of the market price, if the house/flat has to be sold and another one bought, and after a fall in the house price, the required equity would be even higher. But the message to the market sent by the regulatory change is important.

The Danish FSA issued an instruction in November 2015 that commercial and mortgage banks should use sufficient caution when lending for housing purposes in areas showing large housing price increases, called "growth areas". Actually, the capital region and Aarhus were included. This regulation contained a new approach to regulation and was relatively detailed and wide ranging. Naturally, it is questionable whether the effects of the implementation have been seen yet.

Possibly the most interesting new rule was that a borrower, who did not raise a fixed rate mortgage, at the credit valuation should be able to pay the debt service on a 30-year fixed rate mortgage with a printed interest rate at 1% above the actual interest rate – with 4% as a floor. A similar rule was introduced for customers borrowing to pay for a private cooperative flat.

Another new type of rule was that the lender should ensure that a borrower with a leverage between 4 to 5 should be able to maintain positive equity even if the price of the property fell by 10%. If the leverage ratio was above 5, the borrower should be able to maintain positive equity even if the price of the property fell by 25%. Young customers still in education were exempted from these rules.

The Danish mortgage banks and largest commercial banks have been defined as Special Important Financial institutions [SIFI] and have to fulfill somehow stronger capital requirements both formally and informally.

New – higher – capital requirements for commercial as well as mortgage banks are expected to be announced as the Basel IV-requirements. Therefore, the largest Danish mortgage bank, Nykredit – and the subsidiary mortgage bank, Totalkredit, did announce that they would increase the fees for their established borrowers. No doubt that the Danish banks have a much better capital base now than in 2007-08 around the Global Financial Crisis and are thus much safer. This is confirmed through use of the official accounting-based rules as conducted by the Danish FSA.

10. Danish monetary policy

The Central Bank's interest rates play an important function as a signal to the capital market and to the wider economy. In the money market the papers will be directly influenced and carry similar internal rates of return as the state and the central bank's papers.

The Danish referendum on the Maastricht treaty resulted in a rejection with 50.7% against 49.3% and Denmark did not join the euro. Immediately after, the Danish Central Bank [Danmarks Nationalbank] decided to let the Danish currency [DDK] track the euro at a central rate of 746.038 kroner per 100 euro with a fluctuation band of +/- 2.25%. The purpose of this change to the rate regime is to provide a framework for low and stable inflation in Denmark.

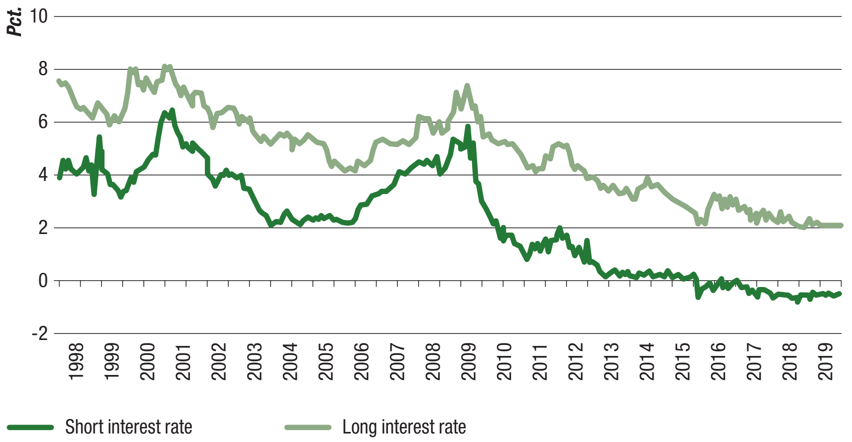
Normally, "adjustments of Danmarks Nationalbank's monetary-policy interest rates and expectations of their future course are important to short-term market rates, i.e. interest rates in the money market and yields on bonds with maturities of up to two years. …The relationship between long-term interest rates and monetary-policy interest rates is less straightforward." (Danmarks Nationalbank, 2009). In reality the Danish monetary policy decisions are shadowing the decisions of the European Central Bank [ECB]. Thus, at the short-term end of the bond market, the central bank's interest rates are transmitted directly to the short-term state and mortgage bonds, and Denmark has even experienced negative interest rates for one and two year mortgage bonds [ARM bonds] for most of the period since 2012.

Negative interest rates are a most uncommon phenomenon. It has only been met recently on a couple of occasions for state bonds but not before 2012 for mortgage bonds, and the Danish mortgage model was not legally or economically structured to handle negative interest rates. A working group, set up by the Government, found that "negative interest rates will not cause severe problems for ARMs", and that it would generally not be a problem if mortgage banks find individual solutions the problem.

The relations between short and long-term interest rates is depicted in the yield curve, where the long-term rates can be interpreted as containing the market participants' expectations about future short-term interest rates. Through this relationship negative interest rates were also transmitted to long-term mortgage bonds.

The falling interest rates from 1990 to 2015 were shown in Lunde (2016, p. 116) and in figure 5 below it can be seen that interest rates have fallen even more after 2015. It will be remarked that interest rates increased significantly from 2006 and up to 2009, i.e. when the housing and financial crisis set through.

FIGURE 5 Mortgage bond short term and long-term interest rates: Week 36 1997 - week 10 2019



Source: Finance Denmark

Normally, at the end of the yield curve, long-term interest rates are higher than short-term term rates. Among the explanations for this are that the higher interest rate risk increases with the bond's term and duration. Moreover, interest rates for Danish 30 years mortgage bonds include a payment for the embedded call options in the bonds, as these bonds can be "called" (prepaid) at price 100. Also, long-term interest rates have fallen significantly over recent decades and the fall continued until they reached their all-time lowest at the start of 2015. On 10th February 2015 a new annuity bond serial with a coupon interest rate of 1.5% was opened and the bonds were sold at a price slightly above 95. Thus, at the start of 2015 long-term interest rates did reach an all-time low.

Later the interest rate was slightly increased. For example, on 20th of May 2016 a 30-year FRM loan with a coupon of 2% could be chosen at the price 93.8, equivalent to an internal rate of return of 2.41%. Loans with a coupon interest rate at 1.5% were normally not chosen; the price of these bonds was 90.5, equivalent to an internal rate of return at 2.25%.

Today – the 14th of March 2019 – the 1½% bonds are sold at price 98.3 and the internal rate of return is 1.64%. The issuance of long term 30 years mortgage bond loans with a printed interest rate at 2% has been stopped.

11. High household debt and mortgage loan choice

Denmark still has the highest household debt among the OECD countries, as OECD underlined in their recent country report for Denmark, (OECD, 2019). In 2017 the household debt–to-disposable income ratio was slightly above 250%, a drop from the ratio 356% at its highest in 2009. Mortgage loans cover most of the household debt, and of course the correlation between the house price development and mortgage debt is quite high.

If we go back to "This time is different" by Reinhart & Rogoff, they summarized their study of eight centuries of financial crisis in the sentence: "If there is one common theme to the vast range of crisis…., it is that excessive debt accumulation, whether it is by the government, banks, corporations, or consumers, often poses greater systemic risk than it seems during a boom." (Reinhart & Rogoff, 2009, p. xxv). Also, Goodhart and Hofmann found that: "Over the last 25 years, most countries have experienced at least one joint boom-bust cycle in housing and credit markets, with house prices generally leading credit growth." (2007, p. 14).

Moreover, the risk for Danish owner-occupiers is increased by their choice of mortgage loan. The interest-only loans with a repayment-free grace period for the first 10 years cover about 35% of the outstanding stock of household mortgage debt. And households with both critical high loan-to-value and high debt-to income ratios hold around 10% of the total household debt and they are very vulnerable to interest rate increases.

The mortgage banks and their organisations have tried to stimulate the use of the traditional fixed rate mortgages [FRM's] instead, as they contain a hedge against interest rate risk for the borrower:

- When interest rates increase, the borrower's payments are the same.
- As the bonds market values fall, the market value of the mortgage debt fall, because the borrower is able to rebuy the necessary bonds in the market to repay the debt.
- Normally house value falls, when the interest rates increase. Then the borrower's equity in his home remains more or less unchanged.

If the interest rate falls for a borrower with FRM, the reaction of the scheme is:

- The borrower's payments are the same.
- The market value of the bonds increases.
- But due to the included call option at 100, the price for the bonds cannot increase up over 100.
- Normally house prices will increase, when interest rates fall. Therefore, the borrower's equity in the house increases.

If the borrowers have a mortgage loan with adjustable rates [ARM)]

- When interest rates increase, the borrowers' payments increase.
- The market value of the bonds remains nearly the same.
- And when the value of the house falls, the borrowers' equity falls too.
- At the worst the borrowers become technically insolvent as seen on several occasions – last time in the aftermath of the recent housing and banking crisis.

Why do Danish borrowers with this elegant mortgage repayment model for FRM loans ahead of them, choose ARM loans instead? There are two simple explanations:

1. The payments are much lower fort the ARM loan, when the yield curve is increasing.
2. Many borrowers and the media do not really understand the detail of the FRM-loans.

The Systemic Risk Council has several times warned against private borrowers' use of interest-only mortgages in combination with adjustable rate mortgages, especially if the mortgage bonds purchased are rather short-term. Thus, in March 2017 the council recommended that in Copenhagen and Aarhus the Government limit housing loans at variable rates or with deferred amortisation, if the borrower's total debt is more than four times the borrower's income.

12. The interest rate risk

The downside interest rate risk for the Danish housing market is enormous. It was evident when the recent housing and financial crisis started, as can easily be seen in Figure 5 above and as also remarked. It seems incredible that interest rates can fall much further going forward. At some point of time a normalisation of the interest level must be achieved. The central banks in USA have begun this process. The ECB and then Danmarks Nationalbank has in reality not.

The process must start at some point in time. Otherwise as the OECD fears (2019, p. 21) "overheating with higher wage and price inflation" might appear. However, as the OECD continues: "A faster and larger-than-expected interest rate hike, on the other hand, risks prompting large property price drops in some parts of the country with macroeconomic spill overs and financial sector losses."

The ECB and the Danish Central Bank found it necessary to fight the recent financial crisis with still lower interest rates and quantitative easing. Now the normalisation process seems rather difficult – and long lasting.

As seen above the interest rate risk will directly hurt borrowers with ARM loans and hurt all owner-occupiers due to falling prices for houses and flats. These prices are by experience inelastic in a downward direction, so it may take a long time – several years – for prices to come down as seen on earlier occasions. Will the central banks and the governments be able to manage this situation?

13. The housing taxation risk

Denmark has had a housing tax freeze from 2001 on. However, it had to be stopped some day and the Government together with the opposition has started the process. They have agreed on a "normalisation". The tax proceeds should be unchanged. The property value tax rate will be reduced from 1% of the assessed property value to 0.6% – but this is not finally decided. On average the housing tax reform should be neutral but logically this means that some owners will make a gain and the rest a loss.

Housing taxation is based on public property and land valuations, whose quality according to the tax authorities should be improved, compared to earlier. For the moment – and for several years – the new assessments are postponed to 2020. It has been announced that the new assessments will be of higher quality, but this has to be confirmed by the reality.

From the earlier debate and published analysis from the tax authorities it can be estimated that housing taxation will be more burdensome for owner-occupied flats and for the most expensive houses. Both markets are relatively volatile.

For the moment Danish society is awaiting a new Parliamentary election to take place shortly. Therefore, the politicians have no interest in discussing or even deciding on the coming housing taxation system.[3]

14. Substantial downside risk for the housing market and the economy

The wording of the heading for this section has been borrowed from the OECD (2019, p.9), who wrote that the open Danish economy could be hurt by a hard Brexit and that high household debt is also a source of vulnerability. At the same time this section will be a conclusion.

All analysis of the Danish economy seems to present a positive outlook, also the recent OECD analysis. Danish society is working well and efficient, including in respect of housing issues. But it cannot be that there are no important downside risks for the Danish housing market:

- The idiosyncratic house price risk for some houses and flats.
- The interest rate risk.
- The high household debt.
- The housing taxation risk.

But possibly and hopefully these risks will not be crystalised.

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An inspiring example of a guarantee fund for informal sector households: FOGARIM in Morocco

By Olivier Hassler

1. Introduction

This article is about the Fonds de Garantie des Ménages à Revenu Irrégulier ou Modeste [FOGARIM]– a "Guarantee Fund for Households earning Irregular or Modest Incomes". It comprises a risk-sharing scheme for mortgage lending that has been successfully developed in Morocco since 2004. The name FOGARIM summarizes clearly the aim of the scheme. The criterion delineating the scope of potential beneficiaries is more specifically defined by non-affiliation of beneficiaries to a social security system. This is in line with the definition of informal employment set by the International Labour Office [ILO], which includes not only self-employed workers but salaried employees of micro-or small enterprises who do not have any social protection.

This segment represents a major part of the population in many developing or emerging countries. Informal economic status raises a major issue in relation to the access of households to financial services, since most mainstream financial institutions are reluctant to serve them given the difficulty of assessing their creditworthiness and the uncertainty affecting their incomes in the future. Nevertheless, many of these households lack decent housing conditions and need to mobilize resources to access decent homes.

Helping them to do so by transferring part of the risk assumed by lending institutions through state-backed credit guarantees can meet several policy goals:

1) expand financial inclusion;

2) contribute to the stability of the financial system by building databases on unexplored market segments, and hence allow the quantification of credit risks, reduce uncertainty surrounding probability of default distributions and develop incentives to improve payment discipline; and

3) limit the budgetary cost of public assistance by focusing on the leverage of credit.

With FOGARIM, Morocco has been a pioneer of such mortgage risk sharing schemes. This nearly 15-year-old instrument is a highly useful benchmark for countries such as Indonesia, Pakistan, Senegal or Tunisia who have developed, or are developing similar instruments. This article aims to provide some criteria to assess the Moroccan experience.

2. Background- financial context

Morocco enjoys a stable economic environment which is conducive to the long-term development of the finance industry. With a fairly robust economic growth of 3.7% YoY from 2011 to 2017on average, inflation has remained steadily under control, being regularly below 2% (0.7% in 2017).

This stability has been instrumental for the development of long-term finance. Morocco has the most developed capital market of the region, with a large institutional investor base. Despite being based on pay-as-you go principles, pension funds have a strong capacity to invest medium and long term despite a progressive deterioration of the financial situation of some of the 4 pension regimes. Their reserves totaled 27% of GDP at the end of 2017, 70% being invested in fixed income instruments[1]. Mutual funds are also well developed, with 56% of the assets under management in the industry being held by funds focused on medium or long-term bonds[2].

Financial inclusion has made remarkable progress in Morocco. The Moroccan financial authorities deployed comprehensive financial inclusion policies. Since 2007 they have been implemented through strategic plans of both the Central Bank, Bank Al Maghrib [BAM] and the Ministry of Finance and updated as recently as 2016[3]. To be noted among multiple initiatives was the creation of a Foundation for Financial Education managed by BAM. Another important tool held by the Ministry of Finance is the Caisse Centrale de Garantie [CCG], a state-owned corporation in charge of managing numerous credit guarantee funds. Helped by the creation of the postal bank, Al Barid Bank, in 2009, the number of banking access points increased from 4,800 in 2010 to 12,700 in 2017[4]. The proportion of those with access to banking reached 70% in 2016, as against 25% in 2006[5], significantly above the regional average.

A highly developed housing finance market relatively to the Middle East / North Africa [MENA] region average has emerged. Residential mortgage loans outstanding at the end of 2017, including the small volume of securitized credit (Moroccan Dirham –MAD - 2,4 Billion) and non-performing loans, amounted to MAD 208 Billion (US$ 21 Billion[6]), or 19.5% of GDP and 25% of bank credit to the non-financial sector[7], the highest level in the MENA region behind Lebanon and Kuwait. The size of the market has stabilized in recent years, with a growth of credit paralleling the increase of nominal GDP.

Lending conditions reflect the general low level of interest rates, having reached a low point since 2017 with rates being typically around 5% or less (in 2017, the rates of 70% of housing loans were between 4 and 6%, with an average level of 4.81%)[8]. The stable

[1] BAM 2017 Financial Stability report.

[2] BAM Revue Mensuelle de Conjoncture, November 2018

[3] Strategic document attached to the draft 2016 budget law

[4] Source: FINDEX

[5] BAM – Statement of the new Department in charge of Payment Systems and Financial Inclusion regarding the 2013 Maya Declaration to which Morocco is a signatory

[6] The exchange rate used here is the average for 2017, i.e. 1 $ = 9.7 MAD

[7] Sources: BAM 2017 annual report and 2017 Banking supervision report

[8] BAM 2017 Banking supervision report

environment explains the large predominance of fixed interest rates in this lending sector: 93% in 2017 as against 64% in 2008, as well as the long tenor of loans: 57% of housing loans in 2017 had a tenor of 20 years or more, and 93% of 10 years or more[9].

Informal incomes are still relatively common and remain a challenge to expand the access to credit.

Informal activities represent about 11% of GDP in Morocco[10]. Informal employment, as defined by the International Labor Organization, including salaried people working for unregistered enterprises, accounts for 75% of total non- agricultural employment, and 53% if only employment in informal activities is considered[11].

Populations with informal jobs are typically catered for by micro-finance institutions. But in Morocco, as in many MENA countries, micro-finance only represents a small part of the financial system. In particular, the amount outstanding of micro -credit for housing was only MAD 500 million at the end of 2017[12].

3. Background - housing and housing finance policy

Several programs are in force in Morocco to foster the supply of affordable housing to a continuous spectrum of income groups ranging from the poor to middle income earners. Beside action to upgrade informal settlements, the programs most relevant from the Perspective of FOGARIM[13] are:

- The "Cities without Slums Program", known under the Acronym "VSB", under which slum dwellers are supported to buy a unit in one of the two state-assisted housing supply programs or are provided with a small individual plot at concessional terms
- A low-income housing program, named "à Faible Valeur Immobilière Totale" or "FVIT" –, under which households earning less than twice the Minimum Wage – i.e. in 2018 MAD 5,150, or US$ 530 per month – are eligible to buy low-cost units priced at a maximum of MAD 140,000 (US$ 14,500)
- A "Social Housing Program" defined by technical specifications and a price limits (MAD 250,000 before VAT, or US$ 26,000), but without an income limit.

These programs are supported by numerous tax exemptions, including VAT, local property taxes, registration fees and corporate or individual income tax for developers who commit themselves to building a certain number of units in a five-year period (200 in the case of FVIT, 500 for the Social Housing Program).

On the financial side, the Moroccan government has been conducting a proactive policy to foster the allocation of resources for housing investment. Since 2010 in particular, new instruments have been developed, including the promotion of savings-for-housing products by banks thanks to tax incentives, the development of a framework for residential leasing, the creation of REITs, and the design of a covered bonds framework (still on-going).

The creation of guarantee funds was part of an important re-orientation of the housing subsidy policy. In 2004, there was a switch in this policy from demand-side to supply-side subsidies. In particular, nearly all interest rate subsidies on housing loans were removed[14]. From then on, state subsidies were supporting the supply of affordable housing, currently through the program described above[15]. The state support to the demand side has taken a new form: credit guarantees aimed at helping households to mobilize bank resources without direct financial assistance. FOGARIM was created first, in 2004. It was then supplemented in 2009 by another scheme, FOGALOGE, targeting civil servants, other middle-class households and non-resident Moroccans – all categories affiliated to a Social Security system. This fund aims at filling the gap between low income and high-end segments, but the most innovative feature is its support for mortgages to the diaspora, a form of financial inclusion action given the specific challenge of lending to non-domestic income earners. Both schemes are housed in an umbrella fund, Damane Assakane[16].

4. Description of the scheme

4.1. FOGARIM intervention criteria

- Borrowers must be first-time buyers – more precisely: households who do not already own a home in the "wilaya" where the dwelling to buy or build is located, and have not benefited previously from a state guaranteed or subsidized loan)
- Income segmentation: no direct income limit given the informal status of the targeted population, but a limit on the loan repayment installment: MAD 1,750 (US$180) per month, and MAD 1,000 (US$ 105) in the case of lending to VSB beneficiaries
- Housing price limit – without which wealthy households with a high down payment would be eligible based on the installment limit: MAD 250,000
- Loans must be secured by mortgages, on clearly- titled properties
- LTV limit: 100%, but 80% for VSB borrowers
- Loans must carry fixed rates
- Coverage rate: up to 70% of the amounts due for capital and interest

In the case of FOGALOGE, which covers up to 50% of the claim, the main criteria are a limit on the covered amount – MAD 400,000 (US$41,000) –, LTV up to 100% and a maximum debt servicing-to-income ratio of 40%.

4.2. Claim management

Indemnification claims can be lodged if two main conditions are met: payment arrears of at least 9 months, and a foreclosure proceeding under way. Initially, the indemnification took place at the end of the process, once the forced sale had allowed the lender to know the exact amount of loss incurred. A change of procedure took place in 2011, which definitely enhanced the attractiveness of the guarantees for lenders. Damane Assakane pays the coverage percentage applied to the debt balance at first request within 30 days. Lenders have 6 months to document their claims and must then repay the indemnification if it appears unjustified. The final indemnification amount is settled after the result of the foreclosure – often only after a couple of years.

4.2. Administration

Damane Assakane is managed by the Caisse Centrale de Garantie [CCG], which beside being under the control of the Ministry of Finance, is also regulated as a special non-bank financial institution by the central bank.

4.3. Pricing and capitalization

FOGARIM charges a premium for its coverage. It is risk-based, a proxy to quantify the

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9 BAM Financial Stability report for 2017

10 BAM 2017 annual report. BAM rightly distinguishes informal supply, i.e. delivered by unregistered or very small MSMEs

11 Source: ILO 2018 Women and Men in the Informal Economy. A statistical picture based on a 2010 household survey

12 BAM 2017 annual report

13 In addition, a program was initiated in 2013 focused on middle income groups (maximum income: MAD 20,000, or around $ 2,000)

14 They only sustain loans with a FOGALEF guarantee

15 In the Social Housing Program, the VAT exemption is in fact the restitution of the tax paid in the supply chain to the home buyers

16 A third guarantee fund for housing loans, FOGALEF, targets civil servants in the education sector. It is of the same size as Damane Assakane in terms of risks in force. The creation of a new guarantee for Islamic housing finance products is under assessment.

degree of risk being the LTV. The formula used to set premia is 0.65*LTV*coverage rate, resulting in a range of 0.25% to 0.51% p.a. incl. taxes of the balance of a loan, depending on the LTV.

The capital of Damane Assakane has been built up by budget appropriations to the extent deemed necessary given the volume of activity of the funds, premia received and the number of claims, as well as the results of stress tests conducted at the request of the central bank. The capitalization was calibrated at 8% of the expected guarantee commitments – hereafter "risks in force" –, or a ratio risks in force /capital of 12.5. Several budgetary appropriations have been done since 2004, but in fact the net results of premia, investment return, operating expenses and claims have been regularly positive, leading to liquidity surpluses.

The table below gives an overview of the multiplier effect of the total funds available in relation to risks in force and guaranteed loans outstanding between 2012 and 2016 (Table 1).

TABLE 1 Damane Assakane guarantees multiplier effect - Billion of MAD

	2012	2013	2014	2015	2016
Risks in force outstanding	9,393	10,628	12,370	14,029	15,327
Guaranteed loans outstanding	14,353	16,416	13,843	15,426	16,623
DA capital	546	698	486	656	679
DA own funds	1,241	1,086	1,103	1,143	1,309
Risk in force / own funds	7.6	9.8	11.2	12.3	11.7
Loans outstanding / own funds	11.6	15.1	12.6	13.5	12.7

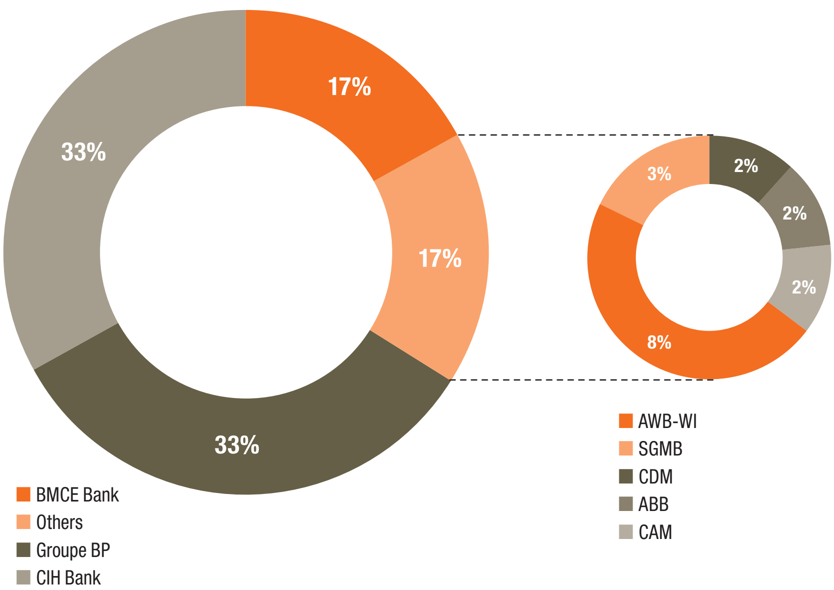
Source: CCG annual reports, Ministry of Finance

5. Results and impact

5.1. A relatively concentrated participation

At the end of 2016, eight banks were participating in the coverage mechanisms of Damane Assakane, a fairly wide spectrum given the targeted groups, that are out of the scope of most banks' strategy. However, three of them are by far the largest users of guarantees (Figure 1).

FIGURE 1 Distribution of New Commitments by Banks in 2016



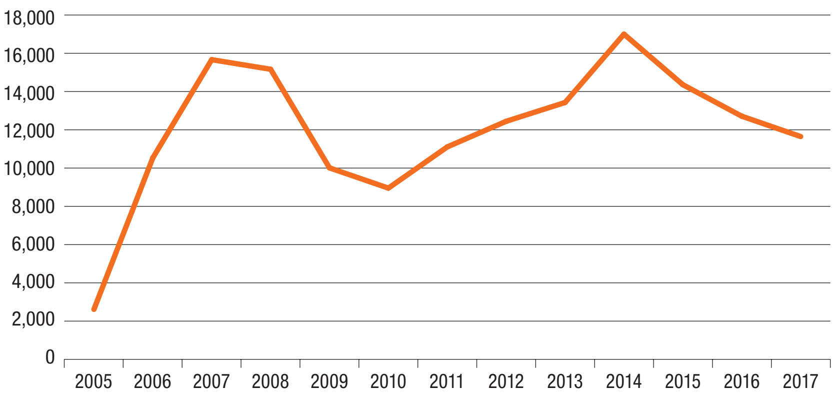
Source: Caisse Centrale de garantie 2016 annual report

For FOGARIM only, 90% of the coverage commitments outstanding at the end of 2016 were distributed between the three main lenders.

5.2. A significant share of the housing finance market

After a ramp-up phase in 2004 and 2005, FOGARIM has been extending between 12,000 and 17,000 guarantees per year, thus supporting during most of the last 11/12 years, 15% to 20% of the total housing loans originations (Figure 3 in Annex). With FOGALOGE, which guarantees about 5,000 loans per year, Damane Assakane supports about 25% of residential mortgages, which is considerable if it actually reflects an expansion of 1/3 of the initial market outreach in previously underserved segments.

FIGURE 2 Number of Loans Guaranteed each Year by FOGARIM



Source: CCG annual reports

Figure 3 seems to show a positive correlation between the total production of housing loans and FOGARIM market share, which follow a parallel cycle. It may mean that FOGARIM activity, and beyond that the activity of Damane Assakane, plays a role in the overall issuance of housing loans in the market – although depending on specific drivers, its level has an impact on the whole market.

From 2004 to 2017, a total of 156,000 housing loans had been guaranteed, for an amount outstanding at the end of 2017 of MAD 15.5 Billion, or 7.5% of housing loans overall (200,000 loans and about 11% respectively for Damane Assakane).

5.3. The "I" more successful than the "M"?

The difference in market shares in terms of number (16% on average since 2006) and proportion of loans outstanding (7.5%) suggests that the size of loans without a guarantee is significantly larger than the average for the loans with a FOGARIM guarantee, a first indication of the benefitting income segments. Nevertheless, the vast majority of guarantees support transactions at the upper end of the allowed price bracket, i.e. MAD 200,000 to 250,000 homes. Only a very small number of guarantees have been supporting the purchase of a FVIT unit, and more broadly only 10% of them have been granted to former slum dwellers under the VSB program. Likely factors behind this situation are:

- The cautiousness of banks in lending to low, rather than low-middle income categories,
- Supply constraints in the FVIT sector
- The underdeveloped credit for owner-driven construction. In part, this situation reflects in its turn a rather positive specificity of the Moroccan context, especially among the former slum dwellers to whom individual plots are allocated under the VSB program: the practice of paying individual builders in kind by giving the ownership of one floor of the houses built on these plots making construction loans unnecessary.

Accordingto BAM, a third of new housing loans, or about 23,000 a year, have been extended to households earning MAD 4,000 ($410) or less per month from 2015 to 2017 (Figure 4 in Annex). With 13,000 guarantees per year on average during the same period, and a focus on the MAD 200,000 -250,000 price range requiring an income of at least MAD 3,500, it appears that the FOGARIM market share of the lowest income market segment is small.

5.4. A delinquency rate mainly under control

In mortgage lending, a well-known feature of the probability of default distribution is that delinquency rates start becoming significant after 2 years and increase over the next 4/ 5 years of the life of the loan. The lending experience in the new FOGARIM segment from 2004 onwards led banks to tighten their underwriting criteria in 2009 /2010, resulting in the decline in the number of guarantees. This was evidenced in particular by a significant increase of the average down-payment in respect of the new cohorts of guaranteed loans: after a low 13-15% in 2007/2008, the down-payment has been regularly around 30% on average.

At the end of 2015, the number non-performing loans[17] represented 8.1% of FOGARIM guaranteed loans, and 8.8% if measured by volume. This latter figure has to be compared with a 6.1% rate at that time for all housing loans in the banking system[18]. The difference is not negligible, yet not large enough to reflect a real slippage given the more vulnerable than average nature of FOGARIM borrowers. The infection rate is however noticeably higher in the VSB sub-segment. This results not only from the lower repayment capacity and recent acquisition of bank accounts by many former slum dwellers, but also a frequent confusion among them between a guaranteed loan and a subsidy, as well as a contagion effect in relocation areas.

At the end of 2017, the total claim requests since the beginning of FOGARIM amounted to 7% of the total initial amount of guaranteed loans (5.8% for Damane Assakane as a whole).

Risk analyses have shown that the main credit risk factors are the duration of prior holding of bank accounts – often short in the case of VSB customers –, LTVs, geographic location, and gender {male borrowers are riskier than women, who represent nearly 50% of FOGARIM customers).

5. A high impact of budgetary expenditures

The data in table 1 show a high multiplication effect on the volume of housing loans in relation to the funds invested in Damane Assakane. The quasi-stability of the capital base since 2013 means that the pricing policy reflects fairly well the cost of claims, a condition of sustainability of the mechanism, despite the fact that, up to now, premia are not actuarially calculated, i.e. using the history of defaults and recoveries. The implicit support by the government in case this balance was to be broken is of course a contingent liability for the public finances that is not included in the financial parameters of the two guarantee funds. Still, it can be said that the support of 25% of the mortgages now extended to formerly underserved populations comes at a low cost for the Moroccan Government.

6. Lessons from FOGARIM experience

FOGARIM had a real social impact, but more on the widening of the access to housing finance than on its deepening. As shown by the low penetration by the scheme in FVIT housing programs and in self-construction projects, as well as the level of prices of underlying housing transactions, the deepening of outreach towards lower income groups beyond the market average has been relatively limited.

This outcome is however inherent to such a program. Its purpose is not to make finance more affordable[19], but to mitigate the credit risk generated by undocumented or irregular incomes. Furthermore, it should not be an incentive to relax lending standards by accepting lower repayment capacities among the targeted groups.

A guarantee scheme must prevent moral hazard, i.e. an increase in credit risk due to the mere existence of the risk transfer. Although some of this classical phenomenon did take place in the VSB compartment of FOGARIM, the management of the fund has efficiently limited its effect overall. In the quasi- absence of required lending norms – the main one for the targeted segment being maybe the obligation to take a fixed rate, keeping the credit risk fairly well under control has probably been due to a significant share of losses by lenders, which aligned their interests with those of the guarantee scheme. The moral hazard element in FOGARIM experience, mostly observed in the VSB segment, seems to have been linked to the public knowledge of the guarantee, and the misunderstanding of its implication regarding borrowers' obligations. Keeping the fact of a guarantee silent is probably important in addressing the moral hazard issue.

The efficiency of the indemnification process is a very important aspect of the guarantee. The improvement in procedures in 2011 very likely was a factor in the increase of the use of FOGARIM after the 2008-2010 decline. Advancing a large part of the final indemnification amount is of particular interest in countries where foreclosure is a long-haul process.

Very importantly, the impact of public resources must be maximized. The first condition is to avoid any undue aggravation of the credit risk through an adequate design of the guarantee. The second condition is to calibrate the guarantee pricing from the perspective of self-sustainability in ordinary circumstances and set a limited goal for the state support: ensuring the credibility of the coverage even in stressed scenarios. This support is most efficient if it is structured as a combination of actual funding and commitment

[17] Based one BAM definition (« crédits en souffrance »): loans with more than 2 monthly installments in arears

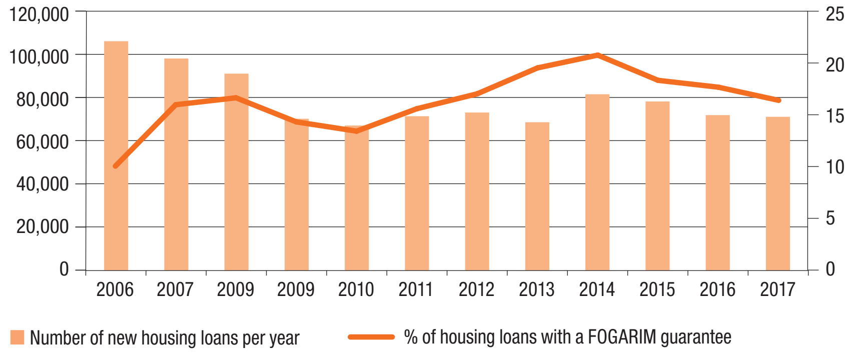
[18] Source: BAM Financial Stability Report for 2016

[19] Except perhaps by inducing lenders to extend loans with longer tenors – but in Morocco, tenors are very long in general and their further lengthening would raise more assets/liabilities matching issues.

to the back-stop[20] – the latter being critical to establish the credibility of the guarantee, without which a coverage mechanism would not be used. Overall, Damane Assakane achieves an efficient combination of risk- based pricing, prudential capital and government backing, which are the conditions for the sustainability and the credibility of a guarantee scheme at a minimal cost for public budgets.

ANNEX

FIGURE 3 FOGARIM guarantees: Yearly number and share of total number of housing loans

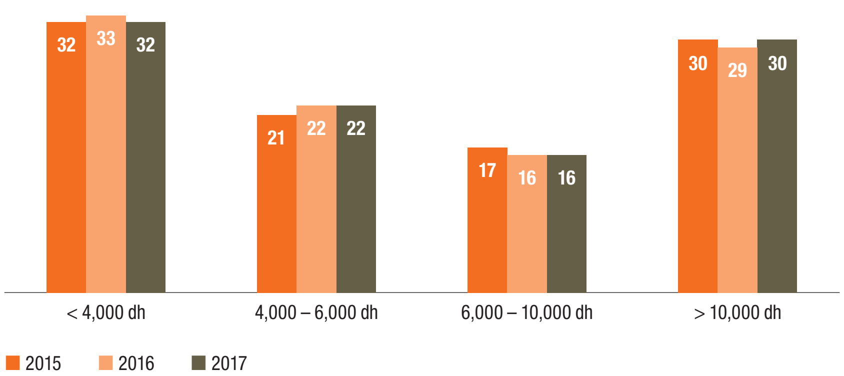


Source: CCG Annual Reports and BAM annual Reports on Banking Supervision (for the number of loans)

TABLE 2 Damane Assakane Guarantees – Activity and Market Share

		2012	2013	2014	2015	2016	2017
NUMBER OF NEW LOANS	Fogarim	12,410	13,378	16,981	14,350	12,709	11,650
	Fogaloge	4,080	4,449	5,762	5,676	5,300	5,129
	Total DA	16,490	17,872	22,743	20,026	18,009	16,779
	% of total originated mortgages	23%	26.0%	27.9%	25.6%	25.1%	23.6%
NEW LOAN AMOUNTS (MAD MILLION)	Fogarim	1,994	2,253	2,768	2,334	2,080	1,952
	Fogaloge	1,292	1,289	1,466	1,456	1,400	1,441
	Total DAS	3,286	3,541	4,234	3,790	3,480	3,393

FIGURE 4 Distribution of New Housing Loans according to Borrowers' Monthly Incomes (whole market)



Source: BAM 2017 Banking Supervision and Financial Stability report

[20] An extreme case is given by the example of the French guarantee fund for state-assisted housing loans, the FGAS which is not funded but relies on the State's commitment to ensure the coverage of indemnification claims in any circumstance. The US FHA scheme is not very far from this situation with a very low minimum leverage ratio of 2% set by law, or a very high multiplier of 50, which is clearly related to the status of the scheme, which is part of the federal housing ministry HUD.

Energy Efficient Mortgages Initiative: The engagement of the mortgage industry to deliver sustainable finance for the housing sector

↳ By Luca Bertalot[1]

1. Linking climate change, energy efficiency, financing and the housing stock

Climate change and the need for a response from all sectors of society and industry is widely acknowledged. It is estimated that to maintain a 1.5°C global temperature increase trajectory and limit climate change requires a reduction of 80% of carbon emissions from a 1990 base, as agreed at the 2015 Paris Climate conference COP21. Yet climate change means that demand for energy to heat and cool properties will increase unless action is taken to increase the efficiency of the housing stock. Furthermore, any supply issues will raise prices and hit hardest those with limited purchasing power leading to negative social and health outcomes.

Therefore, the need for energy efficiency has never been greater. However, Europe's housing stock is old and energy inefficient; the Buildings Performance Institute Europe [BPIE] estimates that only 3% of the current stock is constructed or improved to the highest energy standards[2]. In addition, the replacement rate of the stock is very low, seldom exceeding 1% per annum and less in periods of economic slowdown. Although some progress towards improvement has been made, a much faster speed and depth of upgrade is required[3]. Indeed, the 2018 IPCC [Intergovernmental Panel on Climate Change] report stated that building renovation is critical to achieving climate change targets and calls for "rapid and far-reaching transitions" based on reduction in energy use demand, as well as moves from fossil fuel to clean electricity and better insulation to building envelopes to reduce the need for heating and cooling.

The implication of the above is that policies and regulations aimed at influencing the urgency and specification of building renovations, and overall occupier behaviours are likely to be tightened further over time. The EU is going to set itself a binding energy efficiency target of 32.5% for 2030, with a clause for an upwards revision by 2023. It is widely anticipated that around €180 billion of additional investments a year is needed to reach this target.

As the largest source of external financing in the EU, banks are the backbone of the financial system. Lending and financing by this sector need to be fully aligned with the EU's sustainability objectives if those goals are to be achieved. Considering that the EU's building stock is responsible for 40% of the EU's total energy use, and that the value of the European mortgage market is equal to 53% of the EU's GDP, there is huge potential to unlock the benefits of mortgage financing to support energy efficiency. Bridging these two worlds, which until recently have been operating in a largely disconnected manner, has the potential to deliver an effective way to tackle the challenges arising from climate change and a low-carbon energy transition.

Against this background, the European Mortgage Federation - European Covered Bond Council [EMF-ECBC] has been working on the development of an "energy efficient mortgage" according to which building owners are incentivised to improve the energy efficiency of their buildings or acquire an already energy efficient property by way of favourable financing conditions linked to the mortgage. This mortgage financing mechanism will be supported by a data protocol and portal to collect and access large-scale empirical evidence relating to energy efficient mortgage assets, allowing a comprehensive analysis of the energy efficiency features which potentially have a positive impact on property value and reduce a bank's asset risk. The Energy Efficient Mortgages Initiative, as the project is known, consists of two parallel projects, the Energy efficient Mortgages Action Plan [EeMAP] and the Energy Efficient Data Portal & Protocol [EeDaPP], both funded via the European Commission's Horizon 2020 Programme.

Significantly, the Energy Efficient Mortgages Initiative represents the first time that a group of major banks and mortgage lenders, as well as data providers, companies and organisations from the building and energy industries together with the valuation profession have proactively come together to consider and develop private financing of energy efficiency.

2. Energy Efficient Mortgages Initiative – the concept and its policy background

The Energy Efficient Mortgages Initiative was born from the realisation that:

(i) Banks, in financing the purchase of property, can play a game-changing role in supporting the EU's energy savings targets, by bringing energy efficiency into the conversation between banks and consumers by means of a standardised approach to the financing of energy efficient buildings/renovation, and

(ii) Deliver a new asset class, an energy efficient mortgage, which could be used for the purposes of green bond and green covered bond issuance.

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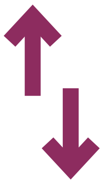
[1] Luca Bertalot is Secretary General of the European Mortgage Federation – European Covered Bond Council (EMF-ECBC) and coordinator of the EeMAP and EeDaPP projects: Energy efficient Mortgages Action Plan (EeMAP) see https://eemap.energyefficientmortgages.eu/. This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 746205; Energy efficiency Data Protocol and Portal (EeDaPP) see https://eedapp.energyefficientmortgages.eu/. This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 784979

[2] Buildings Performance Institute Europe (2017) State of the Building Stock Briefing

[3] Artola, I; Rademaekers, K; Williams, R; and Yearwood, J. (2016) Boosting Building Renovations: what potential and value for Europe. European Parliament report

One of the key premises of the initiative is that energy efficiency has a positive impact on credit risk. The incentives the energy efficiency mortgage will offer borrowers (e.g. reduced interest rates and/or increased loan amount) aim to reflect the reduced credit risk of these loans. Energy efficiency frees up disposable income which can positively impact borrowers' ability to service their loan, thereby lowering the Probability-of-Default [PD]. Improved energy efficiency can also increase the value of the property, thereby lowering the loss for the bank in the case of default, i.e. the Loss-Given-Default [LGD].



Retrofitting impacts positively on property value ensuring **wealth conservation & loss mitigation**

Energy Efficiency leads to a reduction in the impact of energy costs to income, reducing borrowers' **probability of default**

Given the fundamental role of these risk indicators in the calculation of banks' capital requirements, establishing a correlation between energy efficiency and PD and LGD provides a strong business case for lenders to originate energy efficient mortgages. If a positive correlation can be established using large-scale empirical evidence – as envisioned by the initiative – we believe that the lower risk of energy efficient mortgages should be recognised by regulators via a realignment of the capital requirements for these exposures.

Increased loss mitigation capacity

\+

Enhanced loan-to-value via green value

\+

Lower probability of default

=

Reduced capital charges

The importance of this alignment is recognised by the European legislators as illustrated by a range of policy actions aimed to bring into line the financial sector with commitments on climate change. As part of these efforts, the European Commission published an Action Plan[4] on Financing Sustainable Growth in March 2018, with the aim of: (a) reorienting capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth; (b) manage financial risks stemming from climate change; (c) foster transparency and long-termism in financial and economic activity.

At the One Planet Summit in Paris in December 2017, the EU Commission made an announcement that it is "looking positively" at the possible introduction of a "green supporting factor" in prudential rules to boost lending and investments in low-carbon assets. In this sense, the Commission is currently looking at the feasibility of the inclusion of risks associated with climate and other environmental factors in institutions' risk management policies and the potential calibration of capital requirements of banks. The aim is to take into account such factors, where this is justified from a risk perspective, to safeguard the coherence and effectiveness of the prudential framework and financial stability. Any recalibration of capital requirements would however need to be based on reliable data and the assessment of the prudential risk of banks' exposures.

"Energy efficient mortgages are a promising tool to scale up sustainable finance. I encourage the work done by @EMF_ECBC[5] to develop these products. #SustainableFinance[6]." **Valdis Dombrovskis, European Commission Vice-President for the Euro and Social Dialogue, also in charge of Financial Stability, Financial Services and Capital Markets Union**

3. The definition of an Energy Efficient Mortgage [EEM]

Both the EU Commission and the EEM initiatives rest on a standardised classification and benchmark (taxonomy) as to what assets can be considered as significantly contributing to environmental goals. Robust, consistent and widely-supported guidelines about what should be considered to qualify as an environmentally sustainable property is thought to enhance transparency and provide certainty for investors facilitating their due diligence processes. Transparency in relation to the underlying asset is equally vital from a risk management and therefore macro prudential and financial stability perspectives.

The EU Commission is currently consulting on its sustainability taxonomy to provide a framework for classifying all potential assets or activities against a comprehensive set of sustainability goals – from climate change to broader environmental and social goals, including the Sustainable Development Goals. The EU taxonomy is expected to be finalised later this year followed by further policy action based on these common metrics, including standards, labels, and any potential changes to prudential rules.

Although narrower in scope, the EEMI aims to achieve the same goals as the EU taxonomy by way of a cross-sectoral market approach and by specifically incorporating sustainability factors into mortgage lending decisions. In this sense, EEMI is a concrete response to the policy goals of the European Union to integrate sustainability considerations into its financial system and to facilitate the clean energy transition in line with the Paris Agreement.

The EEM definition was launched in December 2018 and consists of high-level, principles-based guidelines for the technical assessment and valuation of eligible properties. The definition provides clear eligibility criteria for assets and projects that can be financed by energy efficient loans and for the tagging of existing assets in banks' portfolios. The EEM definition provides the protocols to ensure appropriate lending secured against properties which are likely to both lower credit risk and support climate change mitigation and adaptation.

The EEM definition is the result of more than two years of extensive and wide-ranging engagement and consultation with banks, real estate advisory services providers, built environment professionals and utilities. We see this as a real and tangible achievement as we are now actually at a stage where the definition and the supporting tools can be implemented by banks to develop and rollout corresponding energy efficiency mortgage products. At the same time, lending institutions are able to identify and tag existing mortgages that already meet the requirements laid down in the guidelines which, in turn, will help to deliver the data required to substantiate a link between energy efficiency and reduced credit risk.

EEMs are intended to finance the purchase/construction and/or renovation of both residential (single family & multi-family) and commercial buildings where there is evidence of: (1) energy performance which meets or exceeds relevant market best practice standards in line with current EU legislative requirements; and/or (2) an improvement in energy performance of at least 30%.

This evidence should be provided by way of a recent EPC rating or score, complemented by an estimation of the value of the property according to the standards required under existing EU legislation. It should specifically detail the existing energy efficiency measures in line with the EEM Valuation & Energy Efficiency Checklist[7].

Full definition available online[8]

[4] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0097&from=EN

[5] https://twitter.com/EMF_ECBC

[6] https://twitter.com/hashtag/SustainableFinance?src=hash

[7] http://eemap.energyefficientmortgages.eu/wp-content/uploads/2018/11/Valuation-and-Energy-Efficiency-Checklist.pdf

[8] http://eemap.energyefficientmortgages.eu/eem-definition/

As the technology and the science around sustainability is dynamic and evolving, so too are social expectations as well as investor and market needs. Therefore, both the EU taxonomy and the EEM definition require continuous review. Further alignment between the two frameworks will also be needed to make sure that lenders are able to meet the proposed criteria and avoid market confusion, fragmentation and inconsistencies. Credit institutions do not fall within the immediate scope of the EU taxonomy, however given that many credit institutions are already active in financing green loans and issuing green bonds, the long-term expectation is that compliance will be important, otherwise there is a risk that the means to finance climate mitigation will not be available.

Building on existing understandings and extensive dialogue and cooperation between relevant stakeholders from the financing and banking communities, property and construction sectors, as well as policymakers is equally critical for the successful uptake of the definition. We believe it is important that taxonomy and EEMI guidelines are regularly reviewed and updated based on feedback received from market participants, ensuring that the metrics and thresholds are as robust and relevant as possible, and reflect the state of the markets. In this sense, a strong and transparent governance structure is indispensable to coordinate this work and to overview the implementation of existing standards.

"I believe the EEM Initiative will bring a positive change in the market, providing more accessible financing for energy efficiency in buildings. It will facilitate the implementation of energy efficiency investments where they are most needed, in the buildings sector. Having agreed on a definition is an important step, opening the way for a quick roll-out of energy efficiency mortgages. The definition agreed upon is operational and easy to use, and can be strengthened in time, to match the high level of ambition of the EEM Initiative, and to make better use of the tools provided by the European legislative framework." **Gerassimos Thomas, European Commission, Deputy Director-General for Energy**

4. The market rollout of Energy Efficient Mortgages

A number of ingredients are key to make the EEMI succeed and have a large-scale market uptake. First, the energy efficiency mortgage framework relies on trust and a carefully aligned interest chain among all the participating actors: financial institutions, regulators, energy assessors, utility companies, contractors and valuers. This mutual trust is underpinned by market transparency and reliable performance data. Green financing is a quickly growing market, however market actors still struggle with the current lack of standardised definitions, adequate data and robust measurement indicators. Finally, consumer demand for energy efficiency mortgages is crucial and this can only be ensured by increasing consumer awareness of the benefits of energy efficiency.

Currently, forty-two lending institutions[9] have signed up to implement the guidelines on energy efficient mortgages. At the end of 2018, these lending institutions represented 55% of mortgages outstanding in the European Union, equal to 25% of EU GDP, so they represent a significant critical mass on the market.

FIGURE 1 72 confirmed participants (42 banks and 30 other organisations)

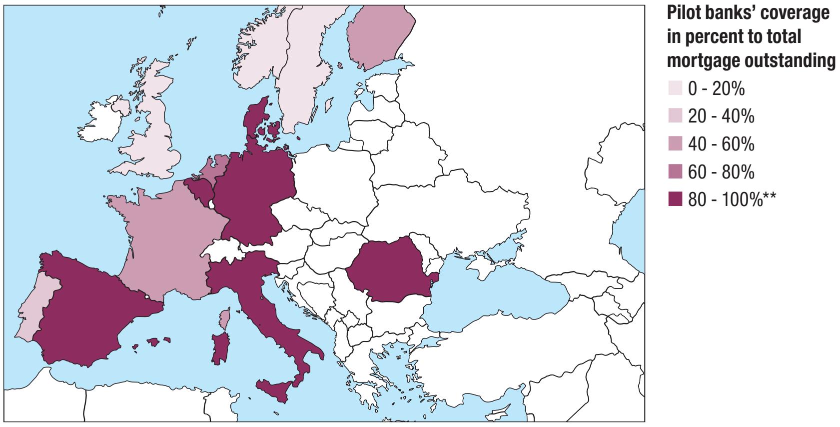
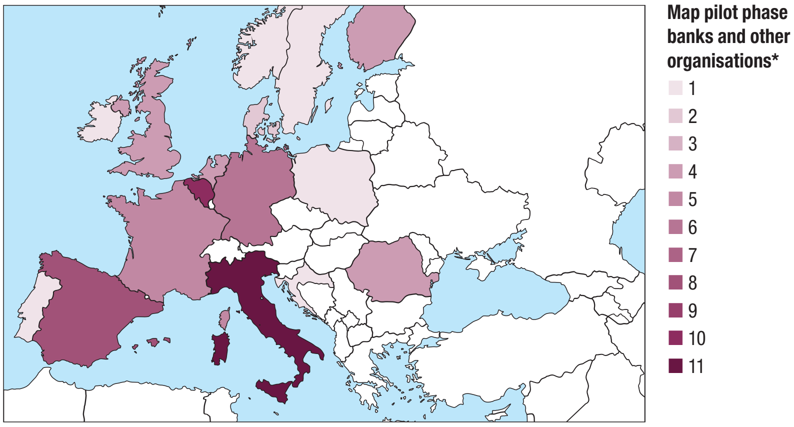


FIGURE 2 Pilot Scheme: Banks' Coverage

COUNTRY	TOTAL NUMBER	ONLY BANKS	TOTAL OUTSTANDING MORTGAGE MARKET*	MORTGAGE LOAN PORTFOLIO OF PARTICIPANTS**	COVERAGE IN %
BE	10	8	233,224	233,224	100.00
CY	0	0	11,123	—	0.00
DE	6	4	1,378,810	1,378,810	100.00
DK	2	1	248,776	248,776	100.00
ES	8	3	497,711	497,711	100.00
FI	4	3	96,129	42,380	44.09
FR	5	4	954,226	412,900	43.27
HR	1	0	—	—	—
IE	1	0	—	—	—
IT	11	9	375,398	375,398	100.00
NL	4	3	672,235	470,300	69.96
NO	1	1	270,151	25,800	9.55
PL	1	0	—	—	—
PT	1	1	94,093	28,400	30.18
RO	4	2	14,262	14,262	100.00
SE	1	1	402,250	42,500	10.57
UK	4	2	1,539,979	89,509	5.81
EU/international	7	0	—	—	—
Total EEA			7,295,903	3,859,971	52.91
Total EU			7,013,738	3,834,171	54.67
Total euro area			4,638,134	3,413,323	73.59

[9] https://eemap.energyefficientmortgages.eu/pioneers-2/

FIGURE 3 Coverage of pilot banks to total mortgage outstanding in 2017*



** Data taken from Hypostat 2018*

*** Figures taken from investor reports of the participating institutions. 100% considered hen national mortgage association is pilot scheme member*

The **Pilot Scheme** is a unique opportunity to work with lenders and relevant stakeholders to understand how the market can grow and what barriers need to be overcome.

The map at Figure 1 shows the location of the participants in the Pilot Scheme with a clear national link. In addition, seven international/European supporting organisations have to be taken into account.

The map at Figure 3 displays the latest state of commitments made by 42 banks across the EU to participate in the Pilot Scheme. In total these banks represented EUR 3,834 billion (55%) in total outstanding mortgage loans of the EU.

To support Pilot Scheme participants, National Market Hubs have been set up across Europe with a view to achieving coordination at national level and ensuring market consensus and implementation for energy efficient mortgages [EEMs]: The objectives of this stakeholder collaboration is to:

- Address and avoid market fragmentation and barriers to the deployment of EEM.
- Raise awareness among consumers/borrowers and lending institutions about the added value of EEMs and investment in energy performance.
- Sensitise banks and representatives of the property/construction sectors about their role, responsibilities and possibilities in contributing to scale up finance for energy-efficient and sustainable buildings.
- Help build the business case for EEM by presenting country- and city-specific initiatives.
- Develop guidelines and training, capacity building and improve existing skills sets.
- Drive alignment and comparability to address data gaps, valuation instructions and improvements to building codes/standards, and evaluations of performance.
- Facilitate the verification of compliance with thresholds and guidelines set out in definition.

The national hubs are loosely organised around **three main workstreams**:

- **EEM product development –** to deal with the practical implementation of the EEM framework and definition throughout the whole mortgage lifecycle, from origination (marketing, customer journey) to asset eligibility and risk assessment as well as dedicated EEM bond issuance.
- **Data –** the focus is on closing the information gap and to support stakeholders, financing decision making and mortgage underwriting with consistent, robust, comparable and easily accessible data. This includes promoting data transparency, consistency and information exchange; providing guidance and facilitating accessibility, disclosure, understanding and comparability of building performance and financial data.
- **Partnerships/stakeholder collaboration –** to explore and ensure value chain integration to streamline administrative costs, data management, liabilities, performance guarantees, etc.

To guide the work of the National Market Hubs, the project consortium is developing a roadmap intended as a tool to be used to assess the maturity of European markets so that actors in different sectors can understand how the market might progress to the next stage of maturity and what their role in that could be. It will also be used to map the maturity of an individual organisation operating in that market to allow them to see how they compare to competitors and what they need to do to lead the market transition.

National market hubs are supported by an Advisory Council, which includes representatives from the European Commission, the European Investment Bank, the European Bank for Reconstruction and Development, the International Finance Corporation, The World Bank, UNEP Finance Initiative, the Scottish Government, the Lithuanian Ministry of Finance, the Climate Bond Initiative and Autonomous Province of Trento – Agency for Water Resources and Energy. The role of the Advisory Council is to promote and facilitate dialogue between stakeholders from the financing and banking communities, property and construction

FIGURE 4 Example of a market development roadmap and enablers

STAGE	BANKS	GOVERNMENT	INDUSTRY
Green tagging	Match loan portfolio to EE data (i.e. EPCs / other voluntary certification schemes)	Make EPC database accessible to banks / Improve data in EPCs	Work with lenders to ensure high quality EPCs / certifications can be mapped to loans
Bond issuance	Issue green bonds against existing tagged loans	Green Bond standards Disclosure rules	Performance/ compliance monitoring
EEMs for new build	Offer green mortgages to new builds that meet EEM criteria	Enforcement and guidelines on NZEB standards	Partner with lenders to develop new builds which will meet EEM criteria
EEMs for renovation	Advise clients on options, benefits and different sources of finance	Develop: ▪ Quality assurance schemes ▪ Building renovation roadmaps ▪ Incentives to drive demand	Partner with lenders to streamline deliver for consumer
EEMs for all	Fully account for EE in affordability checks	Energy efficiency/sustainability in prudential requirements	Offer training to banks / brokers

sectors, as well as policymakers with the aim to address specific market failures and the criticalities identified during the implementation phase.

5. Next steps and outlook

One of the key market enablers of the large-scale uptake of energy efficiency mortgages is thought to be the development of an Energy Efficient Mortgage Label. The primary objective of the Label will be to reassure markets and regulators that mortgages comply with the EEM definition and guidelines as well as demonstrate a responsible commitment to transparency and common reporting on quantitative qualitative performance indicators. A Label Committee will ensure oversight and ongoing alignment of the EEM definition with high quality standards and market best practice at EU and national level. It will also be responsible for improving regulatory and market recognition of EEM as a new asset class.

The origination of energy efficiency mortgages may include additional challenges for defining, assessing, monitoring and maintaining the improved environmental performance, and transparently communicating performance to regulators and other market actors over the lifetime of the mortgage. In this sense, the Label will help lending institutions to follow the defined EEM criteria to effectively de-risk their portfolios by identifying energy and climate risks by determining which loans and underlying assets are better. By improving the access to relevant and transparent mortgage information for investors, regulators and other market participants via a consistent reporting template, the Label can become a powerful communication tool to further help the securitisation and issuance of green bonds.

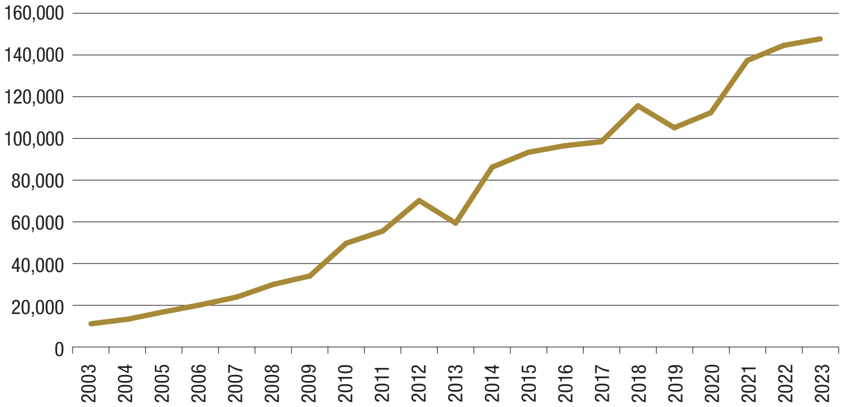
China's urban housing market: situation, challenges and policy orientation

By Yusong Deng

1. Introduction

Since 2015, Sales of new urban housing in China have continued to be recorded at high levels, and the balance of personal housing loans has continued to increase rapidly. House prices have maintained a relatively high growth rate. It is expected that sales of new housing in urban areas will fall in 2019, and price increases will be lower than that in 2018. However, the possibility of systemic risks in the real estate market is extremely small. Facing the challenges of the urban housing market in the future, China should take prudent and long-term policies to keep the housing market stable development.

FIGURE 1 Sales area of new commercial housing in urban areas in China (10,000 square meters)



Source: National Bureau of Statistics of China

2. Sales of new housing in urban areas in China continued to grow, but the regional differences were large

Since 1998, Sales of new commercial housing in China's cities and towns have generally shown an upward trend. During the period, there were only two years of negative growth, in 2008 and 2014 respectively. Since 2015, the sales of new urban commercial housing have continued to be at high levels. In 2018, the total sales area of new urban residential buildings in China's cities and towns was 1479.29 million square meters, an increase of 2.2% over 2017. Sales of new commercial residential buildings reached 1,2639.3 billion RMB, a year-on-year increase of 14.7%. In 2018, the sales area and sales of new commercial housing in China's cities and towns reached record highs. Although the sales area of commercial housing has reached a record high, the growth rate has slowed down markedly. In 2016, the growth rate of sales area increased by 22.4% compared with 2015. The growth rate in 2017 and 2018 dropped to 5.3% and 2.2% respectively.

Since 2015, the sales area and sales volume of newly built commercial housing in cities and towns in China have continued to reach a new high record, mainly due to three reasons:

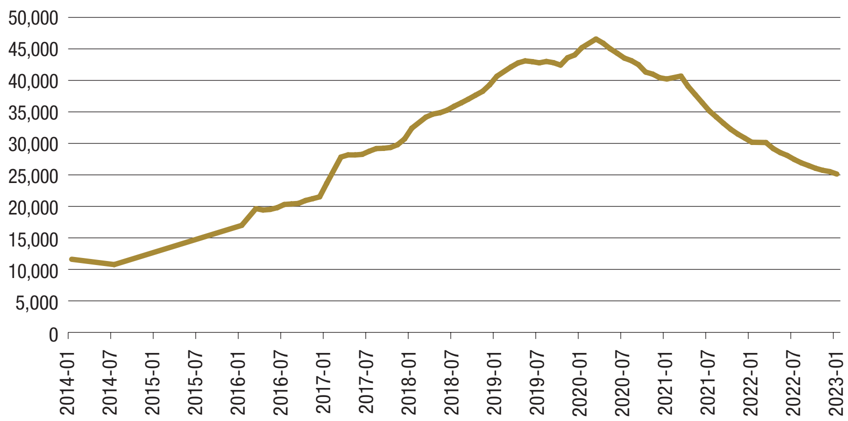
Firstly, the People's Bank of China continued to cut interest rates in 2014 and 2015 to enhance affordability for residents. From November 2014 to October 2015, the People's Bank of China lowered the benchmark interest rate of deposits and loans six consecutive times, and the benchmark interest rate of housing loans decreased by 1.65%. Since February 2016, the regulator has lowered the minimum requirement for down payments. The reduction of the down payment ratio and interest rate has significantly increased the affordability for residents to buy houses and has promoted housing sales.

Secondly, the implementation of large-scale shantytown renovation, especially the monetization resettlement policy, has created conditions for shantytown residents to purchase new houses. From 2008 to 2017, the number of shanty towns in China was increasing continuously. From 2008 to 2012, 12.6 million shanty towns were renovated in China, 3.2 million in 2013 and 4.7 million in 2014. Since 2015, the scale of shantytown reconstruction has increased significantly. In 2015, 6.01 million shantytowns were renovated, 6.06 million in 2016, 6.09 million in 2017 and more than 6 million in 2018. It is estimated that the demand for house purchase driven by shantytown renovation accounts for about 30% of the sales area of newly built houses in the past three years, the ratio is higher in medium and small cities.

Thirdly, since the second half of 2016, housing prices have increased significantly, some residents buy housing earlier due to fear of further price increases. In order to control the rapid rise in house prices, after October 2016, some cities implemented Price-Limiting policies, which resulted in the price of new commercial housing in some cities being even lower than that of second-hand housing in the same region, which also stimulated the investment demand from some urban residents.

With the continuous growth of urban new commercial housing sales area since 2015, the area of commercial housing for sale has gradually decreased, and destocking has achieved remarkable results. At the end of 2018, the area for sale of commercial residential buildings was 250.91 million square meters, the lowest since 2013, which was 151.66 million square meters less than the end of 2017 and 215.44million square meters less than the peak level in February 2016.

FIGURE 2 The area for sale of newly built housing in urban China (10,000 square meters)



Source: National Bureau of Statistics of China

China is still a country with unbalanced development, and the regional housing markets are quite different from each other. Beijing, Shanghai and other first-tier cities started early in the real estate market. Affected by planning and housing land supply and other factors, the supply of new commercial housing peaked 10 years ago, and since then the supply has continued to decline. For example, the sales area of newly-built commercial housing in Beijing reached a peak of 28.24 million square meters in 2005, while in 2018 the sales area of newly-built commercial housing dropped to 5.27 million square meters, less than 20% of the peak level in 2005. The sales area of newly built commercial housing in Shanghai reached a peak of 32.79 million square meters in 2007 and dropped to 13.33 million square meters in 2018. Insufficient supply of new commercial housing is an important reason for the high housing prices in Beijing and other first-tier cities. With the decline of the supply of new commercial housing, second-hand housing has gradually become the first choice for local residents to buy houses in Beijing and other first-tier cities. At present, the annual volume of second-hand housing transactions in Beijing, Shanghai and other hot cities has exceeded the volume of new commercial housing transactions, and the number of cities with second-hand housing transactions exceeding the volume of new housing transactions is increasing.

In 2018, among the major cities in China, Chongqing, Chengdu, Zhengzhou and Wuhan have the largest sales area of newly built residential buildings. Among them, the sales area of commercial housing in Chongqing reached 54.25 million square meters in 2018.

Although the sales area of newly built housing in cities and towns has increased continuously since 2015, the factors that drive the sales growth in the earlier period have changed. First, with the rapid rise of housing prices, some cities have increased the down payment ratio, while the actual mortgage rate has also risen compared with 2016, which will inhibit the further growth of housing sales to a certain extent. Second, the large-scale shantytown renovation has achieved remarkable results for several consecutive years. The amount of renovation needed in the future will be significantly reduced. It is expected that the scale of shantytown renovation will be reduced largely in 2019, and the demand for housing purchases due to shantytown renovation will also decrease. Third, since the fourth quarter of 2018, some cities have adjusted their Price-Limiting policies, and the situation that new house prices are lower than second-hand house prices has been greatly alleviated. In addition, since the fourth quarter of 2018, the increase in house prices has slowed markedly, and investment demand has decreased significantly. Judging comprehensively, it is expected that the sales area of newly built commercial housing will begin to decline in 2019.

Observing the medium and long-term development trend, the factors affecting the demand in the urban housing market in China are changing in the future. First, with the continuous large-scale construction of urban housing since 1998, the housing conditions of urban residents in China have improved significantly. In 2016, the per capita housing construction area of urban residents in China has reached 36.6 square meters, and it is estimated that the average number of houses owned by urban households will reach 1.1 units in 2018. When the number of apartments per household reaches about 1.0 in developed economies, the sales of new housing peaked. Referring to the situation of new housing sales in developed economies, it is estimated that 2018 will be the peak year for new housing sales in Chinese cities and towns. Second, with the decline in the birth-rate and the increase in the degree of aging of the population, China's population growth has begun to slow down. It is expected that China's population will reach a peak around 2030, with a peak of 1.423 billion people. Particularly the total size of the working-age population in China has begun to decrease continuously since 2012, which means that the medium-term and long-term factors supporting the rapid growth of housing demand in the early stage are also changing. Judging comprehensively, the sales area of newly built housing in cities and towns of China will begin to enter a natural stage of decline.

Although the sales area of newly built housing in Chinese cities and towns will fall naturally, considering that the urbanization rate in 2018 was still only 59.6%, the urbanization rate will continue to increase steadily in the future. It is expected that the urbanization rate will reach 60% and 75% in 2019 and 2035 respectively. By then, the urban population will reach 838 million and 1026 million respectively, and the total urban population will still increase. In the process of urban population increase, the trend towards smaller families is obvious. The number of persons per household in urban areas decreased from 3.2 in 1998 to 2.85 in 2010. Referring to the general pattern of changes in the size of the population per household in developed economies, combined with the changes in China's demographic structure, it is expected that the average size of urban households in China will continue to decline. It is estimated that the average household income per capita in urban areas in 2020 and 2035 will fall to 2.75 and 2.5 respectively. The decline in the size of households will also drive the growth of housing demand. Based on a comprehensive judgment, the peak sales area of new urban housing in China had already been reached in 2018, and sales are expected to fall naturally.

3. The characteristics and trends of urban housing price changes in China

Since the reform of China's urban housing system in 1998, the average sales price of newly built commercial housing in cities and towns has been on the rise, and the increase is relatively high. In 1998, the average sale price of nationwide urban newly built commercial residential housing was 1,854 RMB/m^2, which increased to 8,544 RMB/m^2 in 2018, with an average annual increase of 7.9%. But we should also see that this period also had the fastest urbanization rate and rate of economic growth and the fastest growth of residents' disposal income in China. In 1998, the per capita disposable income of urban residents in China was 5,425 RMB, which rose to 39,251 RMB in 2018, an average annual increase of 10.4%. Although housing prices in China have risen rapidly since 1998, they are still lower than the increase in per capita income in the same period.

TABLE 1 Average sale price of new residential buildings in cities and towns of China (RMB/m^2) and per capita disposable income of urban residents (RMB/year)

	Average sale price of nationwide urban newly built residential housing (RMB/m^2)	Per Capita Disposable Income of Urban Residents (RMB)
1998	1854	5425
2018	8544	39251
2018/1998	4.6	7.2

Source: National Bureau of Statistics of China, Author calculation

In 2018, the average sales price of newly built commercial housing in China was 8,544 RMB/m^2, up 12.2% year on year. In that year, the per capita disposable income of urban residents increased by 7.8% year on year. In December 2018, in 42 of China's 70 large and medium-sized cities, the sales price of new commercial housing increased by more than 10% year-on-year, although the cities with high price increases were mainly third-tier and fourth-tier cities. Beijing, Shanghai and Shenzhen have increased by only 2.3%, 0.4% and 0.1% respectively. There are two main reasons why the price increase of first-tier cities in 2018 is significantly lower than that of third-tier and fourth-tier cities. First, in order to curb the rapid rise of housing prices, the first-tier cities have implemented more stringent demand regulation policies since October 2016, including higher down payment ratio requirements and stricter purchase restriction policies. Secondly, after two consecutive years of high sales growth in 2016 and 2017, the inventory of the third-tier and fourth-tier cities has significantly decreased. In 2018, the short-term supply and demand situation of some cities' housing market has shifted, from the previous oversupply or the balance of supply and demand to the short-term shortage of supply relative to demand, and the short-term change of supply and demand relationship pushed up housing prices.

The differences of housing markets in different regions of China are mainly reflected in the differences in housing prices. According to the statistics of the sample projects of 100 cities in China by the China Index Research Institute (an unofficial institution), the average sales price of new commercial housing in 100 cities in China in December 2018 was 14,678 RMB/m^2, of which the average sales price of first-tier cities was 41,368 RMB/m^2, and that of second-tier and third-tier cities was 13,582 RMB/m^2 and 9,611 RMB/m^2 respectively. Because the housing price of the first-tier cities is significantly higher than that of the second, third and fourth-tier cities, and the income increase of the first-tier city residents since 2008 is significantly lower than price increase of the same period, housing affordability for the first-tier city residents is obviously stretched. Take the average transaction price of second-hand houses represented by Beijing's largest real estate brokerage company as an example, the average transaction price of second-hand housing in Beijing in 2011 was 22,438 RMB/m^2, reaching 63,011 RMB/m^2 in 2017. It declined slightly in 2018, with the average transaction price of 60,829 RMB/m^2. From 2011 to 2018, the average transaction price of second-hand housing in Beijing increased by 15.9% annually. During this period, the per capita disposable income of urban residents in Beijing increased from 32,903 RMB to 67,990 RMB, with an average annual increase of 10.9%.

The difference in housing prices in different cities in China mainly comes from the difference in housing supply and demand. First-tier cities have good economic prospects, more opportunities for development, more high-income jobs and large population inflows, but they generally face the problem of inadequate supply of new housing, so house prices are significantly higher than those of second, third and fourth-tier cities. Most of the second-tier cities are the provincial capitals and the central cities in the developed areas. The population inflow is also large. However, the supply of new housing is relatively large, and the price of housing is lower than that of the first-tier cities, but higher than that of the third and fourth-tier cities. Third and fourth-tier cities have lower economic development levels, fewer high-income jobs and relatively less population inflow, but they have sufficient housing land, and a large supply of new housing, which has resulted in lower housing prices than first and second-tier cities.

The main factors affecting housing price fluctuations are mainly from income changes, housing financial policy adjustments and short-term supply changes. In 2019, China's economic growth rate will probably be lower than 2018, which will affect residents' income growth expectations to some extent. In the second half of 2018, China amended the "Personal Income Tax" Law, which increased the threshold for individuals to pay income tax, and increased deductible expenditures including child education, continuing education, major illness care, housing loan interest, housing rent, and support for the elderly. The special additional deduction, the increase of the personal income tax threshold began in October 2018 and the special additional deductions began on January 1, 2019. The adjustment of personal income tax policy will bring about an improvement in residents 'income level. Generally speaking, the real income growth of residents in 2019 will be better than that in 2018. With the acceleration of the new housing construction area since the second half of 2018, the pre-sale volume of new housing will increase in 2019. The commodity housing market will shift from short-term supply shortage in the first half of 2018 to supply-demand balance or even supply-demand oversupply. The change to the market supply-demand situation will probably bring some pressure on the prices of some cities in the first half of the year. The adjustment of short-term financial policy has a great impact on the supply and demand of the real estate market. In 2019, we still need to pay close attention to the orientation of housing financial policy. Under the condition that the real estate financial policy remains relatively stable, it is expected that the average price increase of new commercial housing sales in 2019 will be lower than that in 2018. Although some real estate enterprises may be affected by liquidity to reduce the price of individual projects and promote sales, and some cities will face some pressure because of short-term changes in supply and demand situation, there is basically no possibility that the average sales price of newly built commercial housing in China will fall sharply.

4. Rapid growth of personal housing loans

After China further deepened the reform of the urban housing system in 1998, housing finance began to develop rapidly. There are two ways for Chinese residents to apply for housing loans, one is the housing mortgage loan issued by commercial banks, and the other is the provident fund loan.

The People's Bank of China [PBOC] and China Banking Regulatory Commission[CBRC] require commercial banks to meet the minimum down payment ratio when issuing personal housing loans. Households who buy their first house require a minimum down payment ratio of 20% at the beginning. Since then, PBOC and CBRC have adjusted the minimum down payment ratio many times according to the development of the real estate market. For example, in 2007, in order to curb the rapid rise of house prices, the minimum down payment ratio of loans required by households purchasing first housing was raised to 30%. In February 2016, PBOC and CBRC issued a notice that the minimum down payment ratio of loans required by first-time buyer households should be adjusted to 20-25% and 30% for second-time buyers.

PBOC is responsible for China's monetary policy and adjusts the benchmark deposit and loan interest rates in a timely manner according to changes in consumer prices and the macroeconomic situation. From November 2014 to October 2015, PBOC lowered the benchmark interest rate for deposits and loans six consecutive times. The interest rate of individual housing loans issued by commercial banks also fell overall. The weighted average interest rate of individual housing loans decreased from 6.96% in September 2014 to 4.52% in the second half of 2016. Since 2016, although the benchmark interest rate has not been adjusted, with the implementation of the deleveraging policy after the end of 2015, the actual interest rate for mortgages issued by commercial banks has continued to rise. In the third quarter of 2018, the weighted average interest rate for mortgages issued by commercial banks increased to 5.72%, 1.2 percentage points higher than the low point in the second half of 2016 and 0.71 percentage points higher than the third quarter of 2017. The rising interest rate for mortgages has restrained the excessive growth of housing consumption to a certain extent.

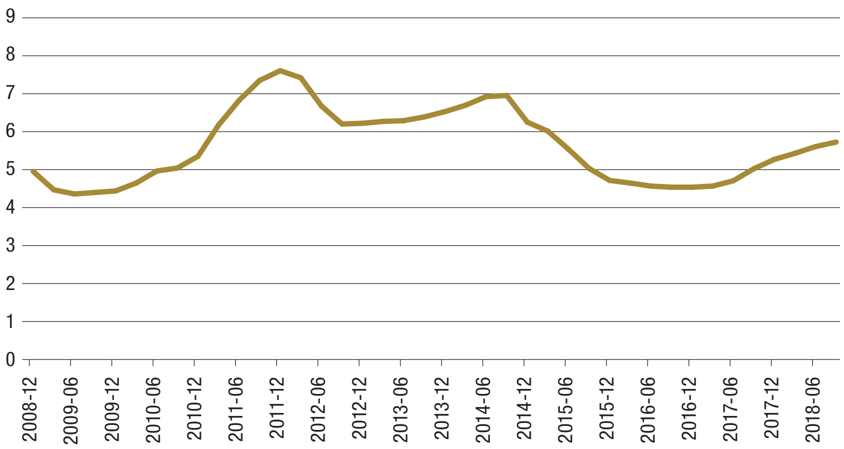
Since 2015, with the reduction of the loan interest rate and the implementation of the policy to reduce the inventory, personal housing loans issued by commercial banks have begun to grow rapidly. At the end of 2014, the balance of individual housing loans issued by commercial banks was 10.6 trillion RMB, which increased to 13.1 trillion RMB, 18.0 trillion RMB and 21.9 trillion RMB by the end of 2015, 2016 and 2017 respectively. The balance of individual housing loans reached 25.0 trillion RMB at the third quarter of 2018. In 2014, the growth rate of the personal housing loan balance was 17.6%, which increased to 23.9% in 2015 and 38.1% in 2016, respectively. Since 2017, some cities have raised the ratio of down payment for personal housing loan. The growth rate of the personal housing loan balance began to decline. In 2017, the growth rate of the personal housing loan balance was 22.2% higher than that in 2016. In the first three quarters of 2018, the growth rate of the personal housing loan balance was 17.9% higher than that in the same period of 2017.

In addition to individual housing loans granted by commercial banks, China has also established a provident fund system. People who have deposited with the provident fund can apply for housing provident fund loans with lower interest rates. By the end of 2017, the number of employees of China's housing provident fund had reached 137 million, and the national housing provident fund had issued a total of 30.83 million personal housing loans. The cumulative amount of personal housing loans reached 7.56 trillion RMB, and the balance of personal housing loans was 4.5 trillion RMB. China's annual provident fund loans accounted for about 20% of all personal housing loans in that year. Personal housing provident fund loans also increased substantially in 2015 and 2016. The new amount of personal provident fund loans issued in 2014 was 659.3 billion RMB, and increased rapidly to 1108.3 billion RMB and 1270.2 billion RMB in 2015 and 2016. In 2017, the amount of individual provident fund loans fell to 953.5 billion RMB.

Since 2015, personal housing loans have increased rapidly, and the leverage ratio of the household sector in China has also risen rapidly. The leverage ratio of the household sector has increased from 17.9% in 2008 to 48.4% in 2017. After the global financial crisis in 2008, the leverage ratio of the household sector in major economies of the world has declined, but the leverage ratio of the household sector in China has increased substantially. Although the leverage rate of China's household sector has grown rapidly, it is still below the average level of household leverage in advanced economies. China's household sector leverage ratio in 2017 is roughly the same as that of the major developed economies in 1980.

Although regulators currently require 20-25% as a minimum down payment for individual housing loans issued by commercial banks, the actual average down payment ratio for housing buyers is close to 40%. From the perspective of global comparison, China is one of the countries with the highest down payment ratio. Since 1998, the income of Chinese residents has been growing rapidly, and the housing price has been on

FIGURE 3 Weighted average interest rate (%) for individual housing loans



Source: Wind

TABLE 2 Credit to households and NPISHs from all sectors at market value – percentage of GDP

	UNITED STATES	GERMANY	JAPAN	ADVANCED ECONOMIES	CHINA
1970	43.4	35.7	26.7	—	—
1980	49.4	46.9	46.7	—	—
1990	60.2	52.6	69.5	—	—
2000	69.9	70.9	70.9	63.3	—
2008	95.4	59.5	59.5	75.7	17.9
2013	81.5	55.3	58.5	75.8	33.1
2017	78.7	52.9	57.4	76.1	48.4

Source: BIS

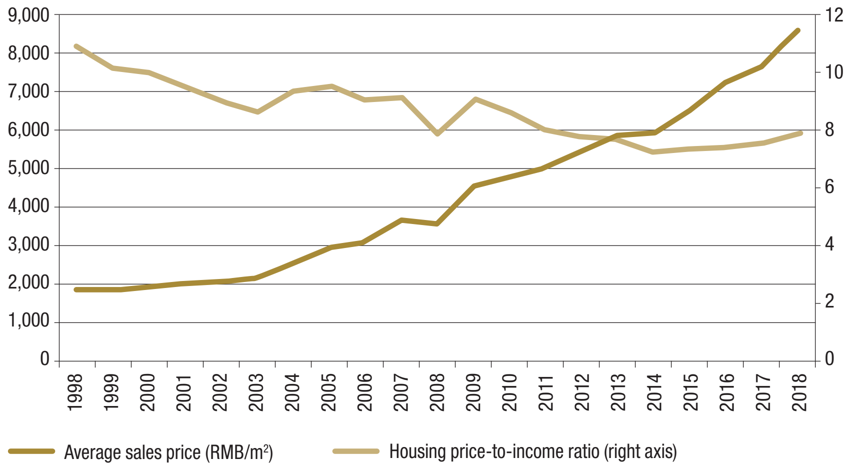
the rise. The personal housing loan in China is the best asset of commercial banks, and the non-performing rate of personal housing loans is the lowest among all loan products. Although China's personal housing loans have increased a lot since 2015, due to the high down payment ratio and the lower current housing price-income ratio, even if China's economic growth rate in 2019 is likely to slow down, non-performing personal housing loans are expected to remain at a relatively low level.

5. Overall judgment on challenges of China's real estate market

Due to the high price increase in China in recent years and the increasing scale of the housing stock in some cities in the past a few years, the international community is concerned about the risks to the Chinese real estate market. The premise for accurately judging the risk to the real estate market is to reasonably classify the risks and propose corresponding judgment criteria. Many economies have experienced real estate market risks in the past 30 years. The Challenges in the real estate market can be roughly divided into three categories: house price bubble, oversupply and liquidity risks.

The challenge of house price bubbles means that the price increase is significantly higher than the income increase, and the ratio of house price to income is significantly higher than the historical average. From a global perspective, the systemic risk of house price bubbles is often triggered by low interest rate policies and detonates the bubble after the low interest rate policy shifts and interest rates then rise quickly. In a country where the overall housing price trend is relatively normal, the challenge of house price bubbles in some cities in the country is mainly related to insufficient supply. The best indicator for judging the likelihood of house price bubbles is to see whether the price-to-income ratio of a particular country or city is significantly higher than its multi-year average. For example, before the US subprime mortgage crisis, its national house price-to-income ratio had significantly exceeded the multi-year average. Due to the large differences in the resource endowments of populations and land in different countries (cities), in general, the ratio of house price to income in countries or cities with more people and less land is higher than that in countries or cities with less people and more land. This is also the reason why the price-to-income ratio of large cities is generally higher than that of small and medium-sized cities within a country. In 2018, although the average price increase of new urban housing in China reached 12.2%, the national house price-to-income ratio also increased from 7.5 in 2017 to 7.8, but the national house price-to-income ratio is still below the average of 8.6 since 1998. Since the income growth of urban residents in China has been higher than the growth rate of housing prices in the past 20 years, the overall housing price level in China is not excessive. Although the current housing price-to-income ratio in China is still lower than the average level since 1998, the price-to-income ratio of first-tier cities such as Beijing is significantly higher than its historical average. The challenge of excessive housing prices is still highly concentrated because the high housing prices in first-tier cities such as Beijing are mainly related to the insufficient supply of new commercial housing, and it is difficult to increase this significantly in the future. In addition, PBOC does not have the possibility of raising interest rates in the short term, and the interest rates on existing mortgages will not increase in the short term, which means that the high housing prices in Beijing and other first-tier cities are unlikely to show a significant decline.

FIGURE 4 Average sale price of newly built housing and the ratio of house price to income in China



Source: National Bureau of Statistics of China, Author calculation

Pay close attention to the situation of oversupply in some cities. oversupply refers to the supply over a certain period of time significantly exceeding the normal local demand. The situation of oversupply is generally calculated by the number of housing units per household. When the number of housing units per household exceeds 1.1, there will be oversupply. At present, China's urban households have reached about 1.1 housing units per household, which has not only solved the problem of housing shortage, but also created a certain level of excess supply in some cities. It is worth noting that since the second half of 2018, the growth rate of housing sales area has begun to slow down, while the new housing construction area has increased dramatically in the same period. If this trend continues, a new round of excess supply will probably re-emerge in some cities.

The liquidity risk for developers is worthy of attention. The real estate industry is typically a highly leveraged industry, and the activity of developers is highly dependent on external financing. Since the third quarter of 2016, China has implemented the deleveraging policy and strengthened the supervision of developers financing. As a result, the difficulty of financing developers has increased, the financing interest rate has increased, and some highly indebted developers have liquidity problems. In order to solve the liquidity problems faced by them, since September 2018, a few developers have accelerated the return of funds through price reduction promotion, and some developers have transferred real estate projects under development to other developers. Although there are liquidity risks for individual enterprises at present, from the main monitoring indicators such as the overall source of funds for developers and the amount of real estate development investment, there is no systematic liquidity risk in the real estate industry in the short term. As the leverage ratio of developers is generally high, if real estate sales slow down significantly in 2019 or real estate financial conditions are further tightened, the number of developers with liquidity risk problems will increase.

Although there are high housing prices in hot cities such as Beijing, some third- and fourth-tier cities have the problem of oversupply, and some developers may face liquidity problems. However, these challenges are mainly local. It is unlikely that there will be systemic risks in the Chinese real estate market in 2019.

6. The new orientation of China housing policy adjustment

China has generally solved the housing shortage problem, but the regional differences are large. Some hot cities with large population inflow still face the contradiction of insufficient supply. However, the total housing volume in most cities has been balanced, and there are challenges of excess housing supply in some cities. Under the new situation of solving the housing shortage problem in general, but increasing regional differentiation, at the end of 2018, the Central Economic Working Conference of China emphasized that urban policies, classified guidance and local governments should lead in taking responsibility, which is the corresponding adjustment of real estate policy according to the changes of China's real estate development situation. To keep the real estate market producing stable development in 2019, the Ministry of Housing and Urban-Rural Construction of China has clearly defined three priorities:

- Firstly, it aims at stabilizing land prices and housing prices, and promotes the steady and healthy development of the real estate market. We should adhere to the position that houses are used for living, not for speculation, and strive to establish and improve a long-term mechanism for the steady and healthy development of the real estate market, resolutely guard against and resolve the risks in the real estate market. We should insist on implementing policies and classified guidance according to the city, consolidate the main responsibility of the city, strengthen market monitoring and evaluation, and earnestly fulfill the responsibility of stabilizing land prices, stabilizing house prices and stabilizing expectations. We will continue to maintain the continuity and stability of regulatory policies, strengthen the two-way regulation of supply and demand in the real estate market, improve the housing supply structure, support the rational demand for self-employment, resolutely curb speculative speculation, strengthen public opinion guidance and expected management, and ensure market stability.

- The second priority is to speed up the tackling of housing difficulties for low-income groups as the central task and improve the urban housing security system. We will support first- and second-tier cities with large population inflows and other hot cities, reduce access thresholds, increase the effective supply of public rental housing, and develop joint property housing according to local conditions.

- The third priority is to solve the housing problem of new citizens as the main starting point, increase the supply of rental housing. For megacities and big cities with large population inflows and high housing prices, we should actively revitalize the existing land, accelerate the construction of rental housing, and increase the effective supply.

With the implementation of relevant policies, especially those relating to the long-term mechanism of real estate, it is expected that the development of China's housing market will gradually return to the medium and long-term normal trend in 2019.

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