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HOUSING FINANCE INTERNATIONAL

The Quarterly Journal of the International Union for Housing Finance

- Once saved, always saved?
- Tax credits for affordable housing in the USA: could they work elsewhere?
- Federal Housing Administration's Default Mortgage Insurance Program creates public value by increasing lending making affordable homeownership possible
- Promoting energy efficiency in housing: policies in the U.S. and France
- Understanding and addressing local opposition to affordable housing development in Australia

International Union for Housing Finance

Housing Finance International

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Editor's introduction
Short memories?

↳ By Andrew Heywood

It is now seven and a half years since the collapse of Northern Rock in September 2007 signalled the onset of the banking crisis. Its effects are still being felt around the globe, not least by the residential mortgage industry, which has seen increased regulation, and still suffers from decreased lending volumes. Although volumes had increased in the UK at least, there are some signs that growth may be tailing off, as the expectation of interest rate rises, uncertainty about the outcome of the forthcoming General Election and fears about membership of the EU and future global growth prospects combine to damp down previous optimism.

Just as the industry has yet to fully regain its strength and confidence nearly eight years on, the effects on borrowers linger too, although they do not receive the attention they once did. This is partly because the situation of borrowers who took out mortgages in the run up to the crisis has improved. To cite the UK again; mortgage arrears and possessions are substantially lower than at their peak. There is an expectation that significantly lower levels of possessions than in the recession of the early 90's will be maintained- at least until interest rates rise. Positive as such perceptions are, they tend to discount the fact that low levels of possessions are due in part to much greater lender forbearance than in previous down turns. It is by no means clear that such strong lender forbearance will continue indefinitely.

In spite of improvements, substantial underlying problems remain for a significant minority. Negative equity provides one example. In London, where house prices are substantially higher than in 2007, less than 1% of borrowers who took out mortgages after 2005 are in negative equity. However, move 200 miles north and the figure rises to 16%. Cross the sea to Northern Ireland and the picture is dark; 41% of borrowers with loans taken out since 2005 have negative or low equity, while house prices are only just over half their peak levels. It is ironic that Northern Ireland is the only part of the UK that has not had access to a state sponsored mortgage rescue scheme, particularly when one considers that such schemes are not just a feature of the UK but exist in markets as diverse as New Zealand and Hungary.

Optimism is probably natural and is usually desirable. Without it investor confidence would languish, consumers would not spend, employers would not take on additional staff. Nevertheless, ordinary people across the globe continue to pay the price for relaxed credit conditions and poor lending decisions pre-2007. They are of course in many cases also paying the price for their own recklessness; there is a strong association between negative equity and equity withdrawal and between high-loan to value 1st charge loans and additional 2nd charge or unsecured borrowing. In making the effort to remember those households who have few grounds for optimism, we will perhaps also remember why it is important to ensure that work goes on to ensure that the risks of such a catastrophic denouement being repeated are significantly mitigated; they will never be eliminated.

Mortgage default, its consequences and how to mitigate them is one of the themes running through this issue. In a penetrating article *Once saved always saved?* Andras Botos discusses the Hungarian mortgage market in the run up to the banking crisis and since. A relatively poor country with 90% home ownership and a prevalence of low income households, Hungary saw a huge expansion in foreign exchange denominated lending in the period leading up to and including the crisis. Such lending (and borrowing) was seen as safe and offered lower interest rates to borrowers than Hungarian forint denominated loans. By 2010 the value of foreign currency loans, mainly in Swiss Francs was three times that of those in forints. This was all very well until the forint depreciated against other currencies and interest rates rose. Monthly mortgage payments shot up and the Hungarian Government found itself facing a crisis for both borrowers and lenders. Botos highlights the more significant efforts of the Government to find a way forward. These efforts, which have included allowing borrowers to convert loans out of foreign currencies at favourable rates and the introduction of a mortgage rescue scheme, have met with varying degrees of success. Borrowers and lenders in Hungary will be feeling the impact of past mistakes for a long time.

As Governments have pulled back from their traditional funding roles in the housing field over the past thirty years the holy grail of affordable housing has been a funding mechanism that stimulates supply, makes the business equation work and avoids a visible subsidy. In a fascinating article Michael Oxley examines the use of Low Income housing Tax Credits [LIHTC] in the USA. These tradable tax credits, introduced in the 1980's, incentivise investors to back schemes that supply new affordable housing for those on low incomes. They have been successful in the US where they have facilitated funding for the majority of new affordable housing in spite of a downturn during the banking crisis. Oxley discusses whether this model can be applied widely outside the US.

Still in the US and returning to the theme of mortgage default Stacey Shindelar focusses on the Federal Housing Administration Default Mortgage Programme. Established in 1934. The programme has been credited with contributing to the expansion of mortgage lending in the US. By the 1960's some 40% of loans were backed by this insurance. However, it has been in decline since then. Only about 5% of loans were backed by the programme by the early 2000's. Nevertheless, Shindelar marshals evidence that in spite of representing a significant cost to the US taxpayer, the Programme has provided increased access to mortgages for a range of groups who would otherwise find it relatively difficult to access the mainstream market.

In their article *Promoting energy efficiency in housing policies in the US and France*, David Rosen and Claude Taffin, remind us of the importance of securing increased energy efficiency in residential real estate, which it has been estimated accounts for 18% of global energy consumption. Rosen and Taffin conclude that if the promotion of energy efficiency is to reduce energy consumption and greenhouse gas emissions, lower costs for households and preserve older housing stock, then retrofit of existing homes is the key activity. They conclude that while valuable progress has been made in a number of countries much more remains to be done as a matter of urgency.

The term NIMBY (Not in My Back Yard) first surfaced around 1980 but in the UK at least it was brought to public attention in the late 80's by Nicholas Ridley, Secretary of State for the Environment, who attacked the "crude nimbyism" of those who opposed low-cost housing development and who was later found to have opposed just such a development near his own property. In our final article, Gethin Davison highlights a major research project which took place over a two year period in three Australian cities on the topic of opposition to affordable development. The article focusses on the key outputs of that research. These include analysis of the factors underpinning opposition to affordable development, the market and policy context for such opposition, what allows opposition to escalate and the actual perceived impacts of such development in retrospect. The article, which has a relevance to many housing markets, also examines how such opposition can be mitigated or addressed.

Finally, aficionados of international housing debate and ageing bossa nova fans may already have noted that the 29th World Congress of the IUHF is to take place in Rio de Janeiro from the 2nd to the 4th September 2015. The theme will be:

"Demand and Demographics: Challenges and Opportunities for Housing and Housing Finance Markets"

More details are available from the IUHF; and don't forget to brush up on your samba.

Contributors' biographies

Dr. András Gábor Botos has been the Secretary General of the Association of Hungarian Mortgage Banks since 2004. Previously he was an associate in the law office of PricewaterhouseCoopers in Hungary. The Association represents the interests of the three mortgage banks active in Hungary in relation to the legislator, the regulator, investors and the rating agencies.

Gethin Davison is a lecturer in planning and urban design at the University of New South Wales in Sydney, and an associate of the City Futures Research Centre. He has also worked as a planner in the government and private sectors. Email: g.davison@unsw.edu.au

Masahiro Kobayashi is the Director General for International Affairs at Japan Housing Finance Agency. He graduated from University of Tokyo in 1988 with bachelor of law and joined Government Housing Loan Corporation. He worked with Overseas Economic Cooperation Fund, Japan Bank for International Cooperation and seconded to Fannie Mae. He Serves as Advisory Board Member for Asia Pacific Union for Housing Finance. He can be contacted at Kobayashi.0rh@ihf.go.jp

Chung Chee Leong has been the President/Chief Executive Officer and an Executive Director of Cagamas Berhad, Malaysia's national mortgage corporation, since 1 April 2012. Mr. Chung is also a member of the Small Debt Resolution Committee; established by Bank Negara Malaysia to support the resolution of non-performing loans of Small and Medium Enterprises, and a member of the Advisory Board of the Asia Pacific Union for Housing Finance (APUHF). He has 29 years of experience in central banking focusing mainly on financial system stability and the financial sector.

Professor Michael Oxley is Director of the Cambridge Centre for Housing Planning Research. He has published widely in the field of social rental housing and housing finance. He has been a consultant to the World Bank on rental housing research, and consultant to UN Habitat on social housing finance.

Alex J. Pollock is a resident fellow at the American Enterprise Institute, Washington DC, USA. He was President and CEO of the Federal Home Loan Bank of Chicago 1991-2004, and President of the IUHF 1999-2001.

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David Paul Rosen, Ph.D. founded DRA in 1980. He is an authority on affordable housing finance, inclusionary housing, redevelopment, real estate economics, and renewable energy. Dr. Rosen is expert in deal structuring, value capture analysis, capital markets and asset management. He has represented public and private sector clients in more than 220 jurisdictions. Email: David@DRAConsultants.com

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.

Stacey L. Shindelar serves as a Senior Program Advisor at the Office of Housing/Federal Administration for Housing (FHA), Department of Housing and Urban Development (HUD). She has held leadership positions within both the private sector and the federal government. Ms. Shindelar holds a M.S. in Taxation, is an Adjunct Professor, and is pursuing her Ph.D. majoring in Public Administration and Policy.

Claude Taffin is currently the scientific director of DINAMIC, an entity recently created by the French notaries to operate their real estate databases. He previously worked for the World Bank as a senior housing finance specialist. Earlier, he headed the Housing Department of the French Bureau of Statistics [INSEE] before joining Credit Foncier, a mortgage lender, and Union Sociale pour l'Habitat, the union of social rental organizations [Hlm] as chief economist. He holds degrees from Ecole Polytechnique and Ecole Nationale de la Statistique et de l'Administration Economique (Paris).

Mark Weinrich holds graduate degrees in political science and economics from the University of Freiburg, Germany. He is the manager of the Department of International Affairs at the Association of Private German Bausparkassen and the Head of the Department of Economic Affairs for the International Union for Housing Finance in Brussels.

Housing Finance News from Africa: Focus on housing market performance across Africa

↳ **By Kecia Rust, Secretariat, African Union for Housing Finance**

The African Development Bank and UN Habitat have conducted a joint study on housing market dynamics in Africa. While the study has not yet been published, preliminary findings were presented at meetings in Casablanca, Morocco; Addis Ababa, Ethiopia; and Dakar, Senegal, in February 2015. More than 200 participants from the public, private, and NGO sectors of 45 countries contributed their perspectives and experiences towards the study.

The study focuses on four themes:

- Financing affordable housing demand and supply
- Unlocking land supply and providing infrastructure
- Solving the construction cost and productivity conundrum
- Housing alternatives for the most poor, and slum upgrading

The purpose of the work is to highlight the drivers of Africa's housing market, and explore the constraints to its development, especially in terms of private sector engagement and attention on the lower and middle income markets. From the work, African Development Bank [AfDB] and UN Habitat hope to identify good practices and approaches that might be adapted in local African contexts, and which might frame their work in this sector going forward.

All four papers acknowledge the enormity of the housing need across sub-Saharan Africa, and that this need is exacerbated by rapid urbanisation and affordability constraints. Over 60% of urban dwellers in Africa live in slums. Challenges relating to land administration systems, under-investment in infrastructure, limited municipal capacity to support development, and inefficient or broken value chains all undermine the performance of the housing market. However, as macro-economic contexts improve, opportunities for increased investment in ways that would support better access to quality housing for lower income earners also emerge. This creates a useful niche on which practitioners can focus, and it is here that the AfDB and UN Habitat joint study wishes to focus.

The Addis Ababa meeting was attended by practitioners from the public, private and NGO sectors of seventeen countries. The comments raised in the course of the discussion were dominated by four broad themes.

- Legislative and regulatory weaknesses: whether at national, provincial or municipal level, a key constraint is either inappropriate or absent policy and legislation. This has a significant impact on the availability of land, the productivity of the housing value chain, and the manner in which housing developments can be financed.
- Institutional weaknesses: while the housing sector is growing and diversifying, the capacity of the players to operate at scale is seriously limited. It was noted that in Kenya, there is no single construction company that can consistently build 500 units per annum for a period of more than three years. There is a need to incubate strong institutions and improve the efficiency of the housing production chain.
- Short-termism: Given the challenges, and in response to the pressures of urbanisation and growing housing backlogs, many players are encouraged towards a short-term intervention approach, focusing on the immediate delivery of a particular project, rather than the longer term investment in institutional building that would be necessary to create a sustainable housing sector.
- Targeting: Where capacity does exist, it gravitates towards higher income markets that can afford a margin on costs that accommodate the risks involved – even when government participates. This means that even so-called "affordable" developments end up targeting middle and higher income households. Meanwhile, some stakeholders argued that lower income households that are not necessarily part of the private sector's traditional market offer very real opportunities in affordability and engagement that can be nurtured. It is here that product innovation should focus.

These, and the other issues raised, will be considered by the authors of the four thematic papers as they finalise their input and ready the study for publication.

The Addis conference included a site visit to a development that is part of Ethiopia's Integrated Housing Development Programme. Comprising 18,000 units, the development includes a mix of bachelor, one, two and three bedroom units targeted at households who have registered themselves on a waiting list and demonstrated affordability for the products they wish to purchase. The first phase of the Integrated Housing Development Programme ran from 2006-2010 and involved the construction of 396,000 housing units. Ten percent of these were earmarked for business, and the construction was financed through the sale of government bonds. Beneficiaries then purchased the housing with a 20% deposit and a mortgage loan for the remaining 80%. Various mechanisms were made to improve housing affordability: the price set for the larger, more expensive units included an amount dedicated to cross subsidise the cost of the smaller units; government provided land and infrastructure; special attention was given to the use of locally available materials, recycling, and import substitution; and the government used its purchasing power for the entire programme to realise economies of scale in the bulk purchase of construction materials. The effort also promoted job creation through the use of small scale enterprises and

labour based construction methods. Support was given to SMEs in the form of occupational skills training, microfinance, the provision of equipment, and of work space.

The first phase of the programme highlighted a number of challenges that, coincidentally, were echoed in the AfDB / UN Habitat market study. These are classic challenges across Sub-Saharan Africa: capacity limitations in project management, planning, and logistics; and shortages in affordable, quality construction materials led to delays and rising costs, undermining the efficiency of the programme. The programme was also surprised by affordability constraints among the target market, and a lack of alternative programmes for different income groups. The need to differentiate among the financial capacities of the demand side was therefore identified. The management of the developments after occupancy was also an issue that was identified as a challenge going into the second phase.

The way in which the Ethiopian government then responded to these challenges in the second phase of the Integrated Housing Development Programme offers lessons, therefore, for other contexts. The second phase has run from 2010 until the end of 2014, although some developments are still in the final stages of construction. Critically, the programme offered a segmented approach to meet the needs of different income target groups. It included an early savings scheme to assess and support effective demand, and improved the typologies of housing provided. While the construction of the housing was financed with a government bond, purchasers of the units could access one of three products based on their savings capacity: the lowest income earners were required to save 10% of the purchase price and were given a loan for 90% – this, for the lowest cost units, offered for purchase at about US$2000. Larger units could then be bought either with a 20% deposit and 80% loan, or with a 40% deposit and 60% loan, with the principle being that higher income buyers would pay higher deposits. In all developments, government would provide the land and support the development of infrastructure.

Of course, there were still problems in the second phase. Construction quality, the feasibility of the financing approach, the reality of downward raiding, and the sustainability and efficiency of the SMEs, were all issues that required attention. However, as one of the delegates pointed out, Ethiopia has built more housing in their Integrated Housing Development Programme than the whole of West Africa put together. There was certainly something very encouraging in seeing masses of housing units targeted explicitly at low and middle income earners, under construction in integrated developments, as part of a massive, national exercise to address its housing backlog.

Asia-Pacific Union for Housing Finance: News Update

↳ By Zaigham Mahmood Rizvi, Secretary General, Asia-Pacific Union for Housing Finance

Thailand

Thailand's long-term property prospects remain bright, fuelled by rapid urbanization, mass transit development and an ageing population.

In an interview with Bangkok Post, Samma Kitsin, Director-General of the Real Estate Information Center [REIC] said that rapid urbanization, in particular, is a key trend in Thailand that will boost residential market growth in metropolitan and neighboring areas. However, Samma warned that rapid urbanization comes with attendant effects including residential property shortages, increased slums and rising social, economic and political problems.

Leading consulting firm, KPMG, said cities with populations of more than 10 million people such as Jakarta, Bangkok and Manila have become mega-cities. In Thailand, urbanization has created secondary cities, including Pathum Thani, Samut Prakan, Ayutthaya, Nakhon Sawan, Chachoengsao, Kanchanaburi, Chiang Rai, Phitsanulok, Surat Thani and Nakhon Si Thammarat. To support secondary cities and urbanization, mass transit and transport improvement and development are necessary, that will shift property locations from Greater Bangkok to expansion in outer areas. The number of mass-transit stations in the next five years will outnumber the current stations which started 15 years ago. Currently, there are 63 stations; in the next five years, there will be 222. In Bangkok, the train, skytrain and subway routes will all be connected by 2029 or earlier," said Mr Samma.

Thailand's leading property companies have set aside more than Bt100 billion ($US 3.125 billion) this year to buy undeveloped land and construct residential projects for this year and next year. Funds will come from cash flow, new debentures, and real estate investment trusts [REITs].

The leading developer Land & Houses has earmarked Bt12 billion ($US375 million), followed by Sansiri ($ 218 million), and Quality Houses ($ 250 million). New residential projects launched by listed property firms will recover to more than 200 projects worth over Bt350 billion ($US10.94 billion) with half being condominium projects. LPN Development plans to launch 12 condominium projects worth Bt20 billion ($US625 million) this year, with a focus on Bangkok and suburban areas.

GH Bank – 2014 Bank of the Year

Thailand's leading economics magazine, "The Interest", has announced GH Bank as "Bank of the Year 2014". The selection committee chose GH Bank over other financial institutions because of its operations and financial performance. The Bank was commended for its outstanding results during difficult economic conditions, especially in its role as a special-purpose financial institution that supports government housing policies and through its excellent nationwide CSR [corporate social responsibility] activities. During the past decade, the Bank has continued growing steadily and is Thailand's leading housing finance financial institution with assets of Bt766, 274 million,($US23.9 billion, deposits of Bt599,898 million ($US18.7 billion) and outstanding loans of Bt736,467 million ($US23 billion) as of December 31, 2013. The Bank realized a net profit of Bt8,188 million ($US256 million) for the year ending December 31, 2013. The Bank's current BIS ratio of 18.56% is the highest in the past decade, while NPLs [non-performing loans] are at the lowest levels in the past decade.

Angkana Pilun-Owad Chaimanat, GH Bank President has been selected "Banker of the Year 2014" by "Interest magazine" and Dokbia Turakij newspaper. During a most difficult period, Angkana's leadership helped the Bank achieve its mission to provide homes to many lower-and-middle-income families

The Government Housing Bank [GHB], achieved its best operational results in a decade, maintaining its position as the leading lower-and middle-income housing-loan provider (2014 loan target Bt134,000 million) ($US4.187 billion). Managing costs and sourcing appropriate funding (Bank deposits grew 6.23%). Managing NPLs and NPAs [non-performing assets] through asset management strategies (reducing NPL to not more than 6% of outstanding loans). Enhancing service quality and management support systems including "Peak Day" campaigns wherein senior managers and staff service customers. (G-I-V-E Values). The Bank continued opening branches in 2014, (currently 202 branches across the country).

The GHB's total loans outstanding increased 5.73% to Bt778,632 million ($US 24.3 billion) while total assets increased 7.6% to Bt824,491 million ($US 25.7 billion). The Bank's BIS ratio (16.72%) exceeds the Bank of Thailand's Minimal Capital Requirements (8.50%).

Bangladesh

Bangladesh's housing sector has been having a tough time because of the ongoing marathon countrywide strikes. The sector's sales declined significantly in 2014 compared to previous years. According to the Real Estate and Housing Association of Bangladesh [REHAB], a recent survey found that 209 companies claim to have have 12,185 units of unsold apartments. The association has around 1200 member companies. Due to the slow down in real estate business, the construction materials industry [CMI] of materials like cement, iron and steel, bricks, tiles, ceramic have also been affected. The slump can mainly be attributed to buyers' lack of access to a low-cost home loans. In Bangladesh housing buyers have to pay up to 18% interest rate.

The Bangladesh House Building Finance Corporation [BHBFC] is the sole government financial organization which serves those on low-incomes. The commercial banks have slowed down their housing finance business. Bangladesh Bank, the central bank of

Bangladesh, has also increased the ceiling for a housing loan by 20%, which allows the banks and financial institutions to lend a buyer DBtk 12 million instead of 10 million. The Government has announced plans to raise BDtk 2 billion by way of long term funds for the housing sector.

Pakistan

Pakistan, with a population of close to 200 million, is currently facing a housing backlog of 9-10 million units, of which nearly 3.5-4.0 million is the urban housing shortage. Most of the urban housing shortage is in the low-income segment of the population. The Government has taken some serious initiatives to address the mega social issue of increasing housing backlog in the country. On the supply-side the Prime Minster has announced a Low-Income Housing Program named "Apna Ghar", under which 0.5 million units will be built. For this purpose a housing supply company has been set up which has started functioning. The Government has also announced a Low-Income Housing Policy to promote housing affordability for the low-income target market. On the financial side, the State Bank of Pakistan [SBP-the central bank] is also proactive. It is engaged in revitalizing the House Building Finance Corporation [HBFC], the only state-owned specialized housing finance entity in the country. For facilitating housing finance, a long term liquidity facility institution, the Pakistan Mortgage Refinance Company [PMRC] has also been set up which has commenced its operation.

Kiribati

In December 2014, H.E President Anote Tong who is also the Minister for Housing, together with H.E Donald Higgins, the New Zealand High Commissioner to Kiribati, led the ground breaking ceremony for the Housing Development that the Government of New Zealand will be funding in 2015. This project is now underway with the delivery of the first 31 duplexes for 62 households. KHC has designed the duplex as a solution to address the issue of land scarcity by maximizing densities on the developed plots. The system is used by the Corporation in its other housing developments.

The KHC have undertaken to provide housing for government employees. At the moment around 3,500 civil servants live in the Capital City Tarawa; currently there are only 1,200 housing units available for them. The target for the current project, with the assistance of the Government of New Zealand, is to deliver 150 duplexes, which will equal the efforts of the last 7 years.

The winning contractor and supplier for the kit sets is the New Zealand firm Timber Construction Solutions [TCS], which has extensive experience of construction in the Pacific. In the last 7 years, KHC has built 73 units with its own funding and the assistance of the Taiwanese Government.

Mongolia

Affordable Housing Mortgage Program – Structured Finance Scheme [SFC]

In June 2013 the Government of Mongolia, jointly with the Bank of Mongolia [BOM], agreed to support the development of a market-driven sustainable mortgage financing mechanism, in response to the rapidly growing urbanization of Ulaanbaatar city and rural provincial centres in the coutryside. The Mongolian Mortgage Corporation Llc. [MIK HFC], the Housing Finance Company, established in 2006 for the development of the secondary mortgage market, was selected as the strategic entity to implement the Affordable Housing Mortgage Program.

This presently ongoing Affordable Housing Mortgage Program [Program] is designed as a combination of an unconventional short term liquidity injection by BOM to eligible commercial banks followed by a stuctured finance solution through the inaguaral issuance of a private label Residential Mortgage Backed Security [RMBS], administered by the Mongolian Mortgage Corporation.

The initiative of BOM to facilitate the growth of low and middle-income housing mortgages was commenced by a disbursement of a below the market rate short-term loan, as a seed liquidity to commercial banks, to finance the origination and underwriting of residential mortgages to low and middle-income groups of Mongolian citizens at an affordable interest rate of 8% p.a. These mortgage loans provided relief to the middle and low class households' financial burden by refinancing the existing high interest rate mortgage loans attributed to the high level of inflation rates imminent in the emerging economy of Mongolia.

The refinanced and newly underwritten mortgage loans are disbursed to households occupying condominium apartments limited up to 80 square meters (861 square feet) with 8 % pa. rate and maturing over a term of up to 20 years were packaged and securitized by the MMC HFC to RMBS with 2 separate tranches of "Senior" bearing coupon rates of 4.5 % pa. and "Junior" bearing 10.5 % pa. all denominated in local currency. These local RMBSs are sold back to the mortgage underwriter and servicer banks; the "Senior" tranches are resold in lieu to, and monetized by, the BOM. Subsequently proceeds of such monetization are dedicated by BOM to the collection of the initial seed short-term liquidity extended to the originating banks.

MIK HFC LLC as the transaction administrator, security agent and trustee of the RMBSs, is Mongolia's first mortgage corporation who, with technical advice from a group of Malaysian private advisors has introduced the RMBS into the domestic capital market. MIK HFC is successfully continuing its mission to promote the development of primary and secondary mortgage markets in Mongolia through the new structured finance enhancement. To date MIK HFC has established 4 SFC and issued MNT 1.3 trillion. Since the Housing Finance Program launch, the total of outstanding mortgage loans have reached MNT2.84 Trillion ($US1.4 Billion) as at the end of 2014, of which 71.3% are mortgages covered by the new Affordable Housing Program.

The Housing Mortgage Program has been awarded by Bloomberg TV, the Mongolia Achievement of Year 2013 Award and by Capital Finance International Group the Best Issuer of Mortgage Backed Securities' Asia 2014 Award.

Recent housing markets in Japan

↳ By Masahiro Kobayashi

Japan

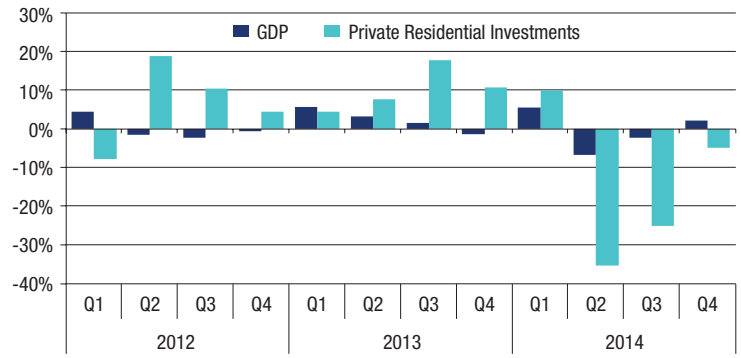
Japan raised its consumption tax rate (VAT equivalent) in April 2014 from 5% to 8%. This caused a temporary negative impact on the overall economy and real GDP growth rate declined to -6.7% in the second quarter of 2014 at seasonally adjusted annual rate. The decline in private residential investments was more serious: -35.4% in the same period. The temporary negative impact waned as people adjusted to the change, and real GDP growth rate became positive in the fourth quarter of 2014. However, the recovery of private residential investments remains very weak and Q/Q growth remains negative.

The number of housing starts in Japan was 892,261 units in 2014, down 8.96% from 980,025 units in 2013.

A 35 year fixed rate mortgage is available in Japan at 1.37% as of February 2015, but in order to stimulate the economy, the Government of Japan decided to authorize some appropriations to JHF based on the Supplementary Budget for FY2014. The major component of the fiscal package for JHF is to reduce the interest rate for the initial 5 years by 0.6% if the borrower purchases good quality houses in terms of earthquake resilience and energy efficiency etc. This means the beneficiary of this package can borrow at 0.77% for the year 1-5 and 1.37% for the year 6-35 without being affected by future interest rate fluctuations.

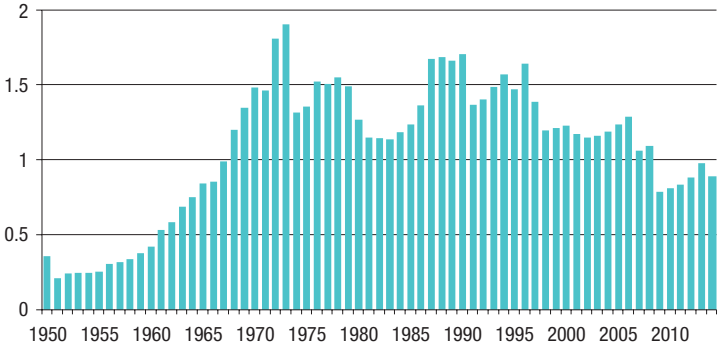
Such fiscal stimulus packages are expected to boost private residential investments and domestic demands. It is also expected that the Japanese economy would be revitalized, coupled with other policy measures. It would be our pleasure if JHF could contribute to the recovery of Japanese economy.

Seasonally Adjusted Annual Growth Rate



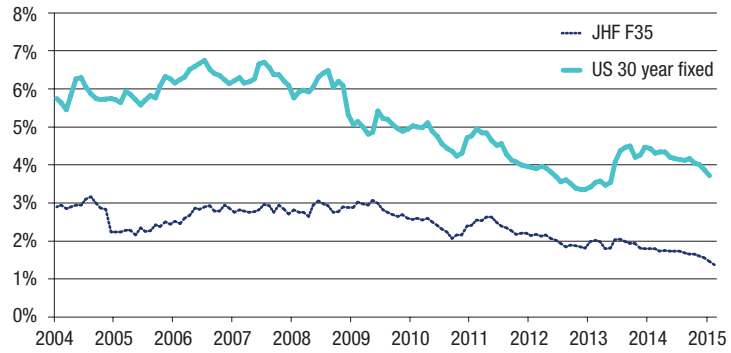
Source: Cabinet Office, Government of Japan

Number of Housing Starts (in million units)



Source: Ministry of Land, Infrastructure, Transport and Tourism

Mortgage interest rate in Japan and US



Source: JHF, FRB

Provision of affordable homes in Malaysia: Youth Housing Scheme

↳ By Chung Chee Leong – President/Chief Executive Officer, Cagamas Berhad

Malaysia

The housing industry plays a pivotal role in contributing towards Malaysia's development and economy and many other supporting industries depend on its continuous growth. This can be shown by the rising trend of the mortgage to GDP ratio in Malaysia over the past few years. As at end-2014, the outstanding housing loans in the banking system amounted to RM426.8 billion or 40% of GDP as compared to 38% in 2013[1].

Without doubt, provision of affordable homes is one of the key components in Malaysia's developmental agenda and the Government of Malaysia (GOM) will continue to introduce more projects and programmes to fulfil the housing needs of the people. Among the affordable housing programmes announced in the Malaysian Budget 2015 is the Youth Housing Scheme [YHS], a smart partnership between the GOM, Bank Simpanan Nasional [BSN], Employees Provident Fund [EPF] and Cagamas. The scheme offers a funding limit for a first home not exceeding RM500,000 for married couples aged between 25 and 40 years old with household income not exceeding RM10,000. GOM will provide eligible buyers a monthly financial assistance of RM200 for the first two years which is to be used to pay toward their monthly mortgage instalments. The authorities will also give a 50% stamp duty exemption for the purchase and mortgage agreements. A 5-year moratorium is imposed on the borrower for property purchased under the scheme to avoid speculation and investment. The scheme will run for a period of 2 years and is offered on a first come first served basis for 20,000 units only. In addition, borrowers are entitled to withdraw their savings from the Employees Provident Fund [EPF] to pay their monthly instalments and other related costs.

YHS is the second affordable housing scheme after My First Home Scheme [SRP] where Cagamas SRP Berhad (a wholly owned subsidiary of Cagamas Holdings Bhd) acts as a mortgage guarantee facility provider on a "first" 10% loss basis to mortgages originated by the participating banks. SRP was first announced in the Budget 2011 by the GOM to assist young adults who have just joined the workforce to own their first home. Both schemes (YHS and SRP) facilitate young adults to obtain 100% financing from participating banking institutions, enabling them to own their first home without the need to pay a 10% down payment.

A comparison of the YHS and SRP is shown in table below:

Schemes	YHS	SRP
Target Segment	▪ Married youth aged between 25 and 40 years old.	▪ Young adults 40 years old or less
Eligibility	▪ Married couples ▪ Gross household income not exceeding RM10k	▪ Single or Married ▪ Gross household income not exceeding RM5k for single borrower and RM10k for joint borrowers
GOM Incentive	▪ RM200 subsidy per month for first 2 years ▪ 10% loan guarantee to enable borrowers to obtain full financing including cost of insurance (Guarantees provided by Cagamas to BSN)	▪ 10% loan guarantee to enable borrowers to obtain full financing including cost of insurance (Guarantees provided by Cagamas to participating banking institutions)
Guarantee coverage period	▪ 5 years	▪ Based on maximum 35 years loan tenure, guarantee coverage period will be up to 7.4 years.
Employment Type	▪ Salaried or self employed	▪ Only salaried
Moratorium Period	▪ 5 years	▪ NIL
Eligible Property	▪ Residential property value between RM100k to RM500k	
Max Loan Amount	▪ Maximum RM500k	

With the introduction of various incentives and measures to help housing affordability in Malaysia, the GOM believes the YHS scheme will have a positive impact on the housing market especially to encourage homeownership among youths as well as to improve the quality of life of the people in general. Cagamas, as the National Secondary Mortgage Corporation will continue to support the GOM's housing initiatives of this nature, to make home financing affordable to young adults in Malaysia to own their first home.

[1] Source: Central Bank of Malaysia Annual Report 2014

Europe: a shifting regulatory landscape

↳ **By Mark Weinrich**

While Federal Reserve Chairwoman Janet Yellen prepared markets verbally some months ago for the end of zero interest rates, the European Central Bank [ECB] started a huge monetary stimulus plan designed to boost the region's sagging economy and fend off the spectre of deflation. On March 9th, the ECB launched an "expanded asset purchase program" with combined monthly purchases of €60 billion through to at least the end of September 2016 – which adds up to a total injection of at least €1.1 trillion into the Eurozone. It is the economic policy program of the ECB. Monetary policy takes over the role of economic policy in the absence of a proactive fiscal policy at the European level.

There are many reasons against this monetary experiment that involves high risks and misguided incentives:

1) The purchase of government bonds by the ECB and the eurosystem national central banks is not a monetary policy but is public sector financing, even if the bonds are not directly bought from the participating states.

2) Through this program the ECB reduces the pressure for reform on the countries of the euro area, thus promoting substantial moral hazard.

3) The central banks take risk onto their balance sheets, which have to be ultimately underwritten by taxpayers in the case of losses.

4) The pass through effects to the real economy of this monetary policy are likely to be weak. Instead of stimulating the investment decisions of companies, it is more likely to fuel asset bubbles.

5) The stimulus program of the ECB will lower cost of bond finance. This is a further prod towards capital markets for European companies that have traditionally relied predominantly on bank finance. It is the eurozone investment banks that benefit most from this monetary policy, which are the financial institutions that ran into trouble during the crisis and threatened financial stability. Smaller deposit-taking institutions that have proven to be a safe haven during the financial crisis will now see their margins squeezed through the policy of the ECB.

6) It is dangerous that the ECB suggests with its policy that it is the only institution in the euro area capable of acting effectively. However, monetary policy is not able to solve regional, economic or even structural problems.

As the extremely accommodative monetary policy of the ECB apparently does not take financial stability issues in account, the ECB and national central banks have been given a strong macro-prudential policy mandate to address the build-up of financial risks. The connection between macro-prudential policy and monetary policy is so intimate that central banks are closely involved in macro-prudential analysis and decision making. In the banking union, macro-prudential policy is a shared competence between the member state authorities and the ECB. Member states can react to national developments with national measures, and the ECB has an option to require additional restrictive measures where it deems these to be necessary.

However, the amalgamation of monetary policy and banking supervision can be unfortunate. The ECB floods the markets with money but only a small part of it goes to the real economy, while the largest share fuels real estate and stock markets. Currently, the adverse consequences of the monetary policy of the ECB appear to be mitigated at the national level. Apparently, the intention is to block all outlets for the newly printed money but the one into the real economy. In particular in the area of housing loans this has led to a regulatory jungle – almost every European country has different rules despite the existence of the Single Rule Book. The Single Rule Book aims to provide a single set of harmonised prudential rules which credit institutions throughout the EU must respect in order to create a level playing field. This regulatory framework is shaped in such a way as to leave a certain degree of national flexibility in the activation of macro-prudential tools, as credit and economic cycles are not synchronised across the EU. However, this national discretion has led to significant differences in the treatment of the same business in different countries.

To prevent real estate markets from overheating, several national banking supervisors have enacted regulations targeted to reduce the profitability of real estate lending in Europe. The measures range from increasing and activating capital buffers (namely the counter-cyclical capital buffer and the systemic risk buffer) by setting a minimum Loss Given Default [LGD] floor to setting loan-to-value and debt-to-income limits. The Central Bank of Belgium noted that the risk weights of Belgian real estate loans are relatively low when compared internationally. This is due to a relatively low LGD estimate, while the estimate for the probability of default [PD] is higher than the European average. Due to the significant increase in house prices in Belgium, the Belgian central bank fears that the low LGD parameters systematically underestimate potential losses. Therefore, it has decreed that all banks applying the Internal Ratings Based Approach have to add to their calculations of risk weights five percentage points for real estate located in Belgium. This rule applies only to banks located in Belgium.

The Swedish Financial Supervisory Authority activated a counter-cyclical capital buffer and decided that credit institutions have to assign 25 percent risk weights to their mortgage assets, up from 15 percent. In addition, Sweden's four biggest banks must set aside 3 percent of common equity Tier 1 capital as a systemic-risk buffer, and another 2 percent within Pillar 2. The new rules shall be applied as of 13th September 2015.

Corresponding regulations are also found in Croatia. The Croatian National Bank determined that credit institutions whose share in the total assets of all credit institutions in Croatia equals or exceeds 5%, shall apply a structural systemic risk buffer rate of 3% of the total risk exposure amount. For all banks that fall below this threshold, the rate is set at 1.5%. Furthermore, strict additional criteria apply for credit institutions that want to assign a risk weight of 35 % to exposures fully and completely secured by mortgages.

European Union countries are not the only ones to have enacted various measures to stabilize their housing markets. Besides Switzerland, Norway has reacted in Europa, and at the international level China as well as Singapore have taken quite drastic measures.

Although it is accepted that stricter capital standards and other national discretionary measures help to prevent asset bubbles, these rules also take away the incentives of banks to grant credit. This raises the question whether the tandem of monetary policy and macro-prudential supervision is not thwarting itself, so that the ECB's risky strategy becomes contradictory.

Don't forget the 1980s

↳ By Alex J. Pollock

It should be a deeply sobering thought for Americans that the U.S. housing finance sector has collapsed twice in the last three decades. Of course, we know that there was the painful shriveling of the huge U.S. housing and mortgage bubble of the 2000s, but only twenty years before there was the mass failure of the savings and loan (thrift) industry, first from interest rate risk and then from bad loans. Up to then they had been the dominant mortgage lenders. Their collapse resulted in the failure of the government's savings and loan deposit insurance fund, which required a $150 billion taxpayer bailout. The bonds sold in 1990 to finance that bailout run to 2030, so the taxpayers will be paying for the 1980s bailout for 15 more years from now! Does the U.S. as a nation have a natural ineptitude for housing finance? Moreover, the savings and loan crisis was mixed together with a severe commercial banking crisis.

Here's a financial history quiz: How many U.S. thrift institutions and commercial banks do you think failed or had to get government assistance in the 1980s crisis? Before you read the answer, what's your number?

The correct answer is that all told, 1,332 U.S. thrift institutions failed between 1982 and 1992. In the same period, 1,476 U.S. commercial banks failed. That is a total of 2,808 financial institution failures, or an average of 255 failures per year over those eleven years. That is on average five failures a week over a decade. Pretty tough times in the financial system!

But how well is that 1980s financial collapse remembered? How much do you remember about it, dear Reader? That probably depends on your age. Consider, for example, a fellow who is today a responsible bank senior vice president or regulator or central banker and 50 years old. In 1982, he was 17 and doubtless thinking much more about girls and football than about the crisis in housing finance, so he can remember little if anything about it. Conversely, the 50 year old senior vice president or regulator or central banker of 1982, who had to deal with the crisis, is now 83 and probably long retired, if alive. For today's 29-year old bond trader, the 1980s are ancient and irrelevant history and even the panic of 2007-2009 is pretty long ago.

The natural process of ageing, mortality and the arrival of new generations cuts heavily against the effective retention of the lessons of financial history. Financial history could be taught in universities or on the job, but mostly is not. This helps the cycles of boom and bust continue.

How serious was the 1980s crisis? Well, in that decade the then-Chairman of the Federal Reserve made a Friday night phone call to the Governor of the Bank of Japan. His reported first words were: "The American banking system might not last until Monday"!

Here's another quiz: Which year was that? What was the immediate crisis which gave rise to the call? Who was the Federal Reserve Chairman who made such an extreme statement?

The right answers are: 1982. The global sovereign debt crisis. Yes, there have also been two sovereign debt crises in the last three decades; the second one still in process with the threatened post-bailout default on Greek government debt. The 1980s sovereign debt crisis was then known as the "LDC [less-developed country] debt crisis." The Federal Reserve Chairman was Paul Volcker.

At the same time as the savings and loans (as directed by their regulator) were making soon-to-be disastrous long-term, fixed rate loans funded with short-term deposits, hundreds of American banks, including all the big ones (along with banks in Europe, Japan and Canada) had been on a lending spree to the governments of the less-developed, or as we would now say, emerging countries. This disastrous lending spree had been widely praised by official and private cheerleaders as "recycling petro-dollars" in the jargon of the time – displaying everyone's typical inability to foresee the coming crisis. By the spring of 1982, the Federal Reserve was making special loans to the Bank of Mexico to make the latter's financial statements look better. In August, 1982, Mexico defaulted on its debt and it belatedly became obvious to everybody that the heavily indebted LDC governments could not pay what they owed.

As economist Richard Koo, at that time the head of the International Financial Markets Section of the New York Federal Reserve Bank, recalls, therefore the "big U.S. banks were all virtually bankrupt." At the same time, it was realized that the thrift industry was in the aggregate bankrupt. What a combination!

But that was not all. At the same time, two other bubbles were deflating: an oil bubble (sound familiar?) and a farmland bubble. So not only was the thrift industry on the way to a huge taxpayer bailout, but nine out of the biggest nine banks in oil-centric Texas failed, along with many others, and the Farm Credit System, a government-backed lender, failed, too, and had its own government bailout. No wonder Volcker was phoning up his central banking brethren!

Here is your last quiz: What did Chairman Volcker do to confront the massive losses on the loans the banks had made to the governments of the LDCs? Face the facts and take the write-downs? Mark the loans to market? Try to reduce the credit exposure to these insolvent borrowers? Have a stress test?

Which alternative did he choose?

The correct answer is: None of the above. Instead, Volcker ordered the bank regulators not to classify these loans as non-performing, in spite of the fact that they were bad loans – in other words, to cook the books – and ordered the banks to keep the game going with new loans to the insolvent borrowers, pushing off recognition of billions in losses for years.

Thus the forceful Chairman Volcker "steamrollered though," as Koo says, with a bold strategy and a very high-stakes gamble, which he got away with. At the same time, the regulator of the savings and loans, the hapless Federal Home Loan Bank Board, was likewise postponing loss recognition, cooking the books, and making big gambles, which it however lost.

The Federal Home Loan Bank Board was abolished by Congress in 1989 and replaced by the Office of Thrift Supervision. The Office of Thrift Supervision was in turn abolished by Congress in 2010.

Sic transit gloria in American housing finance. In the meantime, the Federal Reserve, which created the 1970s runaway inflation and its interest rate aftermath which broke the thrifts, has advanced to ever greater power and prestige. With striking irony, the Federal Reserve in the aftermath of the 2000s bubble has become the biggest investor in long-term, fixed rate mortgages there is – in effect, the biggest savings and loan in the world.

Once saved, always saved?

↳ By András Botos

1. Introduction

Many forms of exemptions have been offered to Hungarian residential mortgage borrowers during recent years, ranging from write-offs on bridging loan schemes, from voluntary prepayment options at artificially low foreign exchange [FX]-rates to the annulment of previous interest rate adjustments. All these measures were meant to ease the situation of distressed borrowers suffering from the negative effects of the global financial crisis in Hungary. Unfortunately, such measures were more influenced by the fear of social tension than by a clear-cut conception aiming at minimizing the negative effects of the crisis on housing for the long term.

This article summarizes the positive and the negative effects of such measures as well as providing a snapshot of the latest developments regarding housing finance in Hungary.

2. Social and economic dimensions of the Hungarian mortgage market

Western readers will probably only understand recent years' developments if we describe some characteristics of the Hungarian residential mortgage market.

As in many post-communist countries, the home ownership rate is well over 90 per cent in Hungary. From the psychological side this can be explained by the fact that real property has always qualified as the most secure investment one can have in our country, second, there were several generous state subsidy schemes aiming at contributing to property acquisition. Yet such high home ownership ratios mean that also households with relatively low shock-absorbing capacity have invested their savings into real property and a high proportion of the household's income will be used on mortgage instalments. Accordingly, there is a threat of countrywide economic and financial shocks due to a high number of evictions and in turn to social tension, the labour market will be inelastic due to the inability and unwillingness of families to move to other cities or regions (in Hungary there are huge differences in the level of employment between regions), and current housing costs cannot be reduced by moving to lower cost dwellings either, as renting is no option due to the lack of a rental market.

Hungarian customers are characterised by a very low level of financial awareness – and this was particularly true prior to the global financial crisis. Hungary has not, since time immemorial, gone through any such economic or social shocks. For instance the economic and democratic changes to the regime starting in 1989 led of course to personal misfortunes due to the disappearance of complete industries and the loss of jobs, but there was no "shock-therapy" as in Poland[1]. The Hungarian society couldn't accept anything else after "Goulash Communism" than some kind of a consensus based "Goulash Capitalism" in the form of income and wage compensation[2], even if we had to pay a very high price for it (e.g. the annual average inflation rate was well above 20% during the 1990s). The shift to the new regime was based on burden sharing and a high level of State redistribution.

As soon as inflationary pressures softened in the early 2000s and the two digit inflation rate fell to a single-digit one, a generous mortgage interest rate state subsidy system was introduced in 2001. This scheme was so generous that after two years of operation there were serious constraints from the budgetary side concerning the sustainability even of the ongoing budgetary costs of already granted subsidies, without accounting for new applications to the program, so the program had to be stopped. But the genie was already long out of the bottle: housing conditions were indeed to be improved in Hungary and there was huge demand for better housing conditions. The role of Hungarian Forint [HUF]-based lending was immediately overtaken by FX lending – particularly in the mortgage market. If you consider that banks were mostly foreign owned at that time in Hungary and that back in 2000 the Government announced the forthcoming accession to the Euro zone for as early as 2006, it is no wonder that western European mother banks were more than happy to offer Euro [EUR] funding in a market where margins were several times higher than in western Europe.

Neither the Swiss franc [CHF] nor the Japanese Yen [JPY] were currencies of the Euro Zone, yet the exchange rate of the CHF has been pretty stable vis-à-vis the EUR for a long time and JPY mortgage loans were offered only to the best clients with a stable and high income. One could argue that CHF-based borrowing wasn't much riskier for Hungarians than borrowing against the EUR: at that time everyone believed that the risk was similar in practice to the EUR/HUF risk, which, in the case of an EU country seemed to be an acceptable one. Moreover, convergence economies, such as Hungary's, have had a tendency to achieve real appreciation of their currency vis-à-vis the Euro, on the strength of their superior economic growth rate and the general tendency of asset prices to increase in emerging economies[3]. On the other hand, Hungary was facing austerity measures again due to the stagnating economy and the Government saw a much higher risk in a sudden freeze up of the building industry – employing many low income people – than in foreign currency based lending with a stable European banking background. Please recall that we are in 2003-2004; there was no sign of the Global Financial Crisis yet.

By the time the Parliament prohibited FX-denominated residential mortgage lending in July 2010, 88% of all FX denominated mortgage loans were denominated in CHF, 9% in EUR and only 3% in JPY – these FX portfolios were three times the amount of total outstanding HUF portfolios and the residential mortgage loan portfolio was 16% of the Hungarian GDP.

Although the Hungarian legal framework was more advanced than European legislation in many

[1] In January 1990 prices rose by 40-50% in Poland. The inflation rate in January was 80% compared to December 1989 yet fell back to a single digit rate by 1997. More than 1 million people lost their jobs during the first reform year and the reforms led to wide differences in the society.

[2] Dr. János Cinkotai: Depreciating interest rates and Inflation in Hungary. In: Series of Studies published by the Hungarian National Bank, Budapest, June 2013.

[3] Please see: "A Not Too Original Sin: Hungarian Indebtedness in Foreign Currency", Péter Ákos Bod, 18 November 2011, in: Hungarian Review.

aspects (e.g. the APR had to be provided in the case of all mortgage loans from 2005 whereas the European Standardised Information Sheet was embedded in law in 2009), financial institutions were free to adjust interest rates to reflect their funding costs in a unilateral way under certain circumstances, whereas exit in the form of the prepayment of the loan was a pretty expensive option for borrowers – notwithstanding the fact that due to heavy competition there were no relevant differences between FX mortgage interest rates among many market players and HUF denominated mortgages were even more expensive. According to the contracts concluded with consumers the FX risk was taken by the consumer.

3. And then the crisis came

Hungary was hit particularly hard by the global financial crisis. The high degree of integration into the global financial markets as well as Hungary's high level of public debt, the dependence of the financial system on external funding and the large-scale currency mismatches, were large underlying vulnerabilities. Such vulnerabilities are not rewarded in times of global financial turmoil.

The Hungarian Forint has depreciated against the CHF and the EUR in several major waves. Each time most expected that the Forint would strengthen afterwards and losses shouldn't be locked by immediate conversions at the "peak of the crisis". Few expected a further sovereign crisis or expected that eventually only the Swiss Franc would be regarded as a "Safe Haven" However, the depreciation of the Forint has been ongoing ever since: the average HUF/CHF rate was 226.9 in 2011; then 240.1 in 2012; 241.2 in 2013 and 253.0 in 2014.

Considering that 93% of all CHF mortgage loans have been taken out at an average rate of HUF/CHF of 175, monthly instalments became 40% higher between 2011 and 2014 than at the point of time when the loan disbursement took place because of the depreciation of the Forint.

On the other hand, the original APR's were 6-7%, representing a 4-5% spread against the main funding currency, CHF (CHF LIBOR). Since the beginning of the crisis Hungarian banks paid a significant premium for foreign funding: first of all a liquidity premium and also because of the higher sovereign risk (the Credit Default Swap [CDS] of Hungary rose from 2.2% at the beginning of the crisis to 6% at certain periods of time and Hungary is still now classed as non-investment grade by all three major rating agencies). Such costs were passed on to financial institutions' own customers in the form of higher interest rates to some extent: the average annual percentage rate [APR] has risen by 2% to 8-9%. Due to higher interest rates, monthly instalments rose by a further 20%. Banks were blamed not just for passing on higher funding costs but also for passing on higher risk costs to their still-paying customers as well.

The ratio of non-performing residential mortgage loans began to rise. Currently it is the highest in Europe: the ratio of non-performing loans among all residential mortgage loans is 20%. The same ratio in case of FX denominated residential mortgage loans granted for housing purposes is equal to 18.6% – in the case of equity release mortgages 30.3%.

Social tensions because of the constantly and steeply rising monthly instalments since 2008 and the threat of evictions resulted in the following measures[4].

3.1 Foreclosure and eviction moratoria

Up to a certain extent lenders can be forced to absorb or to carry forward losses on the non-performing part of the portfolio by placing a prohibition on foreclosure and eviction. Such prohibitions were the first measures in many countries from the US to Hungary. These measures are not necessarily against the interests of the lenders, as the fire sale of properties would otherwise ruin the property market and require lenders to devalue the collateral they have and to make impairments and write-offs. Hungarian banks were well capitalized and could accept that foreclosures were allowed only up to a very limited extent since the beginning of the crisis. On the other hand, keeping such measures in place for indefinite periods of time enhances moral hazard and counteracts the efforts of lenders to renegotiate the still acceptable payment burdens with borrowers.

3.2 Prepayment option for borrowers at a preferential FX rate

The idea of granting a prepayment option for foreign currency [FX] residential mortgage borrowers at preferential FX rates was first raised in public on the 9th of September 2011, after the weekend session of the governing parties, which aimed to "find a solution" for indebted households. The announcement shocked the Hungarian banking sector and came as a complete surprise to Hungarian mortgage lenders, particularly as all costs and losses resulting from this prepayment option and the conversion of FX loans into HUF loans would have to be borne by the lenders. Although the banking community, analysts and the media raised significant concerns as did the National Bank of Hungary [NBH], the Government was reluctant to negotiate, and after the rapid publication of the Act in the Official Gazette, three days later on the 29th of September 2011, mortgage lenders had to start offering the conversion option to customers.

It was a generous option for households with foreign currency mortgage loans to repay their loans at fixed exchange rates of HUF/CHF 180, HUF/EUR 250 and HUF/100YPN 200, with respect to the spot rates of HUF/CHF 239, HUF/EUR 296 and HUF(100)/YPN 288. Not surprisingly there was a lack of incentive for large lenders to grant HUF loans to their own borrowers, or to refinance each other's borrowers, due to the then already weak forint and high LTV's in turn. The non-lending to FX mortgage borrowers has been regarded as an infringement of competition law and the highest ever fine has been levied on eleven banks by the Competition Authority.

Finally, approx. 170 thousand households out of 796 thousand have prepaid their FX mortgage loans at a preferential exchange rate – 23% of the original number of contracts, over 24% by value. Indeed, it has probably not been the most struggling households who have prepaid, as only 21% of the prepaying debtors have taken out a HUF loan to refinance their previous FX mortgage loan – all the other households had the necessary savings (cash) to prepay. Because of the significant number of MP's prepaying their FX mortgage loans under this scheme at this time, the MP's were blamed by the media for serving their own interests. The several hundred thousand borrowers who did not prepay were either reluctant to convert their cheap FX mortgages (APR: 6-7%) to HUF denominated loans (APR: 11-13%), or were not eligible for a new HUF loan because of the high LTV of their loan.

The scheme was closed on 29 February, 2012. Lenders suffered the largest losses in relative terms on JPY mortgages: the prepaid amount covered 69% of the capital only. The same ratio in the case of EUR was 84%, in case of CHF: 75%. This means that lenders lost 0.26 CHF on each 1 CHF prepaid. Most probably also the legislator felt the injustice of this scheme as 30% of all losses could be reclaimed from the previous year's special banking tax (actually the highest in

[4] Please note that here we only display the most effective measures, several other were tried during the past few years.

Europe). In net terms the banking sector has made 260 Billion Forint losses through the scheme – by comparison the total own capital of the banking sector was 2.466 Billion in 2012. For the first time some foreign mother banks had to recapitalise their Hungarian daughters.

In order to illustrate the absurdity of the early prepayment scheme one should consider a strange fact: the portfolio of a commercial bank considered one of the best portfolios in terms of performance has turned into one of the worst ones, as the well-paying, premium clients of the bank have immediately prepaid their FX loans without any difficulties. Banks have argued that such measures narrow their opportunities to assist those borrowers who really need help and are ready to renegotiate their mortgages. Two months after the announcement of the scheme all three major rating agencies downgraded Hungary's sovereign debt into the non-investment grade, making funding for banks and for the State even more expensive.

3.3 The National Asset Management Company

Since 2012 over-indebted persons in need, have been offered the opportunity to sell their homes to the National Asset Management Company [NAMC]. In this case their mortgage debt will be waived and they can stay in their homes for a very low rental fee. The purchase price paid by the NAMC is a maximum of 44% of the original purchase price (for properties in the capital, if the mortgage lender has a 1st charge) and the remittance is to be paid by the NAMC to the lender, whose claim ceases by accepting this partial compensation. Therefore, the lenders' consent to the purchase is needed. The NAMC had the resources to purchase 25,000 properties by the end of 2014 and the scheme will probably be continued. Although banks make huge losses because of the write-offs, it is still considered a successful program: it would make little sense to foreclose against people in need where their properties might be sold for a very distressed price because of the location, or some other reason.

3.4 Village built for distressed borrowers

Ócsa is the name of a small village far from any major cities where the Government has built eighty stand-alone houses for families losing their homes with individual heating systems and the opportunity to raise vegetables. Probably because of the lack of jobs and limited public transport provision, or maybe because of the fear of stigmatisation and discrimination from living in one of these houses, families were reluctant to move to these houses for many years. Despite high building costs the project did not live up to expectations, although it is not clear what Government expected from this project.

3.5 Exchange rate protection scheme

The "bridging loan" or "exchange rate protection" concept was intended to alleviate the situation of FX mortgage borrowers whose loans are in good standing. Under the scheme a bridging loan was granted to those mortgage loan borrowers who had a CHF, a EUR or a JPY denominated loan, which was either in good standing or for which payments were less than 90 days overdue.

We have to mention that in the case of FX mortgage loans the monthly instalments have been specified in the respective funding currency when concluding the contract entitling lenders to withdraw the HUF equivalent from the HUF account of the borrower using FX selling rates. Under this scheme monthly instalments were calculated and withdrawn at CHF/HUF 180, EUR/HUF 250 and JPY/HUF 2.5 instead being withdrawn at spot rates. Monthly instalments were divided into a principal and an interest component, the difference emerging in case of the interest part because the cost of using the above rates was to be borne 50-50 by the lender and the State. The difference emerging in case of the principal part of the loan because of using the above rates was put into a bridging loan account opened for the borrower, without their having to repay this amount during the next 60 months. Due to the annuity structures, the scheme provided more assistance to those borrowers who were at an early stage of amortisation.

Although the "exchange rate protection scheme" was quite costly, it was considered fair by the lenders. It should be borne in mind that it is generally the State that influences the trajectory of the HUF by the determination of economic policy, thus the burden-sharing between lenders, borrowers and the State could be considered justifiable. Using the bridging loan account allowed borrowers to minimize negative effects of HUF depreciation and to prevent sudden changes in monthly instalments also. Unfortunately, the somewhat complicated structure and the fear of further indebtedness plus the administrative burden hold back many FX borrowers from entering the scheme. After so many other measures and the still hostile stance of the Government towards banks, many borrowers believed that there would be even better options in time. Nevertheless, 35% of all FX residential mortgage borrowers have entered the scheme.

4. The role of the Supreme Court and the so called "settlement"

In the meantime, a number of legal actions have been initiated by borrowers, contesting the legal status of FX mortgage loans (indeed FX denominated or not), their fairness (whether or not such contracts are "defective products"), and whether or not lenders had informed their customers about all associated risks of the product in line with the respective provisions. Most of the claims were rejected, but then the Supreme Court's (called Curia in Hungary) uniformity ruling declared in June 2014 that the application of an exchange rate spread is unfair, i.e. the general terms of contracts stipulating that different exchange rates will be used to advance the loan (namely FX "buying" rates) and for the calculation of the monthly instalments (namely FX "selling" rates) are unfair and void. In fact, differences between buying and selling rates have never been significant in case of most Hungarian banks. The Court also ruled that contractual provisions enabling the unilateral amendment of a contract – such as unilateral interest rate amendments – are unfair if they do not comply with the principles laid down in another ruling of the Supreme Court (the principle of clear and intelligible drafting, the principle of taxonomic definition, the principle of objectivity, the principle of factuality and proportionality, the principle of transparency, the principle of term inability and the principle of symmetry). Unfortunately, the elaboration of the Supreme Court on a few simple and general consumer protection rules to be found in the Civil Code ever since the accession to the EU by Hungary has come a little late. At the point of time when the credits were granted there was no such interpretation and the Credit Institution Act allowed credit institutions to amend interest rates if funding costs rise[5]. That is to say the Curia hasn't said that the raising of interest rates was not justifiable, only that the general terms in the contracts were too opaque to meet their stringent criteria for consumer protection. Unfortunately, if the underlying provisions are null and void, credit institutions don't have the right to increase interest rates.

[5] The right to amend interest rates in consumer contracts was granted to credit institutions in 1991 because otherwise neither floating nor fixed rate loans could have been granted for the long term. The quickly changing base rate, the lack of any useful benchmark rate and inflation over 20% impeded long-term lending. The right to interest rate adjustments gave lenders the necessary flexibility to offer loans – inter alia long term mortgage loans. The proposition that credit institutions did not abuse their right is supported by the fact that there were no legal disputes ever on interest rate changes before the depreciation of the Forint and subsequent significant increases in instalments.

Politicians warmly welcomed the uniformity decisions of the Supreme Court and the Parliament quickly passed two acts to get rid of the whole FX-problematic and to reduce the macro-prudential risk posed by residential FX mortgage loans. Actually the Parliament went even further as well.

Pursuant to the act on settlement adopted in September 2014, the overpayments by debtors arising from the application of general terms declared later unfair and void by the Supreme Court (such as using interest rate spreads and interest rate adjustments) had to be considered on a retrospective basis as principal pre-payments in relation to the credit facility – without regard to the lapse of time. Considering such over-payments as pre-payments on principal instead of considering them as undue payments and setting aside the rules of lapse-of-time did not follow either from the rulings of the Supreme Court or from the Civil Code, so special settlement rules had to be outlined in special laws and bylaws by the Parliament and the National Bank of Hungary.

5. Conversion into HUF and new – legislation based – interest rates

Soon after the Settlement Act, the Parliament passed in November 2014, the legislation on the conversion of foreign currency mortgages into HUF (both for mortgages for housing purposes and for equity release loans, which types comprise two different categories of residential mortgage loans in terms of consumer rights, etc. in Hungary). Previously, with respect to legislative conversion there were two major reasons why lenders doubted that there could be a one-size-fits-all solution to the difficulty of stipulating new interest rates for the HUF loans by law (because of the diverging risk profile and previous benefits of customers, or even the business interests of the lenders) and the effect of such a measure on the exchange rate of the HUF (in case of the conversion banks had to change their funding currencies, i.e. they would have to buy the foreign currencies on the market to be able to repay their funding, which would otherwise be outstanding in CHF/EUR or JPY respectively – buying foreign currencies against HUF on such a scale would put downward pressure on the HUF rate).

Yet the Hungarian legislator was brave enough to find a solution for both problems. FX loans have been converted at market rates (HUF/CHF: 256; HUF/EUR: 309) and converted loans have been pegged to 3 month BUBOR (the Hungarian inter-bank rate, currently 2.1%) with the option for banks to charge margins from 2-5.5% over this rate for loans for housing purposes and 2-7% for home equity release loans. The margin should not be more than that on the original FX loans. And to protect the Forints value the HNB has sold the necessary foreign currency amount to lenders from its own FX reserves. Due to the fact that the settlement act results in a 20-30% capital saving on the borrowers' side, and the somewhat higher interest rates in HUF than in FX and the lack of FX risk on the other hand together with the settlement is a bargain for the borrowers. Borrowers will be informed between March and April this year of the conversion terms offered by their banks, and they can shop around for a further 60 days for better offers (i.e. for lower interest rates) on the market.

Of course, the much lower base rate and the overall better financial situation of the country (less need for large FX reserves) was an indispensable pre-condition for the conversion.

The overall effect of the measure according to HNB's estimate, is that the full impact of the settlement may amount to HUF 900-1,000 billion across the financial system as a whole, of which HUF 800 billion may be incurred by the banking sector and non-resident credit institutions (by comparison the total capital held by the banking sector in Hungary was 2.595 Billion in Q3 2014). This estimate includes the total difference between the original and the recalculated loans in the case of ongoing contracts, and the present value of the repaid amount in the case of terminated contracts. Thus, over the long run, financial institutions need to calculate for tighter margins in the case of HUF converted loans – how much tighter such margins will be will also be subject to the competition among banks when borrowers start to shop around for better interest rates. Lower interest rates could also contribute to lower default on payments and thus smaller risk costs, yet it is questionable whether the non-performing part of the portfolios will improve through these measures. Many argue that a significant group of the non-performing customers could actually pay if they wished to do so and their non-payment is rather assignable to moral hazard. On the other hand, decreasing households' indebtedness is of course good news for the national economy.

6. The Swiss National Bank-story

As many of the readers may be aware, the Swiss National Bank [SNB] on January 15th announced suddenly that it would no longer hold the Swiss Franc at a fixed exchange rate with the Euro; a decision which shocked the world's financial markets. There was panic. A number of hedge funds and large banks across the world made big losses. The Swiss stock market collapsed. Yet Hungarian FX mortgage debtors did not have to worry, although the HUF was for a small period of time worth less than 0.003 CHF (310 HUF for 1 CHF), because the conversion had already taken place by that time. A few weeks earlier 3.300 Billion Forint, roughly 12 Billion USD had been converted.

Many foreign analysts and bloggers asked whether or not Hungary had been informed in advance by the SNB about this decision. Most probably not; it was pure luck that the monthly instalments of CHF mortgage debtors did not rise further upon this decision of the SNB.

7. Debt cap rules

The HNB adopted a regulation aimed at the prevention of excessive household loan outflows in the form of a decree entering into effect on 1 January 2015. The new regulations are applicable to all new loan contracts concluded in the territory of Hungary and have basically two main pillars. The payment-to-income ratio [PTI] reduces customers' debt accumulation by limiting the debt servicing burden that can be undertaken by customers when they take out a new loan to a pre-specified proportion of their regular legal income. In the case of collateralised loans (e.g. mortgage loans), the loan-to-value ratio [LTV] limits the size of available loans in proportion to the collateral (home value).

Only certified, legitimate net income (wage, pension, family allowance) is considered as disposable income. This may significantly stimulate the whitening of the grey economy as well, given that customers will be required to have reported, legitimate income in order to obtain a loan. In the case of new HUF-denominated loans granted after 1 January 2015, the payment-to-income ratio may not exceed 50 per cent and, for customers in higher income brackets, 60%.

8. Conclusion

Financial institutions have had difficult times in Hungary, and so have residential mortgage debtors with FX denominated loans. The author was told by IMF representatives that after the outbreak of the crisis in the US, as long as it seemed to be a banking crisis in the first phase, Swedish advisors were engaged by the Senate as experts on banking sector-level crises[6]. I wonder who could be interested in the experiences of Hungary during the next few decades.

[6] There was a crisis in the Swedish banking sector in the 1990's.

Tax credits for affordable housing in the USA: could they work elsewhere?

↳ By Michael Oxley

1. Introduction

Housing shortages, and in particular the need for more affordable housing in many countries, can cause policy makers to look elsewhere for new ideas to promote increased provision. This article examines the operation of Low Income Housing Tax Credits in the USA. It reviews their benefits and problems and asks whether such a system might be used to increase the supply of affordable housing in other countries. The article evaluates the successes of tax credits and their sustainability, especially during economic recession. The conditions necessary for the transferability of the underlying principles are discussed and the scope for the ideas behind LIHTC, rather than the fine detail of the system, to influence policy change in other countries is explored. The discussion begins by placing tax credits in the context of the range of policy approaches that might be used to support affordable housing provision.

2. How to support affordable housing: demand or supply-side support?

There are in principle several ways, within a market economy, that policy makers can seek to improve the housing circumstances of low income households. The problem may be approached from the demand-side, with the issue viewed essentially as an income distribution problem, or from the supply-side where the main concern is a lack of production. With a demand-side approach additional resources are provided to households. They may, if there are no conditions attached to how the additional resources are spent, use the extra funds for housing or anything else they choose to purchase. If the personal assistance is conditional on housing circumstances the additional spending power is targeted at housing.

Alternatively the problem may be approached from the supply-side and developers and landlords can be incentivised to increase the supply of housing. This support might be dependent just on more dwellings being supplied or it might come with conditions about the cost or price of the accommodation and the allocation criteria. We may thus specify four broad approaches:

1. Support those in need through **unconditional income related assistance** (help goes to households: pure subject subsidies).
2. Support those in need through **conditional income related assistance** (help goes to households with housing conditions attached: conditional subject subsidies).
3. Support supply through **unconditional subsidies** (help goes to suppliers: pure object subsidies).
4. Support supply through **conditional subsidies** (help goes to suppliers with conditions about helping households: conditional object incentives).

Details of these approaches as they apply to rented housing are provided in the table below:

Subject subsidies run the risk that with inelastic supply they will have bigger inflationary than output effects. They have however expanded in most advanced economies in recent decades, often with a mantra that they increase consumer choice compared with supply-side approaches. Object subsidies have a more direct impact on production and with conditions attached they can moderate the price or rent of accommodation (Oxley, 2004).

Within the classification system above, affordable housing tax credits are a particular type of conditional object incentive. That is, they encourage housing production but there are conditions attached to the terms on which the housing is consumed.

Table 1 Rental subsidies: definitions

	Who gets the help?	Conditions	Type of help
1. Pure Subject Subsidies	Households	Personal circumstances but not specifically housing costs	Income supplements; personal tax reductions
2. Conditional Subject Subsidies	Households	Household, income, size and housing costs	Housing allowance, housing voucher
3. Pure Object Subsidies	Suppliers – including house builders and landlords of many types*	Additional housing supplied	Grants, tax reductions, cheap loans, equity finance
4. Conditional Object Incentives	Suppliers – including house builders and landlords of many types*	Additional housing supplied; Rents limited; allocation constrained (usually to households below an income threshold, but employment, household type and other indicators of need may also apply)	Grants, tax reductions, cheap loans, equity finance, tradable tax credits, cheap land

* The assistance to suppliers may come straight from the government or be channelled through an intermediary such as a financial institution or a special housing fund (with the financial institutional or fund having an obligation or incentive to supply preferential finance), or through another developer (when for example a commercial developer is required to support affordable housing through planning). In each case the assistance has its origin in a policy decision.

Source: Oxley et al (2014) Boosting the supply of affordable rented housing: learning from other countries, ESRC Project http://www.esrc.ac.uk/my-esrc/grants/ES.K007564.1/read

3. Low Income Housing Tax Credits in the USA

One form of conditional object incentive or subsidy that has been tried in several countries is the use of tax concessions to incentivise investment in affordable rented housing on the condition that the dwellings provided are available at sub-market rents to households on low incomes. There are variations of this approach in several countries including France (Peppercorn & Taffin, 2010) and Australia (Blessing & Gilmour, 2001). But the most significant example of this approach, in terms of the scale, consistency and evidence of impact is the use of low income housing tax credits [LIHTCs] in the USA. LIHTCs, which have been in operation since 1986, are income-related investment incentives. Developers are able to obtain these subsidies if dwellings are occupied by households whose incomes are low with respect to local median levels.

LIHTC support is a federal scheme operated through the Internal Revenue Service [IRS]. The Federal Government allocates annual quotas (based on population levels) to each state. Each state allocates their quotas according to a qualified allocation plan [QAP]. The QAPs enable each state to prioritise funding for locally important issues (for example, new build or improving existing stock, urban or rural areas). The tax credits last for ten years and projects are required to meet the particular project's low income requirements for a 15-year initial "compliance period" and a subsequent 15-year "extended use period". Projects thus have to meet the low income occupancy requirements and rent limits for prescribed periods of time in order for investors to get the tax benefits. Rather than using government to fund, build and manage affordable housing, LIHTCs are used by the federal government to stimulate the private and non-profit sectors into partnership arrangements targeted at providing subsidised housing for specific income groups (Peppercorn & Taffin, 2010).

The developer (who can be a private, public or non-profit organisation) receives the tax credit and sells it on to an investor or a syndicator. The latter is likely to pool several projects into one equity fund. There is a market for tax credits so they are a tradable commodity. Investors assume the development and operating risk when they invest in LIHTC projects. They can only claim tax credits if the buildings are maintained in compliance with programme requirements, which are monitored primarily by state housing agencies. Investors are principally corporate institutions rather than individuals.

The majority of subsidised low-income rental housing built in the last twenty five years has been financed by LIHTCs which comprise the largest subsidy program for the development of low-income rental housing in the USA. Investors purchase interests, usually as limited partners, in developments and claim a tax credit for 10 years. The tax credit value is related to development costs, the use of other subsidies, the extent to which the property is occupied by low-income households, and the location of the property. Projects involving construction or substantial rehabilitation are entitled to a nine percent annual credit whereas if a project is financed with tax-exempt bonds or involves acquisition only or minor amounts of renovation it receives a credit of four percent. These are the standard rates for the credits. The capital to develop a project is needed at the beginning or in the early stages of development so developers sell credits to investors, such as banks and insurance companies. Alternatively, they can be sold to "syndicators," who raise pools of capital from private investors, which are then invested in tax credit projects (Belsky & Nipson, 2010). Schwartz, (2010, 2011) provides an example: a low-income rental property that costs $10 million to develop, $9 million of which constituted allowable expenses, would generate $810,000 in nine-percent tax credits annually for ten years (9,000,000 x 0.09 = 810,000). The allowable costs are most of the costs incurred for the project, except for land and the costs of raising capital. The investor effectively receives a $810,000 reduction per annum in their tax bill. They will make a lump sum payment at the start of the project in order to receive this annual flow of tax reductions. The amount the investor is willing to pay will depend on the yield that they are prepared to accept. The developer gets the immediate lump sum to help finance the project.

The LIHTC is America's largest subsidy program for the development of low-income rental housing. It is often used in conjunction with other federal and state housing programs, including tax-exempt bonds, block grants, and the HOPE VI program for redevelopment of distressed public housing (Schwartz, 2010). Whilst LIHTCs are a national scheme they are administered at a more local level and in detail vary considerably from state to state. Each state designs the details of the rules under which the tax credits are awarded. State agencies award the tax credits and must, by federal law, create the QAP which sets out the policies that guide the award of low income housing tax credits. Through the QAP there is a large degree of local control so that although broad social and financial policies are set at the federal level, programs are tailored to meet local needs and priorities. Local non-governmental organisations can play a significant role. They can establish their own for-profit entities, or form partnerships with private firms thus combing non-profit motivation with 'market discipline'. This degree of localism contributes to the across-the-board political support for LIHTCs.

State agencies are also responsible for monitoring the properties during the compliance period to ensure that rents and tenants' incomes do not exceed the defined limits and that the properties are well maintained. States furthermore monitor the development costs and the quality and operation of projects. They should notify the IRS of any "noncompliance". LIHTC property owners and their management agents must be able to prove that tenants meet the eligibility requirements of the LIHTC Program and remain eligible throughout their tenancy. Each year a re-examination or recertification must be performed to ensure the tenant continues to meet the rules. Any non-compliance means that the LIHTC owner risks losing tax credit eligibility. Certified compliance professionals help to ensure the rules are applied and owners and their management agents are encouraged, and in some states required, to have professional compliance status.

It has been claimed that the participation of private investors helps to ensure that the housing is well managed and "Without the participation of private investors, oversight of tax-credit properties would rest on state housing finance agencies or other governmental units who may not be adequately staffed or motivated to provide the same degree of vigilance. In addition, banks may perceive a higher degree of risk in lending to projects that lack tax-credit investors. As a result, they may charge higher interest rates and impose higher fees and stiffer underwriting standards for properties that lack private investors who have a stake in the property and are looking after its capital needs and overall management" (Schwartz, 2011, p370).

From an investor's perspective, tax credits are more attractive than straightforward tax deductions as they provide a dollar-for-dollar reduction in a taxpayer's federal income tax, whereas a tax deduction only provides a reduction in taxable income. The return to the investor is essentially through the reduction in tax liability. Tax credit housing has proved to be a relatively low risk investment. However, there is an additional aspect to the attraction of an investor to LIHTCs. This comes through the Community Reinvestment Act (CRA) which was enacted in 1977. This legislation was designed to encourage financial institutions to reduce discriminatory credit practices against low-income neighbourhoods. It encourages regulated financial institutions to help meet the credit needs of local communities. Federal regulatory agencies examine banking institutions for CRA

compliance and take this information into consideration when approving applications for new branches or mergers or acquisitions. Investment in LIHTCs helps institutions to meet CRA requirements. It has been argued that "many financial institutions pursued tax-credit investments primarily for CRA-related purposes, less so for financial gain" (Schwartz, 2011, p361).

4. LIHTCs: evaluation

It has been claimed that until the onset of the Global Financial Crisis "the LIHTC was widely considered one of the most successful housing subsidy programs in US history" and that "Over time it became increasingly efficient, generating increasing amounts of equity for housing developers – As a result of the program's increasing efficiency, developers required less 'gap subsidy' to make up the difference between the tax credit equity, the mortgage, and the total development costs" (Schwartz, 2011, p 361). Overall LIHTCs have helped to build, renovate or conserve more than 2.5 million affordable housing units. The system accounts for 90% of all current affordable housing provision. Vacancy rates are lower than for market rented housing. Also, the quality of housing is high. LIHTC housing accounts for 2% of the housing stock and 5% of the rental stock in the USA.

However, LIHTCs do not work in isolation from other subsidies and do not on their own meet housing needs. Firstly, extremely low income households cannot afford the rents unless they have a housing choice voucher. Secondly, developers often require an additional subsidy from the state or federal government. LIHTCs on average contribute a third of the development costs and traditional financing provides a further 40-45%. The remaining 20-25% might come from reduced public land costs (especially as land costs cannot be covered through LIHTCs) (Oxley et al, 2014).

A further aspect of LIHTCs that is sometimes seen as a downside is that the housing provided retains its affordability status only for a limited time period. It has been estimated that between 2014 and 2024, nearly 1.2 million LIHTC-subsidised units will reach the end of their compliance period. Owners may then apply for more tax credits, maintain their units as affordable without new subsidies, or convert their properties to market housing. Most owners choose to keep their units affordable, but this generally requires renewed subsidies. "The tax credit units most at risk of loss from the affordable stock are likely those with for-profit owners and located in high-cost housing markets. Another hurdle for preserving the affordability of LIHTC units nearing the end of their compliance period is that they often need new funding for maintenance and rehabilitation" (JCHS, 2014, p31).

The most significant downside of a subsidy mechanism that relies on the market is however the potential collapse of support when the market turns down. This is discussed in the next section.

5. LIHTC sustainability?

The Global Financial Crisis, which resulted in a falling demand for tax credits, tested the sustainability of LIHTCs. In 2006 an estimated 85 per cent of LIHTC assets were purchased by financial institutions. Subsequently, several major banks became insolvent reducing the pool of tax-credit investors. For surviving banks, with reduced taxable incomes, the need for tax credits was greatly diminished. Uncertainty made banks cautious about investing in tax credits over a ten year period. Non-financial corporations and individuals, although once important investors, now similarly showed little demand for tax credits (Schwartz, 2011).

In 2008 and 2009 in an attempt to boost LIHTCs the federal government temporarily increased the amount of tax credits that state housing finance agencies could allocate to low-income developments. Additionally in 2009 the Low Income Housing Tax Credit Assistance Program [TCAP] and the Low Income Housing Tax Credit Exchange Program (TCEP) were introduced. TCAP provided grants to state housing finance agencies. These could be used to fill the gap in finance for projects lacking sufficient equity from LIHTCs. The TCEP program allows state housing finance agencies to exchange a portion of their tax credits for grants, allowing them to replace tax credits with grants in funding affordable housing.

Whilst the Global Financial Crisis led to LIHTCs being traded for direct housing grants, there are signs of LIHTC picking up following a significant downturn in demand. In 2006 US$9 billion in equity was raised through LIHTCs. This fell to $4.5billion in 2009 but was back to US$7 billion by 2010 (Blessing and Gilmour, 2011) and there is evidence of continuing revival (Regis, 2015).

The American experience shows that tax credits work well when markets are strong. In these circumstances, by reducing developers' tax liability, or by selling tax credits to investors, tax credits can contribute significantly to the financial viability of developing affordable rental units. The tax credits allow developers who use them to bring equity into a project. They have indeed been developed as a means to encourage private equity investment in affordable housing. Since its inception in 1986, the LIHTC has leveraged nearly $100 billion in private investment capital (Cadik, E, 2015). Whilst the opportunities for such leverage diminished in the Global Financial Crisis they have subsequently recovered.

It has been argued that "Much of the appeal of tax credit schemes lies in their potential to stimulate and professionalise new industries, mobilise diverse coalitions, and replace the bureaucratic inefficiencies of public housing with competition, innovation and synergies" (Blessing & Gilmour,2011, p465). When markets turn down both the demand for credits and the opportunities for entrepreneurial dynamism to build on the incentives are likely to suffer.

6. LIHTC transferability?

The basics of a LIHTC approach to affordable housing provision may appeal to policy makers in other countries who are searching for new models to supply additional units of affordable housing. As a means of leveraging equity investment into affordable housing the approach has worked well either side of market recession. This is an important point: the applicability of such a system depends on policy makers who want to use market processes as the driver of investment and are keen to use private and public financial support rather than rely solely on public funding. The approach does require that there are market processes and appropriate private and public institutions to facilitate the necessary supply of funds and their application.

However, taking a policy programme from one country and attempting to transfer it in its entirety to another country is unlikely to work. Policies are often steeped in the history and traditions of a country and are closely connected to the institutional arrangements within that country. Simple policy transfer is therefore both unlikely and unwise. Studies of policy transfer point to the complexity of the specifics of the circumstances in which policies are embedded and developed (Dolowitz and Marsh, 1996; Dolowitz et al 2000).

Learning lessons from how policies have operated in other countries is a different issue. If the aims and effects of a policy initiative are understood clearly, with an appreciation of its successes and limitations, there may well be ideas and principles that can be transferred rather than a complete policy package. LIHTCs have attracted some attention outside of the USA and in a few limited cases the scope for something similar elsewhere has been explored. For example, as Blessing & Gilmour (2011) have

pointed out, the National Rental Affordability Scheme in Australia which has tried to incentivise the production of new affordable units has not been explicitly modelled on the US approach but the LIHTC policy has been frequently cited as a source of inspiration. O'Brien (2014a; 2014b) has examined the potential for a version of LIHTCs to be used in the UK. He suggests that Parliament could determine the LIHTC budget and the tax credit per head of population per Local Economic Partnership area. The Homes and Community Agency (the government body which currently oversees affordable housing provision in England), could issue an annual prospectus stating investment priorities and quality requirements for LIHTC investment and Housing Associations could bid for the LIHTC tax credits, in a similar way that they bid for funds at present. Housing Associations would raise LIHTC investment funds from syndicators or, particularly for large amounts, organise this directly.

Whilst housing associations, whether in the UK or other countries, might be the developers and managers of additional affordable housing, one of the attractions of a tax credit model is that it can be used as a means to attract a range of new providers of affordable housing who would be able to raise equity funding from institutional investors with the help of the tax incentives. For non-profit providers to be attracted it is essential that the tax credits are tradable and can be used by investors who have significant tax bills. Institutions with an appetite for equity investment in affordable housing and with tax to save are essential prerequisites for a LIHTC approach. Peppercorn & Taffin (2010) suggest that other countries considering tax credits must have a tax system that is vibrant enough to create a tax credit program and companies with a tax burden deep enough to use this type of tax offset.

An important lesson for policy makers who are considering the American system is that one policy instrument cannot provide a silver bullet to solve all affordable housing problems. LIHTCs do not work in isolation from other interventions. They typically provide one form of supply-side subsidy for a project with additional grants and concessions usually being necessary to ensure viability. For the poorest households LIHTC rents may be too high. In such cases personal income-related support is still needed to meet the housing needs of the most disadvantaged groups in society.

Another significant lesson for policy makers contemplating anything similar to LIHTCs is to appreciate the importance of the American Community Reinvestment Act in providing some "stick" to go with the tax incentive carrots. To get the full benefit of the approach, other countries would have to consider the introduction of equivalent measures that required financial institutions to meet local social obligations as part of the financial regulatory system.

A LIHTC approach might be used where there is desire to change the balance of support for households and support for house building. In most advanced economies there has been a steady growth over several decades in support for households and a decline in support for housing production (Haffner et al 2009). In the UK this change in the relative amounts supporting demand and supply has been particularly marked in the last twenty years. It is possible to compare supply-side support in the form of production subsidies for rented housing with benefit payments to households in the rented sector. Comparing the data for 2011/12 with 1990/91, it can be seen that whilst bricks and mortar subsidies (supply-side support) are around one fifth of what they were in real terms, benefits payments are approaching three times 1990/91 levels for the rental sector as a whole (Lloyds Banking Group, 2015). A policy intervention that directly links supply-side support to rents and household incomes has the potential in the long run to bring down personal subsidies such as housing benefits or allowances.

Tax credits may be attractive to policy makers who wish to see privately owned rental housing have a strong social purpose. The conditions attached to the credits can limit rents in privately owned housing and ensure that allocation is to households below given income thresholds. The system can effectively combine rent restrictions with social allocation criteria and with devolved implementation, rents and allocation can be sensitive to local circumstances.

7. Conclusions

Low income housing tax credits offer a very different method of supporting affordable housing than the policy approaches used in most countries. They method is distinctive as a form of conditional object subsidy that combines production and investment incentives with conditions that ensure minimum quality standards, sub market rents and social allocation criteria. Local allocation of centrally provided tax credits makes the system flexible to local circumstances and adds to political popularity. This political support is enhanced by the fact that tax credits substitute tax forgone for direct public expenditure. Although this may not be entirely logical and maybe judged an accounting rather than a "real" phenomenon, it can make the approach seem very attractive in that tax is only forgone if private equity is levered in and additional supply is forthcoming.

A tax credit approach is unlikely to provide the sole route to subsidy for affordable housing. It might, as part of a long term strategy, provide a means to reduce expenditure on housing benefits or housing allowances because low income households may benefit to an increased extent from sub-market rents. It can in effect be seen as a way of incentivising limits on rents rather than controlling rents directly or compensating tenants for high rents through personal allowances.

To attract private equity into affordable housing supply, investing institutions must have tax burdens that are sufficiently large for their investment to be worthwhile. The credits need to be tradable if they are to benefit suppliers that are non-profit organisations or have low tax liabilities. Integration with the tax system and opportunities for trading credits therefore have to be built in to any reform that takes on the principles of tax credits.

More broadly, a tax credit system requires a combination of market mechanisms and appropriate institutions if it is to deliver large volumes of additional affordable accommodation. The institutional arrangements do not need to copy those in America but they do need to meet a series of key requirements. There must be an agency that distributes tax credits nationally and this distribution system, which in the USA is based simply on population levels, should be simple whilst at the same time giving local communities sufficient resources to meet their overall needs. Then there need to be local agencies that distribute the tax credits to developers according to the equivalent of an American qualified allocation plan. That is, it should identify development priorities and the specific allocation criteria for the new dwellings. There must be appropriate developing institutions and developers. These may already exist in many countries but they will usually need to adapt their procedures considerably to a new framework. Finally a clear and effective compliance system must be in place to ensure that the tax credit system as a whole meets its goals, and public resources address national and local policy priorities, in an efficient fashion without waste or undue bureaucratic burdens. This is a large set of requirements but in countries that have large affordable housing needs and there is a desire for new radical solutions, the tax credit approach is at least worthy of serious consideration.

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Federal Housing Administration's Default Mortgage Insurance Program creates public value by increasing lending making affordable homeownership possible

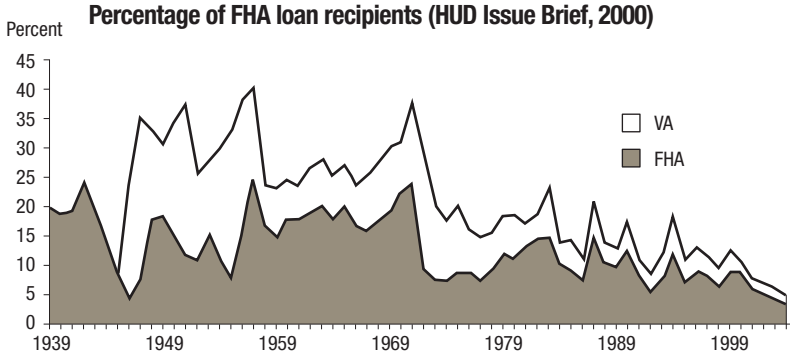
↳ By Stacey Shindelar

1. Introduction

Before the 1930s, mortgages on homes were typically written to be short-term in nature. People would obtain mortgages for a period of between three and 10 years, and the loans were usually for 60% of the full value of the home. At the end of the mortgage period, it was a requirement to completely pay off the loan in full or lose the home for which the mortgage was written. This process changed with the onset of the Great Depression as most people lacked the financial liquidity required to purchase homes under the mortgage system that was in place at the time. The Great Depression ushered in the creation of the Federal Housing Administration [FHA] along with a program that provided mortgage insurance to protect banks against defaults on home loans (HUD Timeline, 2010).

Established in 1934, the FHA's purpose was to implement and oversee a program to insure mortgages against default by borrowers (Quigley, 2005). Proceeds of a fixed premium charged on unpaid loan balances paid by lenders funded the insurance, which was managed as a mutual fund with revenues being used to purchase treasury securities. The mortgage insurance product was diffused across the country and administered in a standardized manner with regards to underwriting procedures. The mortgage insurance required home appraisals and borrowers' credit histories. These practices became standard for the mortgage industry in the United States and are still used at the present time. In the beginning of the program, loan amounts were limited to $16,000, which was not problematic given the fact that the median home price was around $5,304 (Quigley, 2005).

Figure 1 FHA and VA Shares of Total Originations, 1939-2004
Percentage of FHA loan recipients (HUD Issue Brief, 2000)



Note: Data for 1965-69 total originations are approximate.

Source: U.S. Census Bureau, Statistical Abstract of the U.S. (various years); www.huduser.org/periodicals/ushmc/summer99/histdat5.html; www.fanniemae.com/ir/pdf/resources/housingmortgage.pdf.

The Veterans Affairs [VA] loan program was passed in 1944 as part of the GI bill with the intent of providing long-term affordable housing to veterans. With the passage of the VA and FHA programs, the efforts of the United States Government to encourage home ownership by providing insurance to mortgage lenders had taken full effect in the country. Through the 1960s, mortgages insured by the United States Government, either through the FHA or VA reached a high of 40%. However, since the 1970s, the number of insured loans has dropped dramatically. In the first half of the past decade, the number of insured loans only accounted for less than 5% of all mortgages written in the United States. This figure takes into account both FHA insurance and the VA loan program (Quigley, 2005). Figure 1 shows the dramatic drop in the use of government insurance programs as a means to provide protection to mortgage lenders in the event of loan default.

The FHA has been credited with expanding home ownership in the United States and moving the country from new home construction, which was around 500,000 units per year before the Great Depression, to current levels of between 1.5 million and 2 million new homes being constructed each year in the United States (Quigley, 2005). However, the FHA has also been criticized for working toward its own goals to manipulate local communities and impose social objectives that would otherwise not be possible in a mortgage market free of government intervention. It is argued that any need for the FHA has passed and the agency should be completely ended (DeHaven, 2009).

2. Purpose and importance of the research

The purpose of this research is to examine the public value that has been created through the implementation of the FHA default mortgage insurance program. The decline in the use of government insurance for mortgages written in the United States proves the importance of the current investigation. It may be time for the United States Government to end its mortgage insurance program and allow private lenders and the free market to dictate who can obtain a home loan based solely on their credit and financial histories.

3. Methodology and theoretical foundation

The first part of this study is a review of past research and data from previous years and decades about the program and its impact on homeownership. Secondly, current data will be examined to answer questions to whether the Default Mortgage Insurance Program continues to create public value by increasing lending to provide affordable homeownership. The data used for this case study will be from 2012, which is the most recent year from which data are available. Data regarding issues of race and income related to FHA insured loans will be presented and discussed.

The New Public Administration Theory underlies this research. New Public Administration is the idea that public administration should be focused on serving the public good and the needs and improvement of the people who are served (Basu, 2004). Based on this theory, a program such as the Default Mortgage Insurance Program would be deemed effective if it provided a public good, such as providing affordable homeownership and allowing people who might not otherwise be able to obtain mortgages because of low incomes to gain mortgages and live the dream of homeownership.

4. Review of previous research benefits of FHA for home buyers

Authors Herbert and Belsky (2008) explain that during the last half of the decade of the 1990s and the first half of the decade of the 2000s "the economy, capital market innovations, industry outreach and government regulation and policy all converged to drive significant increases in the national homeownership rate" (p. 5). The authors also explain that homeownership rates among those classified as very low-income households, as well as African-Americans and Hispanics, is reported to have risen by "6.4, 6.6, and 8.7 percentage points, respectively" (Herbert & Belsky, 2008). They also reported that the increases in homeownership, which were already quite high, were even more surprising as they followed more than ten years of flat or even declining rates of home ownership (Herbert & Belsky, 2008). Part of the rapid increase in the rate of homeownership was likely due to the fact that lenders began to greatly relax various constraints on underwriting loans that had historically created major challenges for low-income households in achieving homeowner status. Included in the changes were new types of loan options, such as low down-payment loans, loans to those with bad credit histories or no credit histories, and loans that required little income documentation and asset requirements (Herbert & Belsky, 2008).

Homeownership is described as providing both financial and social benefits to citizens. From a financial standpoint, the one unique aspect of homeownership is stated to be that "it is one of the few leveraged investments available to households with little wealth, enabling homeowners with very little equity in their homes to benefit from appreciation in the overall home value" (Herbert & Belsky, 2008, p. 8). A simple calculation shows that when one purchases a $100,000 home with a $5,000 down payment, the outcome is "100-percent return on his or her investment if home prices rise by a mere 5 percent in the first year of ownership" (Herbert & Belsky, 2008, p.8). This appreciation makes homeownership especially appealing for households that have low initial savings, such as low-income households. Wealth accumulation through homeownership is also enhanced by tax law provisions that shield most appreciation in home values from capital gains taxes and that allow homeowners to deduct mortgage interest for their personal income taxes (if itemizing deductions exceeds their standard deduction)" The deduction is for income tax purposes. (Herbert & Belsky, 2008, p.8).

It is also noted that homeownership protects homebuyers from increasing housing costs. This is particularly true for homebuyers that have fixed rate mortgages. Over the length of a typical mortgage, housing costs for a homeowner with a fixed rate mortgage will actually decrease as compared to housing costs for the general population. Moreover, the interest paid on mortgages is tax deductible, which further lowers the actual costs that homeowners face. Finally, homeownership provides citizens with a source of collateral for additional loan opportunities. Perhaps the one caveat to all of this is that for lower-income homeowners, the benefits are not always the same as compared to higher income homeowners. In other words, homeowners in higher income brackets usually have financial conditions that allow them to take greater advantage of the tax benefits and collateral options that are available because of owning a home (Herbert & Belsky, 2008).

Herbert and Belsky (2008) report that the primary social benefit of homeownership is that "owners are thought to have higher satisfaction with their homes, in terms of both the housing unit itself and the neighborhood where they live. In theory, this observation could flow from the fact that owners have greater ability and incentive to invest in their homes to suit their tastes" (p. 10). In addition, it is held that homeowners possess higher self-esteem "due to both the higher social status associated with homeownership and the sense of accomplishment that result from having achieved a significant life goal" (Herbert & Belsky, 2008, p. 10). Lastly, stated as an important social benefit of homeownership is "…better life outcomes for chil¬dren who grow up in owner-occupied homes. Homeownership is thought to benefit children by several mechanisms. It may enable greater residential stability, which benefits children by provid¬ing a stable social and educational environment" (Herbert & Belsky, 2008, p. 11).

5. Benefit of the creation of place and value

Mark Moore (2002) provides a description of what he refers to as a 'strategic triangle' of public value. Moore suggests that corporate strategy can be modified for use in the private sector that can be useful in the realization of pubic value by managers in the public sector. The integration of substantive judgments of what would serve to be effective and valuable and the integration of an analysis that is comprehensive of political expectations, is essential in assessing what is possible in operations. Moore holds that these specific criteria are the measures that can be used by public managers to determine the public value of such actions. Considerations are necessary concerning the legal and political support of the same and the feasibility of their administration and operation.

Moore also explains that public administration is required to determine what can be expected from public managers. Public administration must identify resources that offer public managers with the information and tools needed to provide a response to changing expectations and for developing more effective methods to rapidly respond to ever-changing situations for the advantage of the public. Moore (2002) states that "In seek-

ing public value, we come finally to what many believe is the essence of management: the self-conscious, skilled deployment of legal, financial, material, and human assets to produce concrete results." It is suggested by Moore (2002) that "it is one thing for managers to have visions, and still another for them to mobilize a flow of resources to their enterprises. But the heart of management lies in delivering the envisioned value" (p. 193).

Place is stated to be important to "individuals, to families and to all collectivities of humans." (Kirlin, 1996, p. 167) This is because individuals "live, marry, procreate, learn, work, participate in community affairs, play, worship, and die in specific geographical places. Specific governmental policies shape all these and other facets of life" (Kirlin, 1996, p. 167). Furthermore, "information, values, and economic opportunities undoubtedly are influenced by global dynamics, but those factors do not so much reduce the importance of place as change in the way in which governmental actions will be used to enhance the value of place. Living in an open inclusive society" (Kirlin, 1996, p. 167). Kirlin (1996) goes on to state that the types of value created by public and private actions are "categorized as related to place, complex systems, or goods and services." Kirlin (1996) states a belief that the primary function of governments is "increasing the value of place" (p. 167). Place is stated by Kirlin to be important both economically and politically.

Kirlin (1996) also states, "advocating the creation of value through governmental action is a useful beginning to what is needed to transform systems of governance" (p. 173). It is reported that the opportunities to create value "can be understood as a matrix defined by two dimensions. One dimension consists of five arenas for governmental action, while the second dimension consists of three types of value that can be created" (Kirlin, 1996, p. 173).

It is reported that the arenas are "social constructions where collective choice and action regarding government are possible" (Kirlin, 1996, p. 173). Arenas are stated to be "locations defined socially, through which collective choice and action are possible" (Kirlin, 1996, p. 173). Kirlin (1996) states that in contrast, "the types of value involve analytical distinctions among the consequences of these choices and actions…" and, therefore, distinguishing value requires categories of products while distinguishing an arena requires categories of processes.

What is demonstrated in the information that has been examined with regards to the value of homeownership is that both citizens and the larger government benefit from the stability that homeownership creates. For citizens, homeownership creates a situation in which they are able to actually lower housing costs over the long-term. In addition, citizens have a source of collateral for other loans. Beyond the financial benefits, citizens that are homeowners have a greater connection to the communities in which they live and work, and are generally happier because they have a greater sense of stability in their lives in relation to a specific location. For the government, the benefit of higher rates of homeownership is the ability of control and stability that occurs on the part of the citizens and their communities. The question that arises, however, is how the financial and social benefits that occur because of homeownership have been helped because of the existence of the mortgage insurance program from the Federal Housing Authority.

6. Beneficiaries of FHA Default Insurance

The FHA assisted 4.3 million individuals purchase their first home between 1992 and 2000. It is reported as well that the share of FHA home loans provided to African-American and Hispanic homeowners increased from 19.5% in 1993 to 34% in year 2000. In comparison, 51% of all conventional home loans in 2010 were to African-American and Hispanic homeowners (Department of Housing and Urban Development, 2010). The share for all minorities increased from 22.5% to 41.8% during this period. FHA insured 21% of all home purchase loans originated in metropolitan areas during 1999 and insured 42% of loans for African-American and Hispanic borrower (HUD Issue Brief, 2000). It is noted that the FHA has "…traditionally been the mechanism used by borrowers who have difficulty obtaining mortgage financing in the private conventional market. It has long been recognized as the major source of funding for first-time, low-income, and minority homebuyers. As indicated by the following points, the combination of a strong economy and significant program and policy changes has allowed FHA to expand on its traditional role" (HUD Issue Brief, 2000).

Herbert, Haurin, Rosenthal, and Duda (2005) explain that homeownership rates are presently at some of the lowest levels in history for all segments of the population. However, major differences in homeownership rates exist between whites and minorities. As of 2004, the rate of white homeownership was 76%, the African-American and Hispanic homeownership rates remained below 50%, and the Asian rate was 60%. The reason for the disparity in homeownership rates is believed to be due largely to income and financial conditions and a lack of available funds needed to make down payments and cover other initial costs associated with buying a home, which negatively impacts minority groups more than non-minorities in the United States (Onder, 2002; Capone, Jr. & Metz, 2003). In order to address this problem, the FHA has tailored mortgage loans in cooperation with a government default insurance fund for those who meet the qualifications for such mortgage loans. Historically, this has been a successful strategy in assisting low to moderate-income families and minority families in attaining homeownership status and in growing their wealth through building equity in their home (The Joint Center for Housing Studies of Harvard University, 2010).

At the end of fiscal year (FY) 2001, there were 6.6 million FHA-insured single-family loans outstanding. FHA insured over a million single-family mortgage loans in 2001 with 70% of those being for purchase of a home and the remaining for refinancing a home. In 2000, FHA insured only 920,000 loans with 92% being for purchase of a home. The majority of loans insured by FHA are mainly those with very low down payments and which allow the borrower to have 41% total debt payments and credit histories that are less than ideal, and due to the flexibility in underwriting afforded FHA (Wartel, 2002).

Interestingly, the interest rate on FHA loans is very similar to the interest rate on conventional loans. From 1992 to 2013, the average interest rate on a conventional loan has been 6.43%. In comparison, the average interest rate on an FHA loan has been 6.02% (Department of Housing and Urban Development, 2014).

Because of the flexibility that FHA insurance provides with regards to the guidelines related to who may receive a mortgage loan, the result has been that a larger number of minorities, low-income citizens, and first-time buyers being able to take advantage of homeownership (General Accounting Office, 1996; Wachter, 2002). Specifically, First time homebuyers are stated to account for 82% of all home purchase loans that FHA insured during 2000 but less than one-half of all home purchase loans nationwide. The share of FHA-insured home purchase loans to first time buyers is reported to have increased from 1993 to 2000, from 67% and 82%, respectively. FHA insured loans are disproportionately provided to borrowers with lower incomes (Wartel, 2002).

In terms of low-income borrowers, Figure 2 shows that FHA loans are made at higher rates. A greater percentage of FHA loans are made to low income borrowers as compared to conventional loans to borrowers whose incomes are at 80% or less of the median income level for the areas in which they live (Wartel, 2001). This is important because

it demonstrates that when differences in income are taken into account across the United States, FHA loans are benefiting low-income individuals in all areas of the country. It is not simply a matter of using one set of income standards for the entire country and applying them equally. Instead, local income and living costs are being taken into account with the result being that FHA loans are helping people with incomes that are below the median level for where they live to become homeowners.

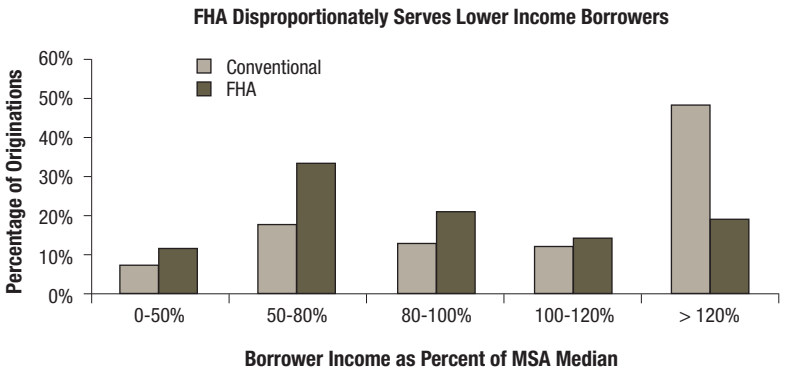
In addition, FHA data show that over a period of several years, the insurance program has consistently provided loans to low income Americans. Figure 3 shows that during the period between 1993 and 1999, for example, low-income borrowers accounted for around 30% of all loans written using the FHA program throughout that seven-year period (HUD Issue Brief, 2000). Once again, what is demonstrated is that the FHA program has provided a consistent means by which low-income citizens are able to receive help to become homeowners.

A direct effect of the large percentages of low-income and minority borrowers that receive loans through the FHA program is that low-income neighborhoods and areas in which minority groups are the majority of the population are benefited. For example, Table 1 shows that low-income areas account 12.7% of all mortgages that are written in the United States. However, they account for 18.2% of FHA loans as compared with 8.2% of GSE loans and 11.3% of conventional loans). For high-minority areas, 17.5% of all mortgages are written in these areas, but 26% of those mortgages are backed by the Federal Housing Administration as compared to only 12.5% for GSEs and 15.1% for conventional lenders (HUD Issue Brief, 2000).

Figure 3 shows that the FHA program consistently serves African-Americans and Hispanics seeking to become homeowners. For the period between 1993 and 1999, around 40% of loan recipients through the FHA program were African-Americans and Hispanics (HUD Issue Brief, 2000). In addition, FHA served minority borrowers disproportionately in FY 2000 with 32.6% of FHA loans made to African-American and Hispanic borrowers as compared to only 12.4% of conventional loans during that period (Wartel, 2002).

It must also be recognized that not all FHA loan applications are approved. However, the rate of loan rejection for low-income and minority applicants through the FHA is lower as compared with conventional lenders. African American applications for FHA purchase loans are rejected at a rate of 20%, but the same group is rejected

Figure 2 FHA loans based on income (Wartell, 2002)

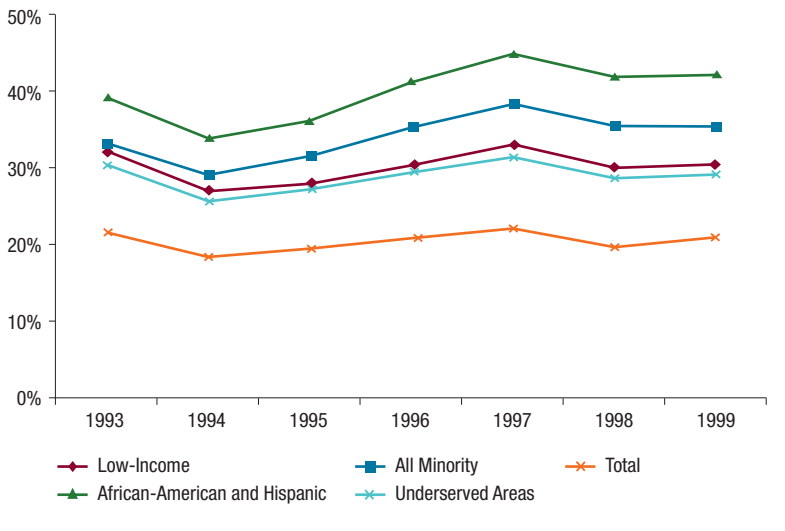


Source: 2000 HMDA Data

Table 1 Borrower and neighborhood characteristics of FHA Loans (HUD Issue Brief, 2000)

	Characteristic as a Percent of:			
Borrower Characteristics	**Total Market**	**FHA**	**GSEs**	**Conventional Conforming Market**
Low-Income	34.3%	49.5%[1]	24.4%	30.1%
African American	7.9	14.6	3.4	5.4
Hispanic	9.7	19.3	5.8	7.1
African American and Hispanic Combined	17.6	33.9	9.2	12.5
Minority	23.4	37.7	16.3	19.0
Neighborhood Characteristics				
Low-Income Tract	12.7%	18.2%	8.2%	11.3%
High-Minority Tract	17.5	26.0	12.5	15.1
High African-American Tract	5.7	8.9	3.2	4.8
Underserved Areas	29.1	40.5	20.9	25.8

Figure 3 Characteristics of FHA loan recipients (HUD Issue Brief, 2000)



at a rate of 25.9% when making conventional purchase loan applications. The FHA and conventional purchase loan applications rejection rates for Hispanics are stated at 13.9% and 22.5%, respectively. Underserved areas however with high minority and low income characteristics are subject to higher mortgage purchase loan denials than other areas for both conventional and FHA mortgage purchase loans. FHA mortgage purchase loan denial rates are substantially lower than conventional mortgage purchase loan rates in underserved areas (HUD Issue Brief, 2000).

Overall, the data and information show that the FHA program is allowing low-income citizens and minorities, who might otherwise be unable to obtain any type of mortgage, to receive the loans that they need to purchase homes. Even more, these loans are being used to purchase homes in areas that would likely be ignored by conventional lenders. In this regard, the Default Mortgage Insurance Program is actually helping citizens and entire communities. It is not simply a matter of the Default Mortgage Insurance Program being used in areas where conventional lenders are competing for customers. It is also not a matter of the FHA program being used simply because a person might be able to obtain a loan with fewer restrictions or with a lower down payment. Instead, the program is truly allowing people who have been ignored by conventional lenders, as well as local areas and communities that have been ignored by conventional lenders, to receive the financing that is necessary to bring in citizens and to create stable living environments (Katz, Turner, Brown, Cunningham & Sawyer, 2003). In essence, the FHA program allows the Federal Government to step in and provide the services that the private sector does not provide to low-income and minority communities across the United States.

It could easily be argued that the government should not be acting to artificially change the conditions that exist that are causing the private sector to avoid certain areas and communities of the country with regards to providing mortgages (Alford, 2002). The reality, however, is that the benefits of social stability and community health that are obtained as a direct result of the work of the FHA Default Mortgage Insurance Program cannot be ignored as a benefit for the entire nation.

7. Beneficiary case study

It is worthwhile to provide a specific example of how the FHA Default Mortgage Insurance Program helps a specific family or group of individuals as a further means by which to illustrate how the program is performing. One of the ways in which the FHA program assists a specific group of people is in Los Angeles and Southern California. This area is home to large groups of immigrants to the United States. Many of these immigrants have the same desire as many people that are born in the United States to own a home. The problem encountered by many immigrants is that they not only lack verifiable credit history in this country, but also are often poor and lack the finances to obtain a home mortgage. This inability of a specific group of people to obtain mortgages through conventional lenders is an area in which the FHA program has been able to help.

Because of FHA, immigrants located in Southern California have actually been able to have homeownership rates even though they have very little in the way of credit histories, income, or finances to purchase a home through conventional lenders. The gap in homeownership between Whites and Hispanics in Southern California is about 15%, with most of this being due to socioeconomic status (Gabriel, 2004). Without the FHA program, however, this would not be possible because FHA loans are intended for people that do not meet standard underwriting guidelines. The result for immigrants and the larger Hispanic community in Southern California, due to the FHA program, has been the ability to narrow a gap that would likely be much larger if the default insurance program did not exist.

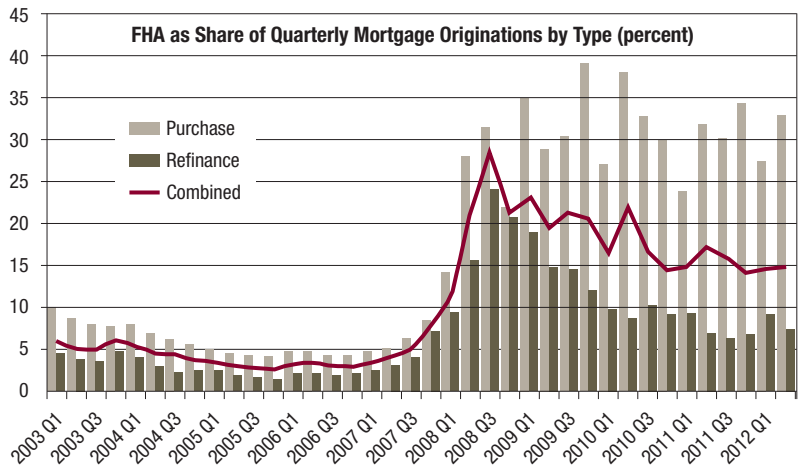
8. Current outcomes of FHA Mortgage Insurance Program

The information and data from previous decades that have been examined lead to the conclusion that the FHA's default insurance program has been beneficial in allowing people who would not otherwise qualify for a conventional mortgage to take part in homeownership. However, the question that is to be answered is whether the FHA insurance program is still necessary in the present day. In order to answer that question, the most recent data available need to be examined for information about the people who have received mortgages insured by the FHA, as well as the impact of its insurance program in relation to the financial crisis that impacted the United States beginning in 2007 and 2008.

The first issue of importance in being able to understand the current impact and importance, or lack thereof, of the FHA's mortgage insurance program and to understand how the mortgage insurance program has been used over the past five years in light of the financial crisis that largely involved the mortgage industry in the United States. Figure 4 shows the share of quarterly mortgage originations that occurred before and during the financial crisis. The graph shows that before 2007, only about 5% of mortgage originations, which included either new purchases or mortgage refinances, were FHA insured. However, during the financial crisis, new mortgages and mortgage refinances that were insured by the FHA rose to 15% to 20% of all mortgage originations. In fact, at the start of the financial crisis in early 2008, mortgages that were insured by the FHA default insurance program were 30%.

Without the FHA default mortgage insurance program, it seems likely that about one-fourth of mortgages and mortgage refinances that occurred at the height of the financial crisis would not have taken place. This would have served to

Figure 4 Cumulative loan loss mitigation through Default Mortgage Insurance Program (Szmanoski, Reeder, Raman & Comeau, 2012)



further harm the mortgage and banking industries in the United States, which were already hurt by the large losses that banks incurred because of bad mortgage debts. Figure 4 shows that at the beginning of the financial crisis, most of the mortgages that were insured by the FHA were refinances rather than new mortgages. The assumption that can be made is that people who were having trouble paying their mortgages or whose mortgages were more than they could afford were greatly assisted in being able to refinance those mortgages because of the default mortgage insurance program.

Furthermore, during the financial crisis, the FHA undertook efforts through the Default Mortgage Insurance Program to save and revive distressed mortgages that would have otherwise ended in defaults and foreclosures. Figure 5 shows that on a cumulative basis, between April 2009 and early 2012, about 1.5 million mortgages were revived either through loan modification programs conducted directly through the FHA and other loan mitigation efforts in conjunction with mortgage originators that were backed by the FHA.

In terms of the relationships between the FHA Default Mortgage Insurance Program and the financial crisis, the conclusion that can be reached is that the insurance program has resulted in about 1.5 million mortgages being saved that would have otherwise ended in default and foreclosure. At the same time, millions of mortgages and mortgage refinances could be written during the crisis because of the insurance provided by the FHA that would have likely not be written at all. However, as the United States moves away from the financial crisis that began in 2007 and 2008, the question must be asked if the Default Mortgage Insurance Program is still providing value with regards to homeownership for the public.

Another issue of importance is what is the cost of the FHA mortgage default insurance program to taxpayers? Even with the value of the program that has been discussed in terms of homeownership for low income people, and for homes in areas with high minority populations, it is necessary to consider those benefits in comparison to yearly costs. Between 1992 and 2012, the FHA insurance program cost taxpayers $15 billion, which was the result of the losses incurred by the program in relation to fees collected from lenders (Congressional Budget Office, 2014). However, most of these costs to taxpayers have been incurred due to the financial crisis that began in 2007 and 2008. Figure 6 shows the yearly gain or loss from the FHA insurance program from 1992 to 2012.

Figure 5 New mortgages and mortgage refinances insured by FHA before and during Financial Crisis (Szmanoski, Reeder, Raman & Comeau, 2012)

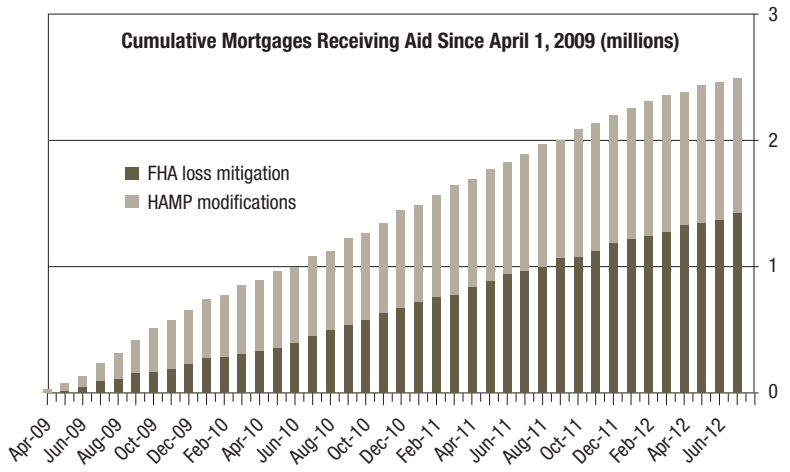


Figure 6 Gains or losses incurred from FHA guarantees (in billions of Dollars)

Year That Mortages Were Guaranteed	Total Value of Mortages Guaranteed	Initial Estimate of the Net Budgetary Impact of Guarantees Over the Lifetime of the Mortgages	Current Estimate of the Net Budgetary Impact of Guarantees Over the Lifetime of the Mortages
1992	56	-0.6	-0.9
1993	73	-1.9	-1.9
1994	89	-2.3	-1.3
1995	50	-0.6	0.03
1996	74	-1.5	0.01
1997	75	-1.4	0.2
1998	100	-2.5	-1.2
1999	124	-3.1	-1.7
2000	94	-1.9	-0.1
2001	135	-2.2	0.5
2002	157	-2.9	0.5
2003	147	-3.6	0.8
2004	108	-2.7	3.2
2005	58	-1.0	4.9
2006	52	-0.9	4.4
2007	57	-0.2	6.7
2008	172	-0.4	14.1
2009	330	-0.2	6.1
2010	298	-2.5	-2.2
2011	218	-6.7	-6.9
2012	213	-5.4	-10.5
TOTAL	**2,679**	**-45**	**15**

It is clear that the FHA mortgage insurance program does cost taxpayers money. Over the past 20 years, the program has cost taxpayers about $750 million per year. In that regard, the question must be asked if benefits from the program in terms of providing greater access to mortgages for people of low income and minorities, as well as allowing homes that might otherwise not be purchased with non-guaranteed loans are greater than the costs.

The way to answer the question as to whether the FHA Default Mortgage Insurance Program is currently providing value to the public is to examine data involving FHA insured mortgages from 2012. In order to determine the impact of

the insurance program with regards to public value, issues of race and income can shed light on whether the default mortgage insurance has allowed home ownership in minority areas and among the poor.

First, it is important to compare the foreclosure rate of FHA loans to conventional loans that are not guaranteed. Complete foreclosure data was not available for 2012, but was available for 2010. Table 3 shows that in 2010, 3.5% of prime conventional loans, meaning loans to people with good credit scores, ended in foreclosure. In addition, 14.5% of sub-prime conventional loans, meaning loans that banks wrote to people with less than perfect credit without any type of federal guarantee, ended in foreclosure. In comparison, 3.5% of FHA insured mortgages ended in foreclosure. The same percentage of FHA loans ended in foreclosure as prime conventional loans. In this regard, FHA loans were not more likely to end in foreclosure than prime conventional loans. This is important as it shows that provides a foundation from which to examine the impact of the FHA insurance program knowing that the recipients of FHA loans are not more likely than other borrowers to default on their loans.

Table 2 Foreclosure rate of loans by loan type

(U.S. Census Bureau, 2012)

	Foreclosure Rate
Prime Conventional	3.5
Sub-Prime Conventional	14.5
FHA	3.5

The racial and ethnic breakdown of the recipients of FHA insured mortgages as compared to non-guaranteed mortgages is also useful as a means of understanding whether the mortgage default insurance program helped minorities move into homeownership in 2012. The data shown in Table 4 is interesting because it shows that larger percentages of minorities did not receive mortgages through the FHA program as compared to mortgages that were not guaranteed. Specifically, 2.43% of African Americans received non-guaranteed mortgages as compared to 1.29% of African Americans who received FHA insured mortgages. In addition, Hispanic and Latino homebuyers were more likely to receive non-guaranteed mortgages in 2012 as compared to FHA insured mortgages

It is important to remember that the data in this study is for a single year. Other data presented in this study showed that on an overall basis, a larger percentage of FHA mortgages are held by African Americans and Hispanics than by Whites. However, this is an indication that race may not be a major issue in terms of the value of the FHA program, at least in terms of who currently receives the FHA insured loans.

Table 3 Mortgage loan type based on Race of borrower (percent)

	FHA	Non-Guaranteed
American Indian or Alaska Native	0.11	0.17
Asian	0.19	6.81
African American	1.29	2.43
Native Hawaiian/Other Pacific Islander	0.32	0.22
White	11.02	75.81
Two or More Races	0.14	0.73
Hispanic or Latino	1.06	4.76

Figure 7 shows the percentage of FHA insured loans written to Census tracts with specific levels of minority populations. The graph shows that about 45% of all FHA insured loans in 2012 were written for home purchases or refinances in areas with minority populations of 30% to 100%. Only one-fourth of FHA insured loans were written for home mortgages or refinances in areas with 0% to 10% minority populations.

Figure 8 show a somewhat different scenario with regards to the location of non-guaranteed loans based on the minority population of Census tracts. About 26% of non-guaranteed mortgages were written to Census tracts with 0 to 10% minority populations. In addition, about 42% of non-guaranteed mortgages were for homes

Figure 7 FHA loans in census tracts based on minority populations

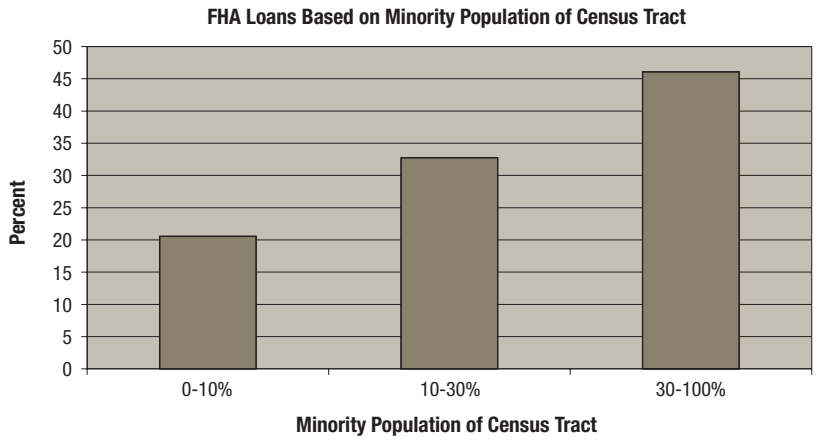


Figure 8 FHA loans in census tracts based on minority populations

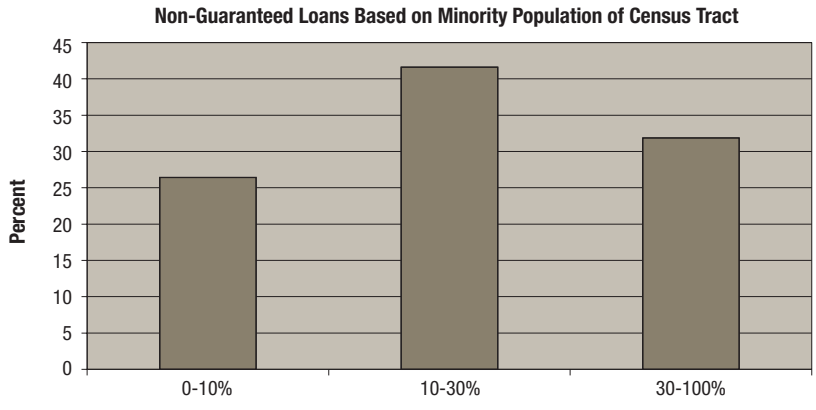


Figure 9 Borrower income as a % of median income for FHA guaranteed loans in 2012

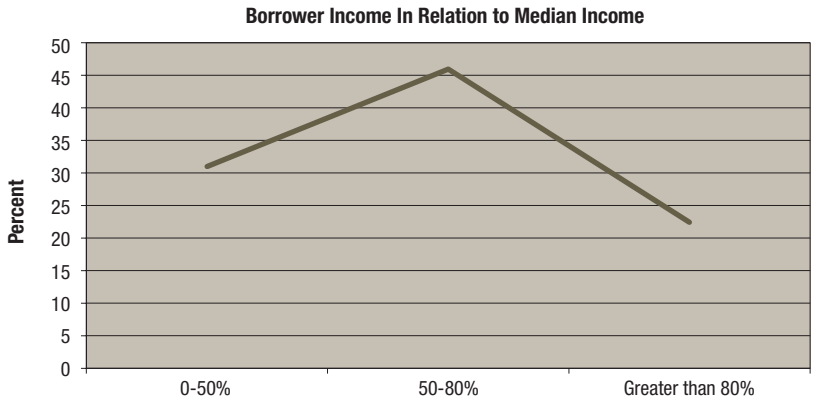


Figure 10 Borrower income as a % of median income for non-guaranteed loans in 2012

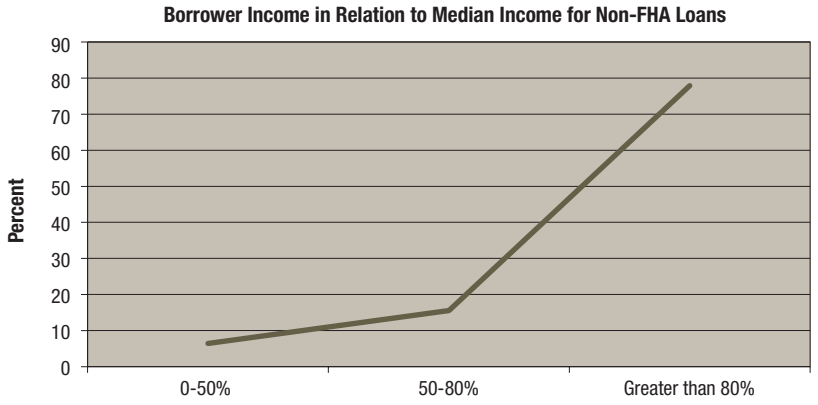
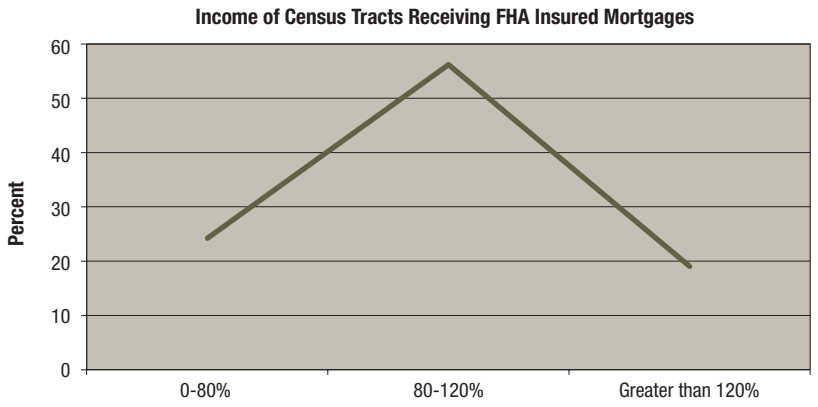


Figure 11 Median income of census tracts receiving FHA mortgages



located in Census tracts with between 10% and 30% minority populations. However, only about 32% of non-guaranteed mortgages were written in Census tracts with minority populations of between 30% and 100%.

The data show that because of the FHA default mortgage insurance program, large percentages of the mortgages that were secured by the FHA were for homes in heavily minority Census tracts. This information indicates that the program added value because homes in heavily minority areas could be purchased that might have otherwise not have been. The data lead to questions about the actual racial or ethnic backgrounds of the borrowers who secured mortgages insured through the FHA. Unfortunately, the data for 2012 do not allow for an answer, as about 90% of the mortgages that were insured through the FHA in 2012 did not contain information about the racial or ethnic backgrounds of the borrowers. The lack of useful data does not allow for the determination of whether a large percentage of minority borrowers were the recipients of loans insured through the default mortgage insurance program.

In terms of the income of the borrowers who received mortgages insured by the FHA, Figure 9 shows the percentage of FHA insured loans written to borrowers based on their incomes as a percentage of the median income for 2012. The graph shows that about 45% of all FHA insured mortgages were written to borrowers with incomes that were 50% to 80% of the median income for 2012. In other words, 45% of FHA insured loans were written to people who had incomes that were less than the median income for 2012, and some borrowers only had incomes that were 50% of the median income for that year. Moreover, about 30% of FHA insured loans were written for borrowers with incomes that were less than 50% of the median income. Only about 25% of FHA insured loans were written for people with incomes of 80% or more of the median income for 2012.

In comparison, Figure 10 shows the income of borrowers who receive mortgages with no FHA or other government guarantees in 2012. The figure shows that only about 7% of non-guaranteed loans went to borrowers with incomes of less than 50% of the median income. In addition, only about 16% of non-guaranteed loans went to borrowers whose incomes were 50% to 80% of the median income. However, about 78% of all non-guaranteed mortgage loans went to people with incomes that were greater than 80% of the median income.

The data show that a larger percentage of FHA insured mortgages were written for homes in

Figure 12 Median income of census tracts receiving non-guaranteed mortgages

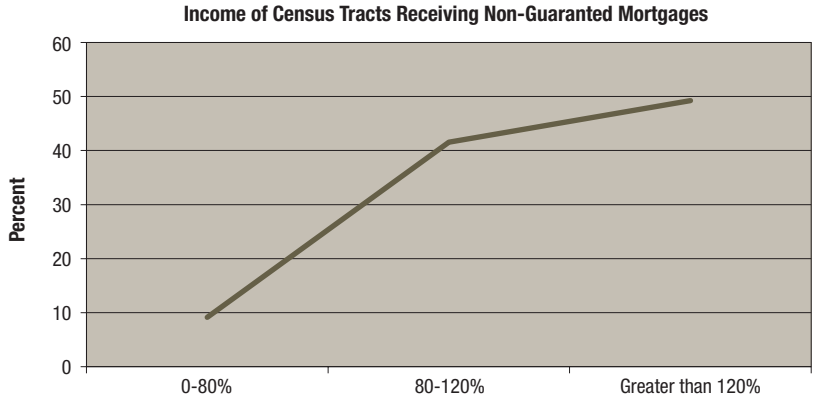


Figure 13 Family income to home location – FHA loans

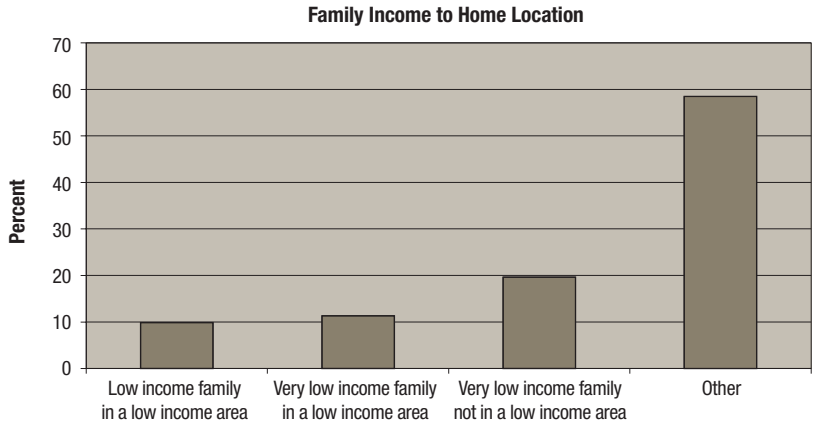
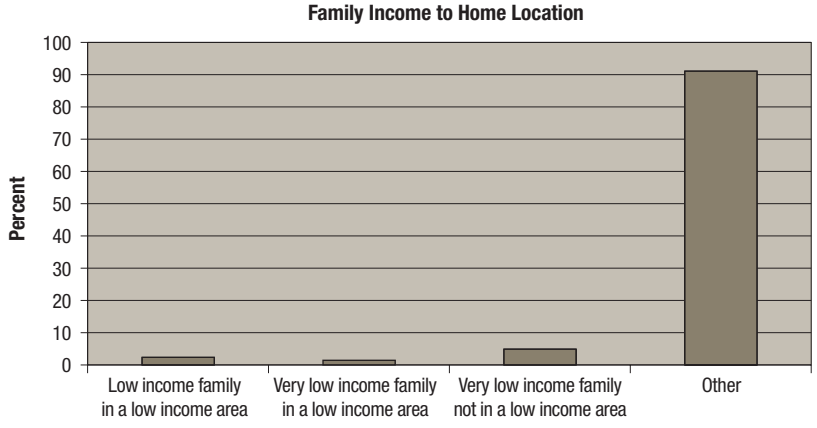


Figure 14 Family income to home location – non-guaranteed



Census tracts with higher percentages of minorities as compared to non-guaranteed mortgages. At the same time, the data show that a greater percentage of FHA insured mortgages were written for people with incomes that were less than 80% of the median income. The conclusion that can be drawn is that fewer people with lower levels of income as compared to the median income and fewer homes in areas with high percentages of minority residents would have been sold without the FHA insurance program.

Figure 11 shows the income of the Census tracts in which FHA insured loans were written as a percentage of the median income in 2012. The majority of FHA insured mortgages were written in Census tracts where the median income was 80% to 120% of the median income. Only about 25% of FHA mortgages were written in Census tracts in which the median income was less than 80% of the median income.

In comparison, Figure 12 shows that only about 9% of non-guaranteed mortgages were written in Census tracts with the average incomes were 0 to 80% of the median income. About 42% of non-guaranteed mortgages were written for homes in Census tracts with average incomes that were between 80% and 120% of the median income. However, 49% of all non-guaranteed mortgages were written for homes in Census tracts in which the average incomes were greater than 120% of the median income. When these data are combined with the data about the average incomes of borrowers for FHA and non-guaranteed mortgages, it seems appropriate to conclude that without the FHA insurance program, many homes in lower income areas would not have been purchased, and many people with lower incomes would not have been able to purchase homes in 2012.

The important issue related to most FHA insured loans written for areas that were generally equal in median incomes to the average median income is because it indicates that lower income home buyers were able to use the program to purchase homes in areas that might have otherwise been unavailable to them. Low-income homebuyers were not generally purchasing homes in areas only inhabited by low-income people. However, FHA insured mortgages were also not being used to purchase homes in areas with very high median incomes, which might have been a sign that low-income borrowers were taking on mortgages they could not realistically afford.

In fact, Figure 12 shows that of the very low income families that received FHA insured mortgages, 20% of them did not purchase

homes in low-income areas. What this means is that one-fifth of very low-income families that receive FHA insured mortgages in 2012 were able to use the mortgages to move into areas that were not considered to be low income. The Default Mortgage Insurance Program served as a means of allowing low-income families to increase their social statuses by moving into areas that were not low income. It is likely that this would not have been possible without the mortgage insurance program.

Figure 13 shows that a very different picture with regards to family income to home location of non-guaranteed mortgage loans. Only about 2% of non-guaranteed mortgages in 2012 were for low income or very low income families in low income areas. About 5% of non-guaranteed mortgages were for very low income families not in low income areas. The other 91% of non-guaranteed mortgages in 2012 were written for people who were not considered low or very low income for homes in areas that were not considered to be of low income. Once again, what is shown is that without the FHA insurance program, many low income home buyers in 2012 would have been unable to purchase homes, and certainly not homes that were not of a low income as compared to the median income.

9. Summary and conclusion

The purpose of this research has been to examine the Federal Housing Administration's Default Mortgage Insurance Program and determine whether it still provides value to the country and its citizens, and in turn, whether it is still necessary. The data and information that have been examined have clearly demonstrated that the FHA program has provided assistance with a segment of the population that conventional mortgage lenders often ignore. Without the FHA program, it is likely that millions of low-income homeowners would never have been able to achieve homeownership. The data on the assistance of the program to minority homeowners is somewhat mixed. While many more African Americans and Hispanics have FHA insured mortgages as compared to Whites, the percentage of African Americans and Hispanics receiving FHA insured mortgages in 2012 was actually lower than those receiving non-guaranteed loans.

Furthermore, it is true that the FHA mortgage insurance program is not free to taxpayers, even with the fees that lenders pay to the program. However, much of the current cost of the program may be due to more from the result of the outcome of the financial crisis that began in 2007 and 2008, than a long-term issue. In 2012, the foreclosure rate of FHA insured mortgages was the same as the foreclosure rate for prime conventional mortgage loans. While there is a cost to taxpayers for the program, which was $15 billion between 1992 and 2012, that cost should be considered in relation to the larger benefits of providing access to homeownership to millions of Americans whom may not have had this opportunity had the program not been available.

Homeownership creates stability for individuals and connects them to the communities in which they live and work. In turn, this creates stability for local communities because there is a large base of people that have a direct connection to it and are directly affected by their conditions. In other words, homeowners are more likely to want their communities and neighborhoods to be cared for and for people to treat property with respect. This certainly creates a group of willing partners for local leaders that must try to address problems of decay and blight in order to attract positive attention to their communities.

In light of these issues and concerns, the Federal Housing Administration's Default Mortgage Insurance Program has certainly added value to the mortgage industry and to the country by allowing millions of people to have more stability in their lives. Even from a purely economic point of view, the Default Mortgage Insurance Program allows millions of homes that would have otherwise sat empty, or not needed to be built at all, to be built and purchased. This is particularly true given the current economic conditions that exist in the United States (U.S. Housing Market Conditions, 2010). It seems appropriate to speculate that the condition of the country in terms of homeownership and that of low-income and minority communities in the United States would be substantially different today without the insurance program. It also seems appropriate to assume that the future of these communities and homeownership in general would be different in a negative way if the Default Mortgage Insurance Program were to be ended.

The conclusion that is drawn from this research is that the FHA Default Mortgage Insurance Program has been good for the country and its citizens. Even more so, the program has improved the quality and condition of many communities across the country. Finally, the program should be continued in order to ensure that low-income and minority citizens and communities continue to be served by the mortgage industry.

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Promoting energy efficiency in housing: policies in the U.S. and France[1]

↳ By David Rosen and Claude Taffin

1. Introduction

Since the 1970s, there has been a growing awareness of the importance of sustainable development in our societies. The exponential growth of world population, energy and natural resource consumption, the cost of energy, and greenhouse gas [GHG] emissions combine to create an economic and environmental imperative to conserve energy.

This is no longer considered a luxury for the few rich countries, but is a priority for governments in the developed and emerging economies alike. Key environmental objectives are supported at the international level by the Kyoto Protocol, adopted in 1997 and in force from 2005. Recent environmental agreements between the U.S. and China further underscore the importance of promoting sustainable development practices. Several nations, including France and the U.S., adopted a range of additional measures aimed at reducing energy consumption and GHG emissions (e.g., "Grenelle de l'environnement" in France).

Housing is crucial to energy efficiency [EE] policy. In 2011, residential real estate accounted for 18% of global energy consumption (Source: U.S. Energy Information Agency). It is also responsible for an important part of GHG emissions. The U.S. Environmental Protection Agency reports that the residential and commercial real estate sector accounts for 33% of total GHG emissions in the U.S. Therefore, new policies were developed to promote energy efficient buildings and encourage "green renovations" of the existing stock. EE standards are now established for the architecture, engineering, construction and appliance sectors. In the U.S., many states have substantially revised their building codes to require ever greater energy efficiency. Energy and environmental certification systems have emerged, such as BREAM in UK, LEED in the U.S., PassivHaus in Germany, Minergie in Switzerland, and BBC in France.

2. EE improvements in the formal housing sector

This article focuses on EE retrofits of existing housing in the formal sector. We may address renewable energy retrofits for existing housing in another article, as well as energy efficiency and renewable energy standards for newly constructed housing. Further, this article does not address the important issue of water consumption, the provision of clean water, the treatment of wastewater and water conservation. Finally, few data exist to analyze the consumption of energy within the informal housing sector globally, let alone the effectiveness of energy efficient retrofit methods and financing within the informal sector.

Thus, the focus of this article is energy efficiency for owner and renter housing of existing units in the formal sector. EE goals include:

- Reduced energy consumption;
- Reduced GHG emissions;
- Lowered occupancy/ownership costs (for rental/owner housing respectively); and
- Preserving older housing stock (and neighborhoods) by modernization and reinvestment.

Investment in EE retrofits of the existing formal housing inventory will extend the useful economic life of that housing. Less expensive EE measures, the so-called "low hanging fruit," such as more efficient lighting, appliances and insulation, may be done immediately with quick economic payback. More expensive EE measures, such as replacement of doors and windows, heating, ventilating and air conditioning units, and major EE improvements to the building envelope, will likely be done in the context of overall building renovation and reinvestment.

Accordingly, more capital-intensive EE retrofit measures should be incorporated as part of standard practice upon refinancing, sale and reinvestment of existing housing. This is especially true for multi-family rental housing owned and operated by investors and professional property management/ownership companies (nonprofit, government or for-profit).

In this article, we pay particular attention to the financial feasibility of EE retrofits for housing. The decision for owners to invest in EE improvements to their housing, whether they are homeowners or investors/property owners and managers, will be based on how long it takes to repay the EE investment with a combination of reduced energy bills and favorable financing, subsidies, incentives and/or rebates. The single most important factor in determining residential EE improvement financial feasibility is the price of energy, or tariff, in the particular energy market of the property.

Energy tariffs vary widely based on: (1) the source of fuel used to generate power and heat; (2) subsidies that local, state or national governments pay to reduce the retail cost of energy, and; (3) energy price regulation. In the United States, retail energy tariffs range from as low as 4¢ per kWh to more than 30¢ per kWh, depending upon time of use and season, peak demand, and source of power generation. In developing nations, it is not uncommon for national governments to steeply subsidize the retail price of power. In those countries, EE retrofits will likely prove costly, and unpopular if

[1] The authors gratefully acknowledge the editorial assistance of Curt Smoot for this article.

they cause subsidized energy rates to increase. In other developing economies, retail prices of energy are very high, e.g., the Philippines.

3. Energy efficiency retrofit for affordable housing

While this article addresses EE retrofits for market rate housing, we are especially concerned with retrofitting affordable housing for renters and owners as well. We define affordable housing as owner or renter units benefiting from subsidies rendering the apartment or home affordable to households of limited income at rents and prices below otherwise available market rates. Low income renters and homeowners are constrained by their ability to pay for housing expenses. EE finance costs must be factored into overall affordable housing expense limits.

There is a broadly accepted principle that the level of affordable housing expenses for renters and owners should be tied to their income. This definition of affordable housing expense quantifies how much a household can afford to pay for housing, based on their income. Definitions of affordable housing expenses are fundamental to government policies, which allocate housing subsidies and other financial assistance to those most in need.

In the United States, it has been long-standing public policy to define affordable housing expense for renters as 30% of gross household income for rent, plus an allowance for utilities. This affordable housing expense standard is adjusted for household size, that is, the more people in the household, the higher the income limit and affordable renter housing expense. Importantly for this article, U.S. housing policy also establishes clear standards for utility allowances, adjusted by region and by fuel source for heating, electricity, and if appropriate, air conditioning. Utility allowances are published and updated annually by public housing authorities. Utilities paid by renters may include electricity, gas, oil, water, sewer, trash pickup and telephone service. These are utilities paid directly by the tenant, rather than the landlord. If the landlord pays a utility expense, it is not deducted from what would otherwise be calculated as an affordable rent for the tenant.

In the U.S., affordable homeownership policies vary somewhat, unlike the firm standard of 30 percent of gross household income for rent and utilities for tenants. Affordable homeownership standards typically dictate that somewhere between 30 and 40% of gross household income be devoted to the costs of homeownership. Homeownership costs typically include mortgage principal and interest, property tax, property insurance premiums, property mortgage insurance premiums (where appropriate), homeowners' association [HOA] dues (where appropriate), and possibly a utility allowance and/or maintenance allowance. In the wake of the mortgage crisis, U.S. banking and mortgage regulators have established new standards for Qualified Residential Mortgages [QRMs].

The QRM standard of homeownership affordability requires that a household's debt to income ratio does not exceed 43%. This is a total debt ratio, not just a housing mortgage debt ratio. QRM rules adopted by U.S. bank regulators enable mortgage originators to sell their loans into the secondary market without retaining a 5% interest in the mortgages they sell. The QRM total household debt-to-income ratio for affordable homeownership does not include allowances for utilities, property taxes or property insurance. It does include an allowance for property mortgage insurance premiums, and excludes homeowners' association dues.

As we consider the financial feasibility of EE retrofits for affordable renter and owner housing, we must remain cognizant of these definitions of affordable renter and owner housing expenses. Importantly, because the definition of affordable rental housing includes a utility allowance, a reduction in energy consumption (and cost) allows for an equivalent increase in affordable rent or mortgage-paying ability. This has the effect of increasing net operating income for rental housing, providing a source of leveraged financing for EE improvements.

4. Multiple cases require distinct solutions

Designing public policies to promote EE retrofit of residential buildings is not an easy task for a number of reasons.

The cost of investment is significant and the payback period can be both long, and uncertain given occupant behavior, energy price volatility, and uneven standards for energy audits and quality construction of EE improvements. Moreover, there are multiple cases in terms of building type, ownership and occupancy, which require different approaches.

4.1 Owner-occupied single-family homes

In many countries, including France and the U.S., the majority of the housing stock consists of owner-occupied single-family houses. The owner-occupant is the single decision-maker on the demand side. The owner pays the energy bills, pays for the improvements, and benefits from the energy savings and their impact on the value of the property (see box)[2].

Green Value

The "Green value" of a building can be defined as the impact on property value of energy efficiency and other environment-friendly features (building materials, access to public transportation, etc.). Research on this topic usually focuses on the energy dimension of the green value.

The first attempts to assess this green value conducted in the United States and Europe (Germany and Switzerland) estimated gains of around 5% for "green" buildings, mostly commercial, characterized by regulatory definitions or certifications. A 2013 study by the European Commission provides similar results based on an international survey of newly sold or rented housing units[1]. In France the capture of the energy performance rating (DPE) in the notaries' databases allows us to quantify the impact of this label on the sale price of units.

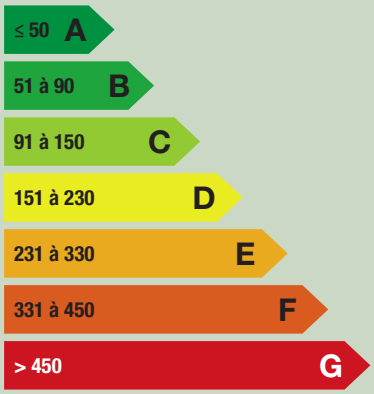
Indeed, the DPE rating includes two labels that classify the unit in seven classes from the best (A) to the worse (G) according to its level of energy consumption (« energy » label – figure 1) and its GHG emission (« climate » label). Since November 2006, DPE labels must be included in any sale (or pre-sale) agreement. From 2010, they have been progressively integrated into the notaries' real estate databases, which capture data on real estate transactions, including characteristics of the unit, of the seller, and of the buyer.

[1] 2013 EC survey: "Energy performance certificates in buildings and their impact on transaction prices and rents in selected EU countries."

[2] In the case of more expensive single home measures such as solar photo-voltaic [PV] systems, homeowners may opt to lease the solar equipment from a solar installer, who installs and owns the equipment. The solar lease rate is calibrated to be lower than the homeowner's current annualized electric bill.

Figure 1: The energy label

(Energy consumption in KwH par sq. m. and per year of primary energy)



A first study was conducted in 2013, based on transactions of years 2010-11. It used a standard hedonic price regression model, i.e. an econometric model linking the price of a house to its characteristics – as used to calculate house price indexes. It provided an order of magnitude of the green value for a segment of the market, the second-hand houses declared in good conditions (by the seller) and located in other regions than Paris. No significant result was found either for apartments or for houses in the Paris region.

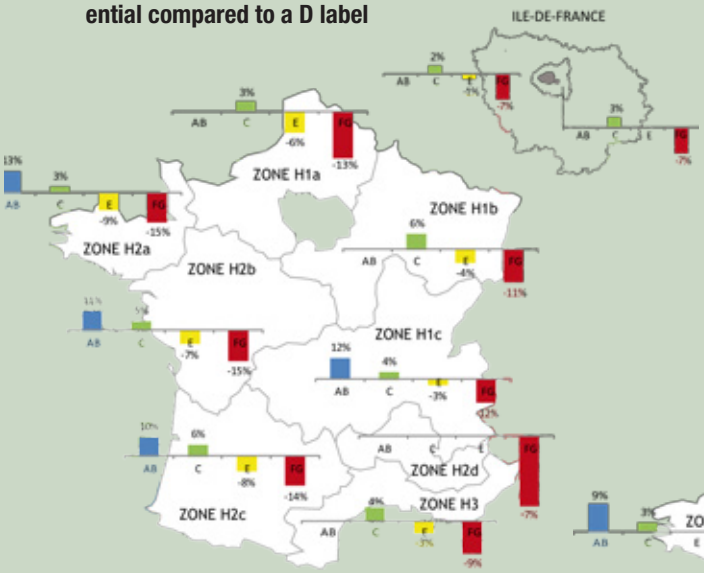
A second study was conducted in 2014, based on transactions of years 2012-13. It benefits from a larger sample of 120,000 units, as the number of transactions for which the information on energy performance was available has significantly increased. The calculation method was also improved by using a SEM (Spatial Error Model): such models aim to take into account the phenomenon of spatial correlation of real estate data. In common words, this means that the price of a given transaction is dependent on the prices of neighboring units. This dependence is a source of bias in the traditional hedonic models (Ordinary Least Squares).

For houses located outside of the Paris region, the difference of price due to one energy label letter difference, all other things being equal, is usually close to 5%. As shown in figure 2, taking the D label as a benchmark, because it is the most frequent, the loss in value due to an E label varies between 3% and 9% with the climate zone. The impact of a better rating is more or less symmetric: with a C label, the gain in value is between 3% and 6%. In both cases, the impact is doubled for letters at both ends of the scale (A & B, F & G).

Significant results are less numerous for apartments, because the sample size is smaller and the impact, in particular that of bad ratings, is often lower (figure 3). In the Paris region ("Ile-de-France," which belongs to climate zone H1A), there is little difference between the green value of houses and that of apartments. The loss in value for houses with an F or G label (7%) is thus much lower than in the rest of H1A (13%).

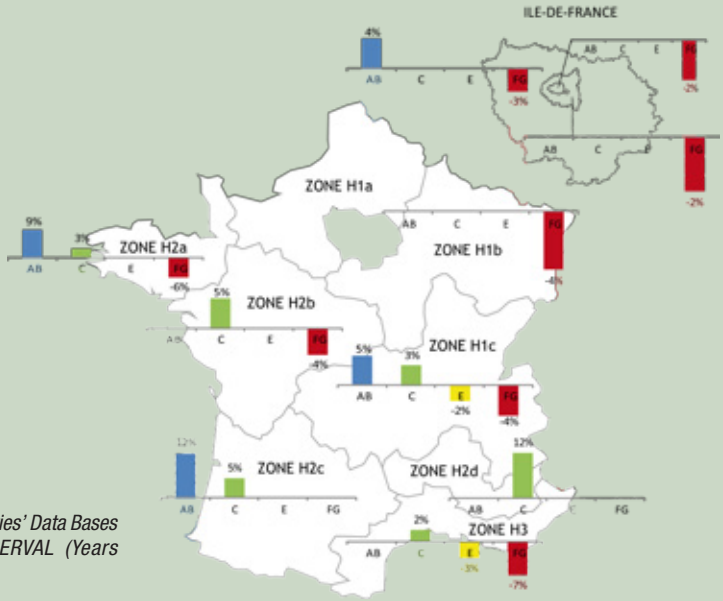
Two distinct phenomena seem to combine their effect to explain these differences between locations and types of unit. Firstly, there are big differences between markets: when supply is abundant a poor energy performance provides buyers with a base for negotiation, whereas on markets with high demand, their room to maneuver is narrower. Next, the owner of a house and that of an apartment in a condominium (more likely to be rented) do not have the same capacity to influence their utility bill and the EE retrofit.

Figure 2: Impact of energy label on house prices by climate zone; price differential compared to a D label



Source: Notaries' Data Bases BIEN and PERVAL (Years 2012-2013)

Figure 3: Impact of energy label on apartment prices by climate zone; price differential compared to a D label



Source: Notaries' Data Bases BIEN and PERVAL (Years 2012-2013)

4.2 Condominium owner housing

The case of owner-occupied condominium buildings differs from the owner-occupied single-family home. The final decision not only depends on the condominium law and the required majority vote of the HOA members, but its consequences also vary with the type of EE measure. In the case of central heating without individual meters, which is still frequent and costly to modify, the impact of individual behaviors on the utility bills can be substantial. Numerous studies have sought to better understand the relationship between technologically based EE improvements and changes in occupant behavior regarding energy consumption.

In many countries (Spain, U.S.), a vast majority of condominium apartments are occupied by owners. In a few others (France, Germany), there is a mixed occupancy by owners and tenants. This creates potential conflicts between owner-occupiers and lessors on the one hand, and between lessors and renters on the other hand, because of their diverging interests.

4.3 Multi-family rental housing

In the case of a multi-family rental building with a single-owner, the owner is typically a private or public company. If the owner pays utilities, the motivation of the owner to conduct EE retrofits is similar to that of owner-occupied single-family houses. If the occupants pay utilities, the owners bear the investment cost, but it is the tenants who will capture the largest share of the financial benefit of the investment.

We discuss additional considerations for affordable rental housing EE retrofit finance later in this article.

For residential investment property, that is, multi-family rental housing, low cost EE retrofit measures, the so-called "low hanging fruit" such as insulation, weather stripping, light bulbs, may be profitably undertaken immediately. More capital intensive measures such as doors, windows, heating and ventilating systems, fixtures, will likely be performed together with periodic renovation of the entire structure. This is typically done on a 10-15 year cycle. Appliances may be replaced with energy efficient units when needed.

5. Assessing financial feasibility of EE retrofits

McKinsey estimates that, if fully executed, gross energy savings worth more than $1.2 trillion may be realized in the U.S., well above the projected $520 billion in capital investment needed through 2020 to finance these EE measures. McKinsey estimates that a comprehensive EE program would reduce energy consumption in 2020 by 9.1 quadrillion BTUs (about 23% of total projected energy demand) and potentially avoiding more than 1.1 gigatons of GHG emissions annually. But to realize these enormous benefits, a comprehensive and innovative approach to financing and installing such EE measures must be adapted to overcome the "significant and persistent" barriers to stimulate EE demand among millions of building owners.

To achieve this scale of energy savings and GHG avoidance, McKinsey identifies five requirements for a comprehensive EE retrofit strategy:

- Recognize energy efficiency as an important energy resource that can help meet future energy needs while nations concurrently develop new no-and low-carbon energy sources.
- Formulate and launch at both national and regional levels an integrated portfolio of proven, pilot, and emerging approaches to unlock the full EE potential.
- Identify methods to provide the significant upfront funding required by any plan to capture energy efficiency.
- Forge greater alignment between utilities, regulators, government agencies, manufacturers, and energy consumers.
- Foster innovation in the development and deployment of next-generation EE technologies to ensure ongoing productivity gains.

(Source: Unlocking Energy Efficiency in the U.S. Economy, McKinsey Global Energy and Materials, 2009)

Applying these standards to EE retrofits for housing requires identifying elements in a critical path for development and finance purposes. We describe these elements below, and note where the refinements apply to owner and renter occupied housing as appropriate.

The dwelling or building should first undergo an energy audit. Such an audit should be undertaken by a certified energy auditing and/or engineering firm. In California, home energy rating systems [HERS] standards have been established to assure compliance with California's Title 24 building and energy efficiency standards, which date to the early 1970s. For multi-family housing and multi-unit condominium structures, energy audits are typically undertaken by engineering firms that assess not only the entire building envelope, but key building components, such as heating, ventilating, air conditioning, elevators, lighting, controls and appliances. The energy audit should identify a series of specific EE measures, and associated projected energy savings from each measure. An energy audit consists of three components:

1. Collection and analysis of utility bills;
2. A survey of the building, including all of its energy related systems, as well as its passive measures such as insulation, windows, doors, orientation to the sun, exposure to wind, etc.; and
3. Identification of EE measures and projection of savings from the "benchmark" performance of the building in its existing condition.

Energy auditors employ a variety of models to project energy savings from the installation of various EE measures. These tools range from simple estimates to complex computer simulations of the building's systems and energy performance.

The specification of EE measures should include equipment, building material specifications, associated costs, and projected energy savings from benchmark data associated with the building's current energy consumption. After EE measures have been identified, costed, and associated with projected energy savings, a determination by the owner should be made whether there are sufficient financial benefits to proceed with specifically identified EE measures. At that point, construction bids should be obtained from contractors who are certified to provide quality installation and inspection for the construction and installation of all EE measures.

Alternatively, for larger multi-family properties, energy service companies [ESCOs] may be retained to specify and construct the EE improvements, assure their quality installation, and finance the improvements in exchange for a revenue stream derived from energy savings over time.

Following installation of EE measures, building owners (and ESCOs) should monitor and modify energy savings results and associated cost savings.

If the installation and construction of EE measures are to be financed, especially for multi-family buildings, owners and investors will need to satisfy the underwriting requirements of lenders (and investors) who finance such EE improvements. Underwriting EE investments will rely on the collection of the best available empirical data on energy consumption and the projection of energy savings, discounted to provide for margins of error. This will require building owners to obtain basic energy consumption data

prior to, or at the point of, loan application. It will require benchmarking a building's current energy consumption performance, by system (e.g., heating, lighting, ventilation, etc.) It will further require certification by qualified energy auditors of projected savings associated with each of the proposed EE measures. Lenders will likely cap projected savings to improve on a building's (or a portfolio's) realization rate of projected savings. Realization rate refers to comparing actual energy savings achieved divided by initially projected energy savings. Lenders will also require effective installation, inspection, construction, implementation and management of EE measures, much like any construction lender requires compliance with plans, specifications and building codes prepared by architects and engineers for basic construction.

6. Constraints on financing EE retrofits for housing

Numerous constraints restrict large scale adoption of EE retrofits for housing.

These include: affordability; split incentives for investment properties; cost effectiveness in the context of building renovation or replacement; appraisal practices; bank underwriting practices; lack of adequate, reliable and understandable information about the value of EE retrofits for each type of housing and occupant behavior regarding energy consumption.

Low income homeowners and renters are constrained in their ability to pay for housing expenses. Energy efficiency finance costs must be factored into overall affordable housing expense limits, as we have discussed.

The problem of split incentives for investor-owned rental housing represents a significant barrier to EE retrofits for such properties. Owners bear the cost of EE investments, but may not capture an adequate share of the financial benefits of such investments, which often accrue to the utility-paying tenants. A "green lease" may solve the problem of split incentives. Such a lease provides financial incentives to tenants to reduce energy use, and penalties if their use increases. The amortized costs of EE retrofits may be added to the rents, but incentives to reduce use may offset such increases.

In the case of affordable rental housing, where rents are restricted to an affordable housing expense that combines rent plus a utility allowance, a lower "energy efficient" allowance may be combined with a higher rent, which does not hold the tenant liable for any overall increase in their housing (i.e., rent plus utility) expense. Note, this only works when the pre-EE retrofit rent is below maximum allowable rent levels for low income renters in a given market area.

The decision to invest in a costly whole building EE retrofit will be based on economic calculations by building owners. These decisions will rely on the payback period and the underlying residual land value of the property, combined with its overall physical condition and need for substantial renovation. If the useful economic life of the building may be extended by rehabilitation, then substantial EE retrofits may pay off. However, an EE retrofit alone will not salvage a building otherwise beyond repair. If the payback period for EE improvements is too long, then subsidies and other incentives such as utility rebates or tax benefits will be needed to spark EE investments.

For buildings in need of substantial repair, in low value markets, without government or utility incentives, EE retrofits will not occur.

Owner and consumer demand for EE retrofits in housing can be increased through effective marketing and information campaigns. Such campaigns may be conducted through the utility companies themselves, contained in the monthly bill. Utilities can also compare owners' actual energy consumption with comparable data from their neighbors, citing large discrepancies in consumption, and bills. Lenders, regulators, community-based organizations, churches, trade associations, property management firms, all can be effective marketers of effective EE investments. All of these information sources may be used to provide consumers with verifiable cost, payback and energy savings projections. They can also be a source for qualified home energy auditors, installers, contractors and certified appliance dealers.

If an owner must finance EE improvements, a lender's underwriting and credit approval standards may be material in determining the project's viability. For homeowners with adequate equity, this may not be necessary, as a home equity line of credit may be used to finance EE improvements. However, in these cases, homeowners should take care to satisfy themselves that the EE measures will result in real energy savings that may be used to pay back a loan.

For investment property owners, lender underwriting and credit criteria and practices will be key to securing a loan for EE improvements. Conventional lenders treat with skepticism projected energy savings, and rarely incorporate them into their underwriting. They rely instead on historic building energy consumption data. One exception to this is the case of affordable rental housing utility allowance models. Where the regulated utility allowance is lowered due to a certified EE retrofit, and affordable rents are concomitantly raised, lenders may rely on increased net operating income [NOI] projections, as long as the increased affordable rents fall below allowable rent levels for the property's market area.

7. EE housing retrofit cases in the U.S.

The U.S. has engaged in very large scale residential building EE retrofit efforts over several decades. We profile three cases:

1. A study of 21,000 unit retrofits in 231 rental buildings in New York City;
2. A program to perform EE retrofits of small (less than 50 units) rental buildings in Chicago; and
3. The Better Buildings Neighborhood Program of the U.S. Department of Energy.

A 2012 study of multi-family rental housing energy retrofits in New York City conducted by Deutsche Bank and Living Cities provides important empirical data to guide bank underwriting behavior. (**Recognizing the Benefits of Energy Efficiency in Multifamily Underwriting**, Deutsche Bank, Living Cities, Steven Winter Associates, HR&A Advisors, January 2012). The Deutsche Bank study expressly aimed to address the key constraint of lender confidence in projected energy savings to underwrite EE loans. The study examined 231 properties comprising more than 21,000 units. The study sought to:

- Assess trends in pre- and post-retrofit energy consumption, building by building;
- Analyze the reliability of projected energy savings, i.e., the realization rate; and
- Use the findings to inform how bank underwriters may incorporate projections of energy savings in their credit decisions.

The study found that building retrofits saved energy. Across the examined portfolio of 231 properties, fuel consumption declined by 19% and electricity consumption declined by 7%. Fuel EE measures saved more than electricity measures. On average, fuel measures saved $240 per unit, while electricity measures saved $50 per unit for common area electricity. Fuel savings were less variable and more predictable than electricity savings. Pre-retrofit fuel usage typically ran five to ten times that of per unit common area electricity charges, accounting

for $1,000 to $1,600 versus $100 to $300 per unit, respectively.

Importantly, actual savings were very strongly correlated with pre-retrofit fuel usage, namely, the amount of fuel a building consumed in kBTU per square foot of heated building area. Higher pre-retrofit consumption also directly correlated with greater realized savings potential. Further, the study found building age and heating system type to be good predictors of fuel use intensity.

Importantly, the Deutsche Bank study found that "strategically capping" energy savings projections improved the portfolio's realization rate. Fuel savings projections ranged from 25% to 50% for about two-thirds of the properties, while most properties actually achieved measurable savings of 10% to 40%. While the study found a number of factors influenced the realization rate (e.g., how much of the proposed scope of work was carried out; equipment specifications; the quality of installation and inspection, the energy audit and ongoing building management), it could not quantify the relative influence of each factor.

The study concludes:

"…neither the existing physical models employed by (energy) auditors nor the empirical model the study developed is sufficient: buildings are complex and unique, and a variety of factors interacted in each building…A "hybrid approach" that uses both…, results in savings projections upon which a lender could rely…"

In Chicago since 2008, a partnership between a community-based lender and an energy-oriented technical assistance provider combined to retrofit 480 buildings and 20,000 units, including $17 million in financing for 160 buildings and 6,000 units. The Community Investment Corporation [CIC] of Chicago is a Community Development Financial Institution [CDFI] certified by the U.S. Department of Treasury. CIC is a deeply experienced lender to small multi-family rental property owners, originating $1.2 billion in 2,000 loans since 1984. Elevate Energy, formerly the Center for Neighborhood Technology, is an energy efficiency service provider which offers EE assessments, construction oversight, advice and ongoing monitoring of energy consumption post-retrofit. Energy Savers is a partnership of CIC and Elevate Energy to reduce energy consumption in multi-family rental buildings. On average, a $3,000 per unit EE investment resulted in a 30 percent savings in energy consumption, in a typical 24 unit building saving $10,000 per year with a 5 to 7 year payback.

Energy Savers provides a one-stop energy efficiency shop for owners of multifamily rental buildings that offers:

- Energy audit and analysis;
- Cost effective energy saving recommendations;
- Low cost financing through CIC;
- Construction oversight; and
- Tracking of building performance to ensure savings.

The program has doubled its production since 2012. For the period 2008 through November 2014, the program has performed audits on 1,096 buildings and 44,452 units. It has completed 480 building retrofits of 19,877 units. Gas therms saved a total of 4.8 million, with 12.9 million kWh saved. CO2 emissions have been reduced by 37,000 metric tons, and 488 jobs were created through construction of the EE retrofit measures.

Of the $17 million in EE retrofit financing, CIC offered loans in second position to the senior mortgage, with personal recourse to the owners. Loan rates were 3%, with CIC's (subsidized) cost of funds at 1%. Debt service coverage ratio [DSCR] was underwritten at 1.15, after retrofit, with a 90% loan to value cap, based on recent appraisal. The loan term was seven years, with 7 to 10 year amortization. The loans were underwritten to cover debt service with projected energy savings. The program offers building owners a low barrier to entry, with a free cost assessment and free technical assistance. No compulsion was imposed on owners; their participation was strictly voluntary. The program is flexible, and offers low cost financing if needed.

As part of the 2009 Stimulus Act (American Recovery and Reinvestment Act, ARRA), the U.S Department of Energy [DOE] granted $500 million to 41 state and regional government agencies and consortia to conduct large-scale EE retrofit programs in single family and multi-family housing and the commercial real estate sectors. Called the Better Buildings Neighborhood Program [BBNP], DOE sought to retrofit 100,000 residential and commercial buildings, save consumers $65 million annually on their energy bills, achieve at least 15% energy savings from assisted projects and leverage $3 billion in EE project financing, while creating or retaining 30,000 jobs.

By the second quarter of 2012, BBNP had carried out 28,000 single family home EE retrofits, 3,100 multi-family housing EE retrofit projects, and saved a total of 1.2 million MMBtu's. Average single family home MMBtu savings were 40, and 27 for multi-family rental units. Single family retrofits saved 32 million kWh of electricity, 6 million therms of natural gas, and 370,000 gallons of fuel heating oil. Multi-family retrofits saved 2.6 million kWh of electricity, and 490,000 therms of natural gas. DOE evaluated the realization rate of actual savings by comparing reported source savings with net verified source savings in MMBtu, resulting in a realization rate of 79% for single family home EE retrofits.

As part of its research, DOE conducted a literature review of the impact of EE on the financial performance of commercial buildings. More than 50 studies were reviewed. (See **Energy Efficiency and Financial Performance: A Review of Studies in the Market**, March 2014, US DOE, Waypoint, for the complete bibliography.) The study originally sought to review all research on EE and financial performance, but the final product focused on "green labeled" buildings, using either a LEED [Leadership in Energy and Environmental Design] designation or Energy Star certification of DOE. The studies found positive correlations with EE designation and rental rates, occupancy rates, utility expenses, sales prices and construction costs. Preliminary correlations were found with tenant quality, occupant health, comfort and productivity, and capitalization (cap) rates. Mixed results were found correlating to total operating costs.

8. EE housing retrofit cases in France

In France, the new law on "energy transition for green growth," adopted in October 2014 by the National Assembly, but not yet discussed at the Senate[3], is an example of carrot and stick, or as a reviewer nicely phrased it, "a carrot as hard as a stick or a stick with a taste of carrot." The law imposes a target: 500,000 EE retrofitted units per year, half of which are occupied by low income households, so that the whole stock will be energy-efficient in 2050.

The main principle of the law is that any overall building renovation, improvement, or enlargement will necessarily "embark" energy-efficiency retrofit. The penalty for never renovating a building is an increase in transfer taxes: "départements" will be allowed to use

[3] When this article was written (December 2014).

a variable tax rate, between 3.1% and 4.5% instead of a fixed 3.8%, depending on energy-efficiency. At some point, it had been debated whether selling or renting the least efficient units would be forbidden but such a severe measure was rejected. The law also states that all private residential buildings with a consumption of primary energy above 330 Kwh per sq. m. per year, corresponding to an E, F, or G label, should be renovated before 2030. However, the law does not say how this should be achieved.

The act provides some financial measures. Third-party financing, which is the equivalent of abovementioned ESCOs, will be developed. Such companies perform an analysis of the property, design an energy efficient solution, install the required elements, and maintain the system to ensure energy savings during the payback period. The owner does not have to finance the retrofit, or only a part of it, because the ESCO is paid through the energy savings. The act also creates a guarantee fund that aims to facilitate access to credit for low income borrowers (a similar mechanism – Fonds de Garantie de l'Accession Sociale [FGAS] exists for low income home-buyers) and for condominium associations.

The fiscal situation of the country does not allow a substantial increase in subsidies for renovation. However, the numerous existing mechanisms – some available for any housing renovation, some specifically for energy-efficiency retrofit, some means-tested, some for every household – are maintained and sometimes improved.

A new condition, applicable since September 2014, is that all works should be undertaken by a professionally certified "RGE," which means "acknowledged guarantor of environment"; this label provides assurance that the professional is qualified to perform energy-efficiency works.

ANAH [National Housing Agency] allocates its own subsidies to low income owner-occupiers and to lessors of low income housing (there is a maximum rent and a maximum tenant's income). These support a few specific renovation measures including energy-efficiency. For EE measures, the energy performance should be improved by at least 25% (35% for lessors). In all cases, the building must be at least 15 years old. Additional subsidies can be distributed by the various levels of local authorities ("régions, départements, communautés d'agglomérations and communautés de communes").

Previously the condominium law had been amended in order to facilitate the realization of EE retrofit works involving common areas and equipment. It is an important issue in France because of the number of units involved: nearly 10 million out of the entire housing stock of 35 million, and because of the unusually balanced mix between owner-occupiers (51%) and tenants (45%). The French condominium law includes a complex set of majorities depending on the nature of the decision to be made. Majorities requested for EE retrofits are lowered by the law: for example, for works that are compulsory by law, the majority is lowered from 2/3 to 1/2.

The law also imposes a global technical audit of the building so that all co-owners are informed of the condition of the building and able to plan appropriate EE retrofit work. In order to finance these works, all condominiums will have to create individual funds; these funds will be fueled by an annual payment of at least 5% of the provisional budget. These measures are applicable only from 2017.

France also has a large social rental stock of nearly 5 million units. The landlords are either local public or non-profit private companies. Both are subject to the same regulations in terms of subsidies and commitments such as rent levels and tenants' eligibility rules. In agreement with the government, the social landlords are committed to perform EE retrofits of 120,000 units per year. They benefit from a VAT rate of 5% (instead of 10%) and from a "Social Housing Eco-Loan" at a very low (adjustable) rate, now at 0.50%. The loan has an amount between 9,000 and 16,000 € per unit, and can be used to renovate units with an energy-efficiency D label or above.

The landlord is allowed to increase the rents as long as the upper legal limit has not been reached; otherwise he may introduce a so-called "third-line" on the bill (i.e., in addition to the rent and utilities) and charge up to 50% of the energy-savings. In practice, this third-line is very rarely used. One major concern is that the gain on the energy bill would be offset by an increase in maintenance costs. Lower income tenants, in both the social and private rental stock are eligible for housing allowances. These allowances include an amount for utilities. This amount depends on location and family size. It is not related to the real utility bills. When utility bills change, there is therefore a 100% impact on the net cost of housing, and none on the amount of the allowance.

Specific subsidies for EE retrofit in France

	Beneficiaries	Amount
CITE (Tax credit for energy transition)	Owner-occupier, tenant. Main residence, more than 2 years old.	30% tax credit on expenses.
Eco-PTZ (0% loan)	Owner-occupier, tenant. Unit built between 1949 and 1989.	Up to 20,000 € for 2 works and 30,000 € for 3 works.
Eco-loan for condos	Condominium associations. Building built before 1990.	From 10,000 € to 30,000 €, depending on the number of works.
CEE (Energy premium)	Owner-occupier, lessor or tenant. Main residence, more than 2 years old.	Up to 20% of expenses.

9. Public policies promoting residential EE retrofits

Between the carrot and the stick the path is narrow and uneasy for public decision-makers. New construction is the easier part and most countries have started, in some cases (California) since the 1970s, to introduce strict energy conservation regulations in their national and state building codes. The main concern is the capacity of builders to balance proven energy conservation building codes with construction costs associated with such code requirements.

However, one-year's production is often less than 1% of the existing stock and demolition less than 0.1%, which means that it would take centuries to reach a fully energy-efficient housing stock through regulation of new construction alone. Addressing the existing stock is thus necessary. A pre-requisite is to reconcile energy tariff policy with EE retrofit policy. Artificially low (i.e., subsidized) energy prices will prevent any EE retrofit from being profitable. Development policy should carefully weigh the cost/benefit of subsidizing the retail price of energy versus subsidizing EE retrofit costs for housing.

"White certificates," or "energy savings certificates," are carrots for consumers and sticks for energy producers, suppliers and distributors. Indeed, the latter are required to assist the former in taking energy-efficiency meas-

ures. In some countries, they receive tradable certificates when they reach their target and these certificates can be purchased by those who do not. In France, those who do not reach their 3-year target have to pay a penalty (two cents per missing KwH). The white certificate concept can be compared to the more mature renewable energy credit or "green tag" trading.

Beyond carrots and sticks, the importance of informational and educational measures must be emphasized. Labels showing the energy-efficiency class (introduced in EU in 1992) inform consumers when they buy an automobile, a household appliance, and when they buy or rent a housing unit (made compulsory in EU in the mid 2000s). Promotion of EE usage is made through campaigns and, in the few countries that have a well-developed public rental stock, it is a natural champion to promote EE retrofit (see France above).

Some public policies will need revision if they are to remain consistent with EE goals. These include:

- Rental law: Why renovate if tenants benefit from a cheaper utility bill and the lessor may not increase rents?
- Tax law: Is the investment cost deductible from rental income? Are losses deductible against other income or possibly carried forward?
- Condominium law: In countries where owners are split between occupiers and lessors (France and Germany), and lessors are usually opposed to new expense, majority rules for renovation often make it impossible to decide in favor of EE retrofit.
- Mortgage law: Is lending to homeowners' associations possible? In practice, however, making it possible will not be enough as lenders will always be reluctant to make loans of a small amount and a high complexity.
- Zoning law: EE retrofit may entail changing facades; in a few cases, adding one or two floors was seen as a solution to shorten the payback time.

Further, public policy, often in collaboration with private financial sector partners, will need to provide flexible and diverse EE financial assistance tools. These include: mortgage financing; tax code reform; utility company rebates; EE assessment districts; rebates and grants; and the establishment of energy certificate markets, as noted above.

Tax incentives may be imbedded in the income tax code, providing credits and depreciation benefits to owners and financiers of qualifying EE retrofits. Private owners and investors in buildings and EE retrofits may use such income tax benefits. Nonprofit and government owners of affordable housing would need to sell, or syndicate such tax benefits to third parties (e.g., ESCOs, limited partnership energy companies, banks, utilities and other investors interested in, or required to invest in, EE improvements).

Property tax benefits may be offered to owners of buildings, and homes, which undertake qualified EE retrofit improvements. Because tax subsidies such as these occur at a cost to a nation's treasury, government should conduct cost/benefit analyses of the most effective EE investments and their environmental benefits. This is particularly true for governments that currently subsidize retail utility rates, a policy that may often be far more costly than subsidizing the conservation of energy through EE retrofits. This of course requires the ability to meter, bill and collect for the cost of energy consumed.

Utility and power companies can offer rebates for EE retrofits. This is often in the financial interests of power companies, and EE measures which reduce demand are far more cost effective, and less controversial, than building new power plants. If demand exceeds a utility's capacity to deliver power, it will be in the utility's self-interest to reduce usage.

An EE assessment district approach may be used to finance EE improvements in a neighborhood or geographic area. Owners of property in a specified geographic area pay monthly assessments to pay for the costs of installing and maintaining EE (and renewable) energy measures and systems. This finance approach works best for larger, district-wide improvements, such as district heating, or district solar energy systems.

10. Conclusion

We cannot "newly construct" our way to an energy efficient built environment. That would take centuries. We must find solutions to retrofit our existing buildings and communities to be more energy efficient, and housing is a critical component of this challenge. Over the past few decades, we have made substantial progress in overcoming the constraints on EE retrofits of housing. We have achieved real improvement in technical, regulatory, finance, construction, marketing, management and monitoring of EE improvements for housing. Learning and adapting from this experience will enable us to develop comprehensive EE retrofit of housing at very large scale worldwide, regardless of the particular climate, energy regulatory environment and fuel source we rely on to power our homes. We cannot afford to wait.

Understanding and addressing local opposition to affordable housing development in Australia

↳ By Gethin Davison

1. Introduction

The development of affordable housing in mixed-tenure neighbourhoods is frequently frustrated by opposition from local residents, planners, politicians and the media.[1] This opposition can lead to costly construction delays and amendments for affordable housing developers and in some cases may even force the abandonment of planned projects. In the most extreme cases, the opposition can also negatively affect the social integration of prospective residents and undermine political and public support for affordable housing provision.

This article summarises the findings of a two-year research project concerned with understanding and addressing local opposition to affordable housing development in Australia. The research was undertaken by the author and colleagues between 2011 and 2013, at the end of a period in which levels of affordable housing construction had been high (KPMG, 2012; Davison et al. 2012). In the context of high-profile opposition to planned affordable housing development in cases across the country, the research sought to answer five main research questions:

1. What are the stated and unstated factors underlying opposition to affordable housing projects?
2. What is the housing market and policy context for opposition to affordable housing?
3. How and why does opposition to affordable housing development escalate?
4. What are the impacts of affordable housing development on host areas?
5. How can opposition to affordable housing development be mitigated or addressed by developers and governments?

This article is structured in line with these questions. After sketching out the approach taken to the research, the research findings for each question are discussed in turn.

2. Research approach

The research centred on three case study cities: Sydney, Melbourne and Brisbane. These are Australia's three largest cities and they were also the cities where opposition to affordable housing had been most widespread in the period since 2007. The empirical research was four-fold. First, content analysis was undertaken of two datasets: media coverage of community conflict over affordable housing across Australia; and 727 letters sent to planning authorities by residents objecting to planned affordable housing developments in parts of Sydney, Melbourne and Brisbane. Second, fifty semi-structured interviews were conducted, mostly in the same three cities. Interviewees were people involved in conflicts over affordable housing development from various perspectives; state government planning and housing authorities (16 people), non-government affordable housing developers (14), local government planning and housing officers (7), politicians (6), affordable housing advocacy groups (3), and community objectors (4).

Third, a doorstep survey was conducted with 141 householders living close to affordable housing projects that had been proposed, opposed and then constructed in the Local Government Area (LGA) of Parramatta (Sydney). Parramatta was selected for the survey because large numbers of affordable housing projects had been proposed and developed there in the last 10 years and levels of opposition had been high. Survey respondents were asked about the concerns of local residents about affordable housing development, the tactics used by objectors, and any positive or negative impacts that had been experienced as a result of development. Fourth, two hedonic models were used to quantitatively measure the influence of affordable housing development on property values in a range of mixed-tenure Brisbane neighbourhoods. For further details on the research approach see Davison et al. (2013).

3. What are the stated and unstated factors underlying opposition to affordable housing projects?

Objectors to planned affordable housing projects in Australia are mostly residents living close to development sites, but local business people and politicians are frequently also involved in opposition campaigns. The reasons that people oppose affordable housing development were examined through the analysis of 727 written objections sent to planning authorities by opponents of planned affordable housing projects in parts of Sydney, Melbourne and Brisbane, as well as through interviews, doorstep surveys and media analysis. Table 1 shows the range of concerns raised in the 727 objection letters and the proportion of letters in which each concern was raised. The number of written objections available to us varied between the three cities due to differences in the number of affordable housing projects being opposed and variations in planning assessment and notification procedures.

As shown in Table 1, parking and/or traffic were by far the issues most commonly raised in objection letters. However, objector concerns about

[2] Affordable housing here refers to housing which is affordable (in that it accounts for no more than thirty per cent of gross household income) for low and moderate income groups across home ownership, private rental and government rental tenures.

worsening parking problems or traffic congestion were generally not related to affordable housing in and of itself; they were about the medium-density form of most of the dwellings being proposed and/or the fact that planning requirements for parking provision in affordable housing projects were sometimes lower than for market housing. Where developers had data to prove that requirements for parking were lower for their residents than for market housing, these were often not trusted by objectors.

The next three most common concerns raised – physical form, 'character' and amenity – were primarily to do with the built form and appearance of the proposed affordable housing projects. In many cases the objections were from immediate neighbours who were concerned about possible overlooking and shadowing effects. More often, however, people just objected to the introduction of medium-density developments to their street or area – especially where there was no precedent for such development. It is worth bearing in mind here that Australians living in low-density suburbs are notorious for their vocal opposition to the introduction of any higher-density development forms, not just affordable housing.

Concerns about safety and crime were raised in just under one third of all written objections, and frequently this was about the types of people who objectors believed would be living in the planned development. In the minds of many objectors, there was an especially strong link between boarding houses and crime.[2] For example of the 162 written objections in Parramatta in which crime and safety were raised as concerns, 86% were against boarding house projects. The same was true of issues to do with antisocial behaviour and transiency, which were most often raised with regard to boarding house proposals. Fears about safety and crime were far less pronounced in Port Phillip than in the other two case studies. This could be attributed to higher levels of knowledge about affordable housing in the Port Phillip community, which is due to the long-term presence of local non-profit housing providers and a history of strong local government support for affordable housing. It is worth noting, however, that the proportion of objectors raising concerns about potential increases in antisocial behavior were higher in Port Phillip than in the other two case studies.

The planning process was an issue raised in 29% of submissions across the three cities. However, this was heavily skewed by the findings from Parramatta, where a state government planning policy was seen by objectors to be violating their rights by permitting medium-density affordable housing development in areas where medium-density development was otherwise not permitted. Although planning issues were far less commonly raised in Port Phillip and Brisbane, here complaints were sometimes made about the perceived favouritism of planning authorities towards affordable housing developers.

Table 1 The range of concerns raised in objection letters sent to planning authorities in the Parramatta (2009-2012), Port Phillip (2005-2012) and Brisbane (2007-2011) LGAs in opposition to planned affordable housing development. The table shows the proportion of objection letters in which each concern was raised.

Concerns about affordable housing development	Parramatta (Sydney)	Port Phillip (Melbourne)	Brisbane	Total
Parking/traffic	84%	84%	85%	84%
Physical form/density	73%	50%	63%	64%
'Out of character'	62%	55%	29%	56%
Amenity (privacy, shadowing etc.)	72%	31%	61%	56%
Safety/crime	40%	3%	42%	31%
Planning process	43%	9%	22%	29%
Management of property	40%	3%	24%	25%
Characteristics/behaviours of residents/ their socio-economic disadvantage	24%	7%	34%	18%
Environmental issues (loss of trees, flooding etc.)	12%	19%	20%	15%
Property values impacts	15%	6%	22%	13%
Transiency of residents	20%	3%	5%	12%
Antisocial behaviour	3%	19%	5%	9%
Number of submissions analysed	401	267	59	727

Concerns about the characteristics and behaviour of prospective affordable housing residents were raised in just under 20% of all written objections. In these objections there was frequently evidence of considerable prejudice against affordable housing residents. As expressed by an objector in Brisbane:

> Unfortunately, low cost housing means tenants with the usual behavioural problems – loud 'bomb' cars, noisy stereos, Saturday night fights, drinking, drug abuse, prostitution and generally antisocial behaviour.

Although concerns about the characteristics and behaviour of prospective affordable housing residents were raised in fewer than 20% of the 727 written objections analysed in our case study cities, our interviewees believed that for most objectors these were actually the principal concerns. These interviewees explained that many people making written objections choose not to express their concerns about prospective residents because they know it will not influence planning decision-making. Instead they disguise their objections to prospective residents as a concern about parking provision, built form or amenity. As a former state government politician interviewee stated:

> … for the majority of objectors [to affordable housing] it really doesn't matter which objection you're using, the intention is to stop a development because you're emotionally opposed to it. It doesn't matter whether you're using traffic or parking…or density… people will use any argument they possibly can to stop something. So people are really quite dishonest in their opposition.

Environment and infrastructure were rarely the principal concerns raised in written objections. Usually these issues were just included in a letter to add weight to a multi-faceted objection where parking, physical form and/or the characteristics of residents were the key concerns. Concerns about property values also featured less frequently in objections to planned affordable housing development in our case study cities than they have in many similar studies in the USA (see Davison et al. 2013 for a review). Even data from interviews and doorstep surveys suggested that the potential effect of a proposal on property values was not a principal concern for more than a small proportion of objectors.

[2] Boarding houses are residential buildings that provide multiple rooms wholly or partly let in lodgings. Facilities such as kitchens and bathrooms may be contained within rooms or shared.

4. What is the housing market and policy context for opposition to affordable housing?

Our research revealed that the majority of planned affordable housing developments in Australia do not actually attract a high level of formal opposition. However, the data from interviews, written objections and media coverage also suggested that opposition was more likely to be encountered in certain types of areas and in certain policy contexts. In all cases though the opposition to affordable housing was highly localized; objectors were almost always those people living or working in close proximity to planned projects.

According to our interviewees, opposition to affordable housing development in Australia is most likely in affluent neighbourhoods. This suggestion is supported by a mapping exercise we undertook in Parramatta, which indicated that the number of written objections received against affordable housing proposals was generally higher in more affluent parts of the LGA. Our analysis of this data, however, revealed little association between the number of written objections received against affordable housing proposals and the proportion of households owning and renting. In terms of the characteristics of community members, this suggests that income is a more important predictor of opposition than is occupancy type.

Beyond socio-economic group and occupancy type, there were other factors that seemed, from interviews and written objections data, to increase the likelihood that a proposed affordable housing project would be opposed by community members. In streets or neighbourhoods where there was no precedent for affordable housing and/or medium-density development, opposition to proposals was particularly fierce. According to interviewees, opposition to affordable housing was also likely where a community could be characterized as 'aspirational'; where residents saw themselves as upwardly mobile.

Our research found evidence of an association between the extent of public notification about a planned development and the level of formal objection encountered: projects where there had been a reduced public notification process generally encountered less opposition in the form of written objections. This supports the findings of related research undertaken in US cities (Pendall 1999). It was nevertheless clear that a reduced public notification process could also sometimes be a factor intensifying community opposition to a planned affordable housing development, with "flying under the radar" a risky approach for developers. Another policy factor that generated opposition to affordable housing development were variations to standard planning procedures that relaxed planning controls exclusively for affordable housing developments. Examples of these relaxations were reduced parking requirements for affordable housing development (compared with market housing) and higher permissible development densities.

5. How and why does opposition to affordable housing development escalate?

Our research suggests that opposition to planned affordable housing development is usually short-lived and that the same few tactics are adopted by objectors time and again; objection letters, telephone calls to planning authorities, attending and speaking at public meetings. Only in a small number of cases does the opposition to planned affordable housing escalate, with objectors then resorting to heavier tactics; contacting the media, lobbying politicians, staging public protests, vandalism of sites, and hiring legal counsel. Across our case study cities, there were three aspects of opposition campaigns that seemed to play a particularly important role in its escalation or not: community ringleaders; politics; and planning process.

Community ringleaders: the escalation of opposition to planned affordable housing development was contingent on the presence of key objectors who disseminated information about the development and coordinated oppositional strategies and tactics. Across our case study cities, the most fierce and sustained opposition campaigns were driven by one or several ringleaders who wrote pro-forma objection letters, arranged petitions and community meetings, encouraged neighbours to participate in the opposition, lobbied local politicians and contacted the media. In more affluent areas these key objectors could often access high levels of financial resource and draw upon political, media, social and professional contacts, allowing them to engage highly effectively in opposition campaigns.

Politics: politics was crucial to understanding how and why campaigns of opposition to affordable housing did or did not escalate. Local politicians are usually the planning decision-makers on controversial affordable housing developments in Australia and they tend to have strong connections to the local resident and business community, and to the media. Without the support of these politicians, objectors found it much harder to gain media coverage and their concerns were less likely to influence planning decision-making. Politicians had frequently become involved in opposition campaigns in our case study cities not because they opposed affordable housing but because they saw political advantage in it for themselves; their involvement in a campaign was viewed by them as an opportunity to gain the political support of objectors, to build their own public profile through associated media coverage, and/or to discredit their political opponents.

Planning process: the planning process was an important factor in the escalation of opposition campaigns but its effects were varied across and even within the case studies. Where objectors believed that a planning decision-making process was not fair this tended to intensify their anger and drive the escalation of opposition campaigns. In our case study cities objectors were most critical of the planning process for relaxing standard planning controls for affordable housing projects, or for not satisfactorily involving them in decision-making processes. Although we found many cases where collaborative planning processes had helped defuse tensions between developers and objectors, it also tended to be the case that the higher the level of public notification and involvement, the higher the level of opposition.

6. What are the impacts of affordable housing development on host areas?

As discussed above, the concerns of objectors to planned affordable housing development centre on the potential impacts on parking, traffic, amenity, and crime and safety, as well as on the perceived characteristics and behaviour of prospective residents. A key aim for our research was to test the extent to which these feared impacts had materialised in mixed-tenure areas where affordable housing had recently been developed. This was done in two ways. Firstly, post-occupancy doorstep surveys were conducted with 141 householders living close to 8 affordable housing projects that had been proposed, opposed and then constructed in the Parramatta LGA between 2009 and 2013. Secondly, two hedonic models were used to test the extent to which the development of 17 affordable housing projects in mixed-tenure Brisbane neighbourhoods between 2000 and 2009 had influenced property sales values in surrounding areas. Brisbane was selected as the case study for the hedonic modelling because it was the Australian LGA where the greatest num-

ber and variety of affordable housing projects had been developed in mixed-tenure neighbourhoods between 2000 and 2009.

For the doorstep surveys, the research team selected the projects completed since 2009 in Parramatta that had been the most controversial. Six of the eight surveyed projects comprised 100% social housing and two were privately-financed boarding houses. Projects ranged in scale from a boarding house home conversion to social housing projects of up to 26 dwellings. We sought participation from those householders most likely to have been affected by these developments. For each project, householders in surrounding areas were asked whether they and the neighbourhood had experienced any negative effects from the development in terms of traffic, parking, noise, crime, antisocial behaviour, feelings of safety, project design and project management. They were also asked about the characteristics and trajectory of the area as a whole: was it a good place to live? What did and didn't they like about living there? Had the area improved or declined in recent years?

Of the 141 householders surveyed, 135 expressed a view about the effects of affordable housing development on the area. Seventy-eight percent believed that there had been little or no negative effects (or positive effects) from the affordable housing development while twenty-two percent believed that there had been negative effects. Fifteen percent reported negative impacts in relation to crime or antisocial behaviour, although these effects had been experienced directly by respondents in only one case. The other negative impacts reported were to do with parking, traffic and noise. Two affordable housing projects accounted for 57% of the thirty responses reporting negative effects, with the remainder of the negative effects thinly dispersed. These two were larger projects (19 and 22 dwellings) and both were 100% social housing. They were also located in socio-economically disadvantaged areas which many survey participants believed had declined in recent years. For all projects surveyed, the negative impacts reported had usually affected only those living in the closest proximity to a new development.

For the hedonic modelling, data on property sales in Brisbane was supplied by Australian Property Monitors, free of charge. A total of 295 162 valid sales records since 1 October 1999 were supplied. After the dataset was cleaned, a total of 98 968 sales records were geocoded. Only sales which occurred after the public announcement of its nearest affordable housing development were included; this further reduced the overall sample included for hedonic modelling to 5276 records. A quantitative approach was adopted, using a hedonic regression analysis as well as descriptive statistics to measure the impact of affordable housing development on property values. Hedonic pricing models were estimated for different measures of distance (metres) from each affordable housing development in Brisbane. The independent variables used in the hedonic pricing model are shown in Table 2. These variables were chosen as the most reliable for use in a hedonic model after a multi-collinearity test excluded all other variables.

Table 2 Selected housing attributes and proximity to affordable housing

Independent variables	Metrics
House location	Latitude Longitude
House sale date	Sales date (after affordable housing development announced)
Number of bedrooms	Continuous
Number of bathrooms	Continuous
Number of garages	Continuous
Land size	Per sq. metre
Proximity to Affordable Housing	Metres
Dependent variable	**Metrics**
House sale prices	Dollars (AUD)

Two different hedonic models were used. The first (Model 1) tested the impacts of affordable housing developments on property sales values at different levels of proximity to the development. One hundred metre intervals were used as the base unit, with modelling performed at 100m, 200m, 300m, 400m and 500m to the closest affordable housing development. This test was aimed at highlighting the spatial impact of affordable housing developments on property sales values. A total of seventeen projects were included in this first hedonic model. For Model 1, proximity to affordable housing development appeared to have had a generally positive impact on property sales values. Specifically, only properties located within 100m of affordable housing developments experienced negative impacts from that proximity, while properties at least 100m away experienced positive impacts, where the degree of the impact decreases as distance increases. These results, however, were based on small sample sizes for the 100m (n=274) and 200m (n=781) intervals. Furthermore, results at the 200m interval were not statistically significant at any confidence level. As such, drawing a conclusion that 100m is the threshold where the negative impacts of affordable housing developments on local property sales values cease would be crude and potentially incorrect. Based on these sample sizes, the results of the hedonic model for property sales located within the 100m and 200m intervals are disregarded.

Results produced by the hedonic model at the 300m, 400m and 500m intervals were all statistically significant at the ninety-nine per cent confidence interval or higher, and as such these results accounted for ninety-nine per cent or more of the sample included for analysis. Furthermore, the hedonic model produced results which show that, at these intervals, proximity to affordable housing developments had positive impacts on property sales values. In other words, the closer a property was to an affordable housing development, the higher its sales value was, compared to other properties of similar characteristics (number of bedrooms, number of bathrooms etc.). These

Table 3 Affordable housing developments and their impacts on local property sales by distance, Brisbane

Distance	Valid sales	Standard coefficient	Impact	Significance	Adjusted R Square
100m	274	0.118	Negative	0.016 *	0.519
200m	781	-0.007	Positive	0.798	0.454
300m	1510	-0.051	Positive	0.008 **	0.454
400m	2490	-0.057	Positive	0.000 ***	0.411
500m	3578	-0.036	Positive	0.006 **	0.392

Note: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

positive impacts were, however, generally minimal, accounting for less than six per cent of a property's sales value.

Model 2 examined the impact of these same affordable housing developments at the level of individual projects. This provided the research team with an opportunity to examine the extent to which the influence of affordable housing developments on property values varied according to project size and contextual differences. Separate hedonic models were run for fourteen of the seventeen affordable housing projects used for first model. The other three projects were excluded from the second model because too few property sales had been recorded close to them. Due to the still small number of sales that occurred within close proximity to each of the included fourteen affordable housing developments since their announcement, this second hedonic model was only performed for all sales within 500m rather than at 100m intervals.

The results of Model 2 indicated that affordable housing developments can have mixed impacts on local property sales values. For nine of the projects, proximity to affordable housing developments had a negative impact on sales values. For five projects, however, proximity to affordable housing developments had a positive impact. This suggests that affordable housing developments have no universally positive or negative impacts on local property sales values in Australian cities, something that has also been found to be the case in the United States. Of the fourteen projects included in Model 2, only two produced statistically significant results at the ninety-five per cent confidence interval and two produced statistically significant results at the ninety-nine per cent confidence interval (Table 3). Of these four statistically significant results, the influence of affordable housing development was negative in three and positive in one.

6.1 Summary

The findings from the doorstep surveys indicated that the majority (78%) of residents living in areas surrounding eight recently completed affordable housing projects had experienced no negative effects as a result of those developments. Of the negative effects that had been experienced, 15% were to do with crime and antisocial behaviour and 85% with parking, traffic and noise. From our hedonic modelling exercise we could conclude that the development of affordable housing can have a small positive or negative impact on property sales values in surrounding areas up to a distance of 500m away, but that these impacts, where they exist, will be minimal and are likely to be outweighed by other factors to do with the characteristics of the property and its location.

Overall, our findings therefore indicate that affordable housing development does not usually have significant qualitative or property values impacts for neighbouring residents, and that for most neighbours the impacts are likely to be negligible.

7. How can opposition to affordable housing development be mitigated or addressed by developers and governments?

7.1 What affordable housing developers can do: pre-application stage

7.1.1 Get positive messages out

The widespread misconception that affordable housing means high-rise public housing contributed to opposition to planned developments in our case study cities. More positive public perceptions of affordable housing can be shaped by developers in three main ways:

- Media coverage: local newspapers can be an important way of challenging negative perceptions of affordable housing and promoting more positive narratives. Other strategies can be for developers to foster relationships with mainstream media outlets and undergo media training.

- First-hand experience: negative perceptions of affordable housing are often formed from people's own experiences. Affordable housing developers can help transform negative perceptions at the local level by establishing positive reputations for management and maintenance, responding quickly and effectively to problems, and by demonstrating that they have a stake in the community. Tours of existing projects and informal meet-and-greets between prospective neighbours and residents of affordable housing can also help break down barriers.

- Promotional strategies: at a local level developers can communicate positive messages about their residents, developments and organisation.

7.1.2 Build relationships with decision-makers

Building relationships with politicians and planning officers can help affordable housing developers gain important buy-in and support for their work. Key messages to convey to politicians and planning officers are about local housing need and the fact that not all affordable housing is for very low income groups. Obtaining the support of planning decision-makers can be the crucial factor influencing the outcome of planning assessment. As (Iglesias (2002) notes, it is important to know your audience; some decision-makers will be convinced by the economic arguments for an affordable housing project, others by arguments about social justice.

7.1.3 Do research

Affordable housing developers can gather information on local planning policies and controls, decision-making processes and timing, the backgrounds and persuasions of the people that will ultimately make the decision (for example, local politicians), as well as potential supporters, potential objectors, the media and the courts (Iglesias 2002). The potential impact of a planned development on neighbours and their likely response can then be considered, as well as the angle that local media outlets might take and the possible supporters and opponents of the development in the community and among decision makers. This allows developers to plan ahead for any eventualities.

7.1.4 Recruit supporters

Affordable housing developers can think about whose views will influence decision-makers and try to recruit them as advocates of the project. If decision-makers are local politicians, they may be influenced by resident groups, local Chambers of Commerce, businesspeople or affordable housing advocacy groups. Once supporters have been recruited, they can provide political intelligence, lobby decision-makers, recruit and organise supporters, perform outreach to objectors, be public spokespeople, or testify at legal hearings (Iglesias 2002).

7.2 What affordable housing developers can do: development application stage

7.2.1 Make sure the first conversation is with local politicians

Speaking to local politicians at an early stage can help developers predict the response that is likely to a planned development from local residents and businesses. Getting a politician onside also reduces the likelihood that opposition to a development will escalate and can help spread positive messages about both that development and the organisation. Local politicians are also the decision-makers on many development

applications, so getting their support can be crucial in achieving a successful outcome.

7.2.2 Keep it simple

Ensuring that a planned affordable housing development meets planning requirements can reduce the likelihood of local opposition. If a planned development meets all requirements for parking, physical form and impact on neighbour amenity, opponents can only object on the basis of concerns that are outside the scope of planning assessment (type of residents, property values etc.). A basic principle here is for developers to minimize the range of reasons that a person can object to a proposal: don't allow people to disguise their concerns about affordable housing residents as issues to do with parking provision, traffic or built form.

7.2.3 Pro-actively engage community members

Most non-government affordable housing developers in our case study cities actively sought to engage local community members in schematic project design. This approach was seen to be a way of reducing planning delays by addressing potential concerns from neighbours early on. Emphasis in these community engagement efforts was on residents living closest to the development site and possible opposition ringleaders. Outreach may come in the form of public meetings, door knocking, individual meetings with local leaders, or open house sessions. While it is possible to "fly under the radar" in some cases, the risk with such an approach is that the opposition to a project will be all the more fierce if it does arise, at least partly because people object to not having been told about a planned development. Community engagement can also remove the opportunity for mischievous objectors to spread rumours and mount smear campaigns about a planned development or an organisation as had occasionally happened in our case studies.

7.2.4 Listen

In our case studies, the unreceptive attitudes of development proponents, local politicians and government officers to the views expressed by objectors were often identified as a major factor contributing to anger and resentment about a planned development. In contrast, many representatives from affordable housing developers told us that face-to-face meetings between senior employees and objectors can help defuse tensions and reduce objector anxiety.

7.2.5 Be willing to negotiate

Most interviewees from affordable housing developers believed that being prepared to make changes to project design in response to objector concerns helped foster a more amicable long-term relationship with local community members and reduced the intensity of opposition campaigns. Some developers begin their community engagement efforts with a statement from executive officers that the characteristics of building occupants is not up for debate, but that the design of the building certainly is. This sets parameters for any discussions that follow.

7.3 What governments can do

7.3.1 Whole-of-government approach

Where the planning process was a reason that people were objecting to planned affordable housing development, this was usually because policy incompatibilities existed between different levels of government. The clearest example of this was a case where a state government policy in Sydney relaxed planning controls for medium-density affordable housing projects, meaning that medium-density affordable housing development became permissible in areas that were zoned by local planning authorities for low-density residential development only. This was seen by many objectors to be a violation of their rights, and it was a major factor driving opposition to affordable housing development in that case. Our research suggests that co-operation between different levels of government is crucial if an affordable housing policy direction is to avoid politicisation and to succeed in the long-term.

7.3.2 Community involvement in the planning and design process

As discussed above, early engagement with community members can help mitigate opposition to planned affordable housing developments and improve development outcomes. Governments can mandate certain levels of community engagement and planning officers and affordable housing developers should avoid ignoring objector concerns or dismissing them as NIMBYism.

7.3.3 Improve education and the image of affordable housing

In our three case study cities many politicians and planning officers could not distinguish between different forms of affordable housing. Education for council staff, politicians and community members is needed, particularly to stress that there are a range of people living in affordable housing and a range of affordable housing providers. Governments (and developers) must also be more aggressive in getting positive messages out about affordable housing where there is opposition to a proposal from local community members. The coverage of cases of opposition in the media overwhelmingly focuses on the concerns of objectors rather than the benefits of, and need for, affordable housing. Getting buy-in from local politicians, many of whom are frequent commentators in the media, is an effective way to get positive messages out effectively. Alternatively, governments can run promotional campaigns that challenge negative perceptions of affordable housing at a more strategic level.

7.3.4 Support affordable housing developers

Rather than supporting developers, politicians and planning officers in our case study cities had frequently sided with objectors where planned affordable housing developments encountered local opposition. Where planning authorities had made a strong strategic policy commitment to affordable housing, however, politicians had been less able to engage in opposition to affordable housing development and planning officers had been more inclined to look favourably upon affordable housing both in the formulation of planning policy and in planning assessment.

8. Concluding thoughts

The concerns of objectors to planned affordable housing development in Australia are principally about the likely effects of development on parking and traffic, built form, amenity, and crime and safety, or about the characteristics and behaviours of prospective residents. Local opposition to planned affordable housing development is most likely to be encountered in affluent or aspirational neighbourhoods, and where levels of public notification about planned developments are greater. Opposition campaigns are usually limited to written objections and telephone calls but may escalate where key community ringleaders and politicians are involved, and/or where the planning process is seen to be unfair. Despite people's concerns about affordable housing development our research indicates that the qualitative and property values effects of affordable housing development on host areas are negligible for most people. There are a series of ways in which developers and governments can mitigate and address opposition to planned affordable housing developments. Following the steps outlined above will not guarantee that a planned development will not encounter some opposition from local community members, but it will

make opposition less likely and it will reduce the intensity of any opposition that does arise.

Further details on the findings of this research can be found in Davison et al. (2013), which is free to download from the Australian Housing and Urban Research Institute's website (www.ahuri.edu.au)

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[1] Definition of affordable housing used.

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