



FINANCE, COMPETITIVENESS & INNOVATION INSIGHT | LONG-TERM FINANCE

Housing Finance: Investment Opportunities For Pension Funds

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ABBREVIATIONS AND ACRONYMS

| | |
|--------------|--|
| ARMs | Adjustable Rate Mortgage Loans |
| CAHF | Centre for Affordable Housing in Africa |
| CHP | Community Housing Project |
| CMO | Collateralized Mortgage Obligation |
| DC | Defined Contribution |
| DB | Defined Benefit |
| GDP | Gross Domestic Product |
| GFP | Gauteng Partnership Fund |
| GSE | Government Sponsored Entity |
| HCA | Housing Communities Agency |
| HFC | Housing Finance Company |
| HIFSA | Housing Investment Fund South Africa |
| MBS | Mortgage Backed Security |
| MoFI | Ministry of Finance Incorporated |
| MLS | Mortgage Liquidity Facility |
| MMS | Mortgage Market System |
| NMRC | Nigerian Mortgage Refinance Company |
| OECD | Organization of Economic Cooperation and Development |
| PMO | Primary Mortgage Banks |
| PAYG | Pay As You Go |
| REIT | Real Estate Investment Trust |
| RPI | Retail Price Index |
| SAHL | South African Home Loans |
| SARB | South African Reserve Bank |
| SPV | Special Purpose Vehicle |
| RSC | Registered Social Landlord |
| SIB | Social Impact Bond |
| SII | Social Impact Investing |
| THFC | The Housing Finance Corporation |
| WEF | World Economic Forum |
| WHC | Watumishi Housing Company |
| ZAR | South African Rand |



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EXECUTIVE SUMMARY

The global housing deficit in both developed and developing countries is increasing – driven by demographic and other mega-trends including urbanization and income inequality. Global pension fund assets, on the other hand, are both growing and increasingly looking for long-term, productive investments.

There are multiple avenues through which pension funds can invest in the housing sector. ‘Supply side’ investment opportunities range from direct investments in housing projects or investments in housing developers, to investments in housing funds or social housing bonds.

‘Demand side’ investment opportunities include a range of investments in mortgage securities - whether covered bonds, mortgage-backed securities or via bonds issued by mortgage-liquidity facilities.¹

However, the supply and demand sides of the equation do not fit together as neatly in practice as on paper. One key point to note is that the regions where the funding for affordable housing is most pressing are generally the jurisdictions with the lowest pension fund coverage for its citizens. Therefore, with notable exceptions, where the financing is needed the most, access to domestic pension fund assets are least available.

Even amongst the largest, most sophisticated and mature pension funds, investments in ‘land and buildings’ (under which housing is generally categorized) remain relatively minimal, compared to the asset categories where most of the assets are typically invested, i.e. bills and bonds, shares and mutual funds. In addition, the prevailing legal or regulatory regime may also restrict pension funds from investing, which impacts the type of housing finance investment or investment instrument that is adopted by pension schemes. In addition to creating instruments with the appropriate risk-return profile, past experience showed that without the right kinds of incentives, mobilizing pension fund assets for housing investments can be constrained.

It appears as though some inroads are already being made in linking invested pension fund assets with investments in housing developments in specific developing economies. Nevertheless, it is also evident that there remains significant potential for more investment by pension funds in housing-related instruments. Several factors are needed for the ‘stars to align’ including: a supportive legislative framework; trustees must be trained so that they understand and are comfortable with housing investments and the risks involved (which varies considerably by products), and can include them in their investment mandates; having pension funds of sufficient size to make these investments and build this knowledge is required - which generally means large, funded schemes, often from the public sector with some additional development mandate; pension schemes with a younger membership and offering less investment choice to members are better placed to invest in more illiquid asset, which housing investments often represent. Products which cater to a large numbers of informal sector workers are needed to make the pension and housing savings link in developing countries – which will also need to attract foreign pension investment to provide the scale of capital required.

None of this will take off without stable macro-fundamentals, well-developed capital markets, and indeed a well-developed housing sector (with established developers and construction companies, vibrant home ownership and/or rental markets, robust registration along with political will and supporting policies to advocate for investment in housing).

Data showing the extent to which and how pension funds are investing in housing is still limited and deserves further research. Further policy and regulatory guidance on the different investment vehicles is also required.



INTRODUCTION

The global housing deficit is expected to burgeon to one billion units by 2025 and is estimated to cost an estimated US\$ 650 billion per year – or between US\$ 9 trillion and US\$ 11 trillion in total.² Other sources put the overall cost at US\$ 16 trillion, if the cost of land is factored in.³ The provision of affordable housing is a long-standing policy challenge,⁴ but is being exacerbated by well-known demographic trends, including urbanization⁵ and global inequality, which is pricing even middle-class households out of ownership in many countries.⁶ A staggering 90 percent of urban growth by 2030 will occur in Africa, Asia, Latin America and the Caribbean.⁷ Governments cannot be expected to finance the entire housing deficit and policymakers are looking to the private sector to help support the developmental objectives in the housing sector.

Pension Fund Investments in Housing Financing

Pension funds – with over US\$38 trillion assets in OECD countries alone⁸ – are one of the largest sources of private sector investments, and potentially sources of housing finance. In terms of the value of assets held by private pension funds as a percentage of GDP, the weighted average for OECD countries is in the region of 140 percent of GDP, whereas for developing economies (in the OECD sample), the weighted average is 40 percent of GDP. Whilst this data only represents a ‘slice’ of the total market, it is a useful proxy for the global situation.

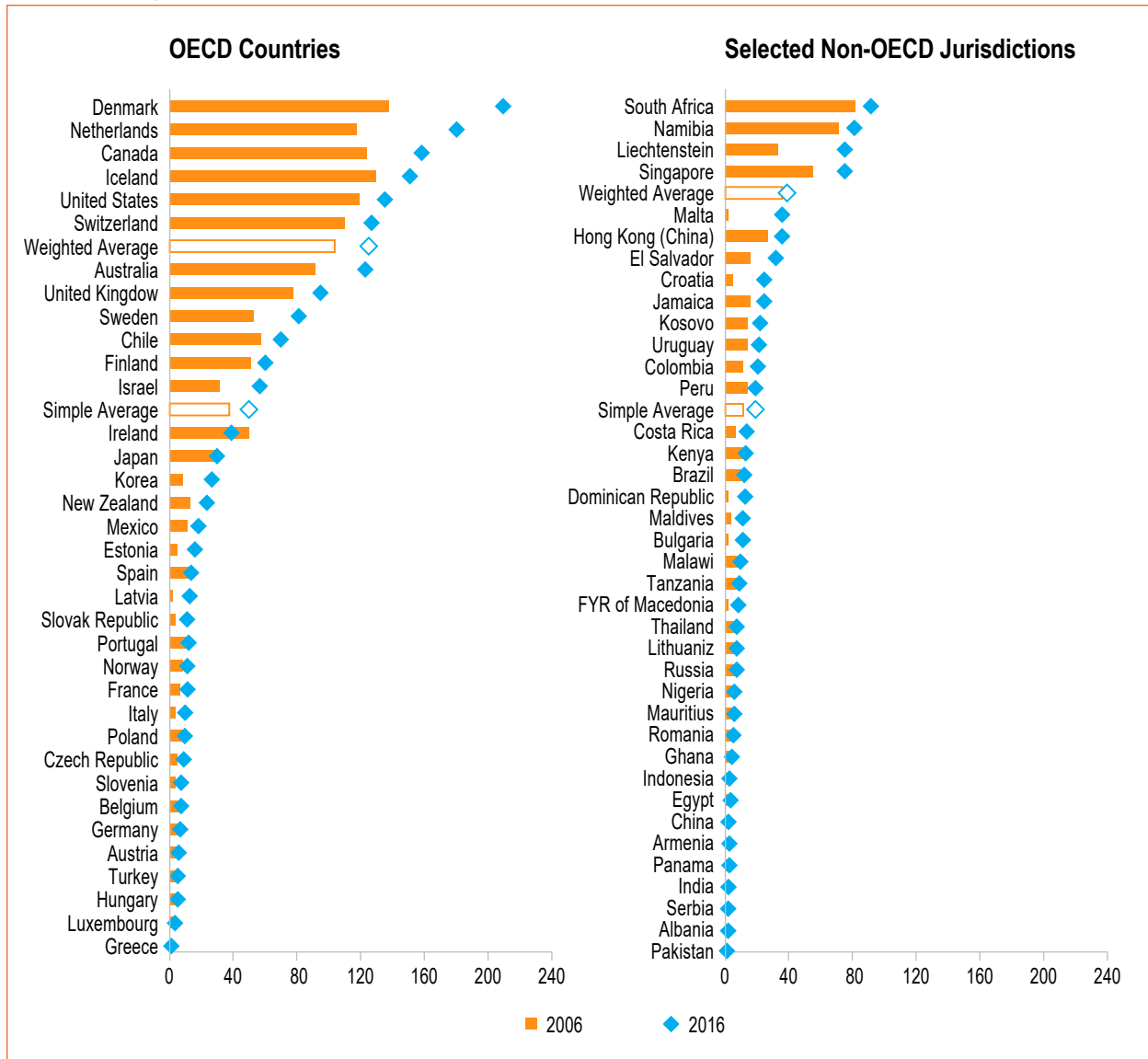
The key point to note is that the regions/areas/economies where the funding for affordable housing is most pressing, are generally the jurisdictions with the lowest pension fund coverage for its citizens. Therefore, where the financing is needed the most, access to domestic pension fund assets are least available. There are obviously notable exceptions, for example, in South Africa where the value of private pension assets as a percentage of GDP is in the region of 100 percent. (See Figure 1)

Given the low interest rate environment since the global financial crisis, these funds are increasingly looking for long-term, stable returns, uncorrelated with global markets.⁹ Yet, it is notable in the OECD sample, that even amongst the largest, most

sophisticated and mature pension funds, investments in ‘land and buildings’ – which is how housing investments are generally classified¹⁰ – remained relatively minimal, compared to the asset categories remain where most of the assets are typically invested, i.e. bills and bonds, shares and mutual funds. Pension funds in many developing economies invest predominantly in government bonds, that are basically deemed to be risk-free.¹¹ However, it is also interesting that some developing countries feature highly on this list of exposure to land and building – largely due to the lack of alternative capital market opportunities. (See Figure 2).

In addition, the prevailing legal or regulatory regime in housing may also restrict pension funds from investing. An inadequate legal and regulatory framework governing alternative investments has been cited as one of the major reasons for a lack of pension fund investment in the sector.¹² For¹³ or example, while many countries have legislated to allow for pension funds to invest in real estate investment trusts (REITs), this is only a recent trend.¹⁴ Other pension schemes, either on their own, or driven by national policy, have adopted a social impact agenda which is supportive of and facilitates investments in housing.¹⁵ Such factors have an impact on the type of housing finance investment or investment instrument that is adopted by the pension scheme.

Figure 1. Total Assets in Funded and Private Pension Arrangements as a Percentage of GDP: 2016

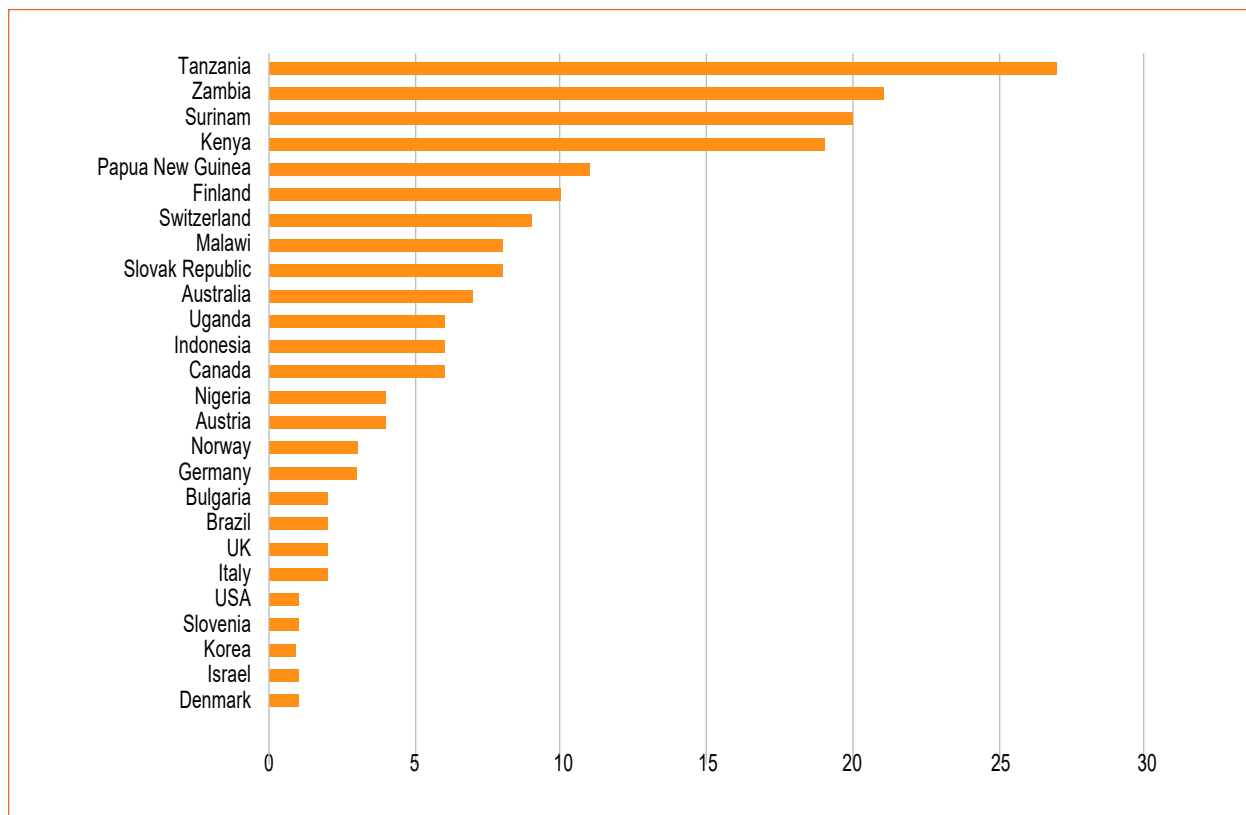


Source: OECD, 2017.

To be attractive to investors, housing investment opportunities – including mortgage security yields – will have to reflect risks associated with alternative investment options, including credit risk, liquidity risk, market risk and prepayment risk. The challenge is how to create housing investment instruments with the right risk-return profile for these investors to allow pension funds to provide access to longer-term finance through capital market instruments (such as covered mortgage bonds, securitization etc.).¹⁶

In addition to creating the appropriate risk-return profile, past experience showed that without the right kinds of incentives, mobilizing pension fund assets can be constrained. For example, Colombia had put in place tax exemption on yields for banks and other potential investors, thus pushing yields down, while it affords no value to tax-exempt pension funds, thus limiting pension funds’ demand for mortgage-backed securities.¹⁷

Figure 2. Pension Fund Allocation to ‘Land & Buildings’



Methodology and Approach

This paper investigates the possible long-term investment opportunities in the housing sector from the perspective of the supply- and demand- sides of the housing value chain. The report will focus on the supply- and demand- side investment opportunities available to pension funds. The mechanics of the investment opportunities will be discussed, together with the pros and cons, and necessary preconditions that need to prevail in order to facilitate successful investment. To further elaborate on the investment opportunities and to take cognizance of lessons learnt, potential investment approaches are illustrated by available case studies. Finally, the paper will proffer

suggestions for creating a facilitating environment for long-term investment in the housing sector by pension funds and put forward recommended areas for future research.

The paper is based predominantly on desktop research and input from a select number of housing and pension fund specialists. This report is mainly a ‘qualitative’ descriptive survey of the types of investment which pension funds’ make into the housing sector. It is meant as an overview, introductory piece, and does not provide quantitative data on to what extent pension funds do, could or should have exposure to housing.



INVESTMENT OPPORTUNITIES FOR PENSION FUNDS

Pension funds have multiple avenues to invest in the housing sector. To ensure that there is a seamless matching of accumulated savings (through pension funds) with long-term investment opportunities, several conditions are necessary to facilitate transactions:

- Potential long-term investors should not be constrained in their ability to provide financing by barriers, such as incentives and restrictions on portfolio allocations.
- Long-term financing in many countries are often constrained by the narrowness of the range of available instruments. Policymakers intent on unlocking new sources of long-term finance should foster the growth of new markets and instruments that can fill the gap between the current sources and projected future demand for long-term investment. Often bond, equity and securitization markets in developing economies are not sufficiently mature and liquid.
- Many rapidly industrializing and urbanizing emerging markets will need foreign investors to help fund capital-intensive investments, if they do not have sufficient domestic savings to fund growth. An enabling environment that allows for more stable flows of long-term capital (such as foreign direct investment) to countries with large investment needs is, therefore, a priority.

Broadly speaking, investment opportunities available to pension funds in the housing sector can be categorised into:

- Supply-side investment opportunities, and;
- Demand-side investment opportunities.

Figure 3 illustrates the supply- and demand-side investment opportunities available to pension funds and links the investment categories to the types of housing that can be supported. For example, investments by pension schemes in housing funds could facilitate the construction of housing for rental, ownership or social housing needs. On the demand-

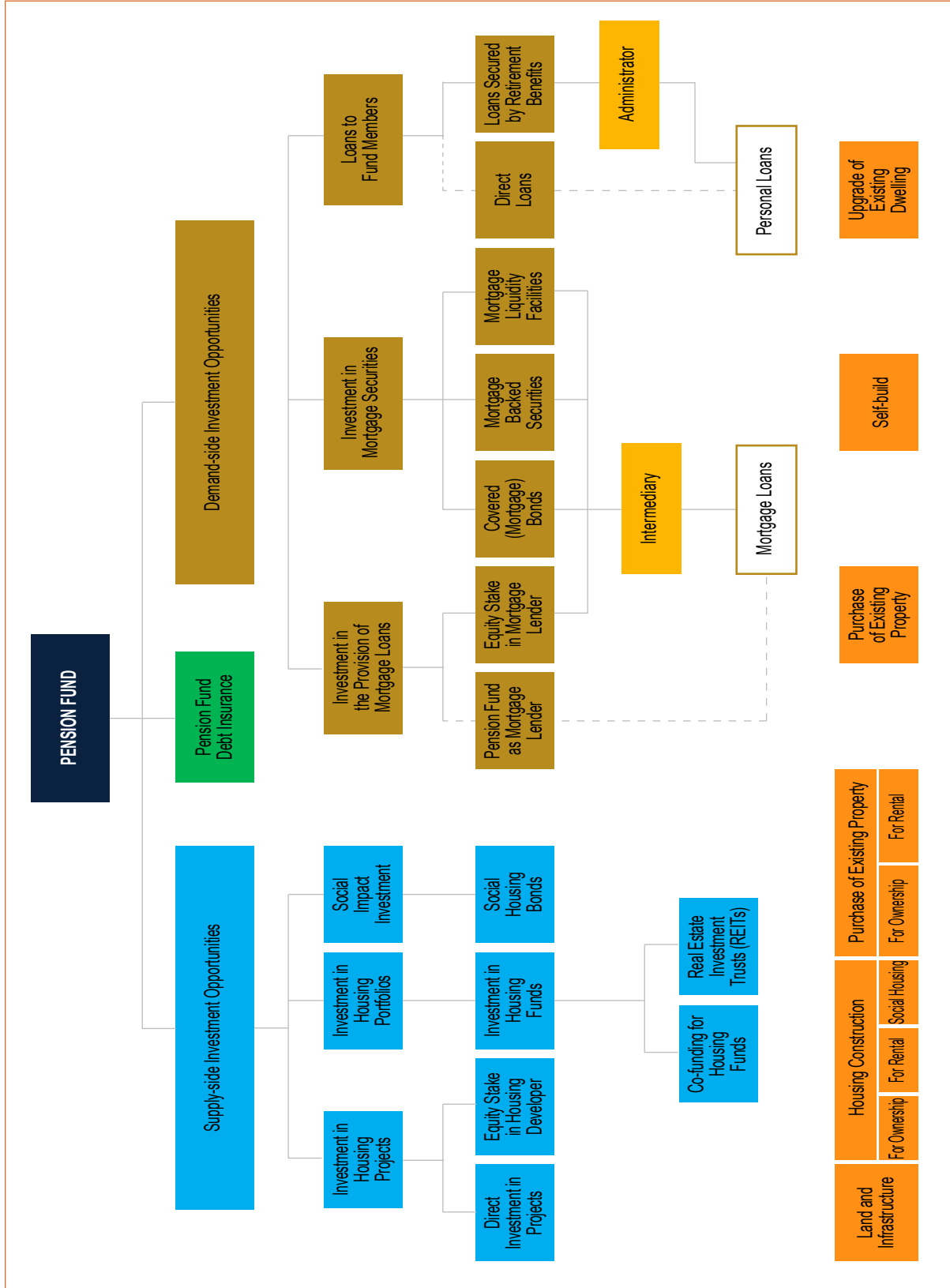
side investment opportunities, pension fund financing could boost the size and reach of mortgage markets.

Supply-side Investment Opportunities

Along the housing value chain, supply-side components refer to the purchase and preparation of suitable land for construction, the installation of infrastructure (electricity, water, sanitation, roads) and the construction of residential housing units ('top structures') either for ownership or rental purposes. These investment options for pension funds include:

- **Direct investments in housing projects** – where the pension fund assumes the role of property developer and plays an active and direct role in the development and construction of housing.
- **Equity investment in housing developer** – involves the pension fund investing in a direct equity stake in an existing housing development company to form a partnership. In this instance, the pension fund would generally only play the role of financier and at the level of providing strategic input, while leaving the day-to-day management and running of the development and construction of housing to their development partner.
- **Investment in housing funds** – relates to pension funds' investments into collective investment vehicles (or 'funds'). The two types of investment vehicles discussed in this report include:
 - Housing funds that are formed to pool investments from various investors. These pooled funds are then used to either take equity stakes, co-fund and/or provide risk-sharing for

Figure 3. Investment Opportunities for Pension Funds



Source: Sing, 2018.

projects that are proposed by rental housing entities or social housing institutions. There are myriad variations and combinations of equity, co-funding and/or risk-sharing that these project finance structures may take.

- Collective real estate investment trusts (or 'REITs) which own, operate and manage income-producing real estate. Some REITs engage in financing real estate. REITs are similar in structure to 'mutual funds', which allow investors to invest in a collection of equities. REITs can be publicly traded on major exchanges, public but not listed, or private.
- **Social Housing Bonds** – part of governments' (or development institutions') social impact investing (SII) initiatives, where bonds are issued to enable private investors to earn a return on investment provided that agreed social outcomes are achieved.

Demand-side Investment Opportunities

The demand-side of the housing value chain refers to the provision of mortgage or other forms of loan finance, either directly or indirectly, to the consumer. The end-user funding facilitates the purchase of existing houses, the building of new dwellings or the upgrading of existing units. These investment options for pension funds include:

- **Investment in the Provision of Mortgage Loans** to broaden access to fund members and/or consumers. This would involve taking an equity stake in mortgage lender. In this instance, pension funds elect to invest in third-party intermediaries who offer mortgage loans to their members and/or other consumers.
- **Investment in Mortgage Securities** where pension funds invest in bond market instruments.
 - Covered (Mortgage) Bonds are a type of mortgage security, where bonds are issued against a specific pool of residential mortgages, which are held on the issuer's balance sheet but ring-fenced as collateral.

- Mortgage Backed Securities are a type of mortgage security, where a pool of mortgages is sold to a 'special purpose vehicle', which, in turn, issues bonds to investors.
- Bonds issues by Mortgage Liquidity Facilities (MLFs), which act as intermediaries between primary mortgage lenders and bond markets.

This report examines each of the supply- and demand- side investment opportunities available to pension funds mentioned above, in terms of the possible advantages and disadvantages of investing in the instruments, and outlines, in broad terms, the environment that needs to prevail to facilitate investment. In addition, where available, relevant case studies are included to illustrate potential learning opportunities.

One related and important topic, which is not covered in this report, is using pension savings to provide or underwrite loans to fund members to purchase their own homes. This can be done either by allowing direct withdrawals from accumulated retirement savings; or providing direct loans to fund members secured by the members' accumulated retirement savings; or by pension funds securing (guaranteeing) members' loans from a third-party lender.

In many developing (and some developed) economies, savings accumulated by individuals in a pension fund are often the sole (or main) source of wealth accretion during their lifetimes. Therefore, pension funds may decide to allow their members access to these accumulated retirement savings for life's 'important' occasions which require relatively substantial amounts of funding, e.g. the purchase of a home, funding a child's education. In emerging markets, lower income individuals may be excluded from formal financial services and from accessing loan finance. This has led observers to suggest that, from a welfare point of view, workers should have the right to use their own pension savings in order to improve their current circumstances. Housing is a natural asset class that is compatible with the nature of the pension system. Indeed, buying a house while being an active worker may reduce vulnerability in later years.

However, the danger is that, if not properly administered and assessed, individuals can risk losing both their house and their pension. In many countries the challenge has been that pension

savings are overly depleted, so that people have ended up 'asset rich and income poor' at older age. These issues, including international examples, are covered in a separate, companion paper.

SUPPLY-SIDE INVESTMENT OPPORTUNITIES – DIRECT INVESTMENT IN HOUSING PROJECTS

The World Economic Forum (WEF)¹⁸ defines direct investment as “...investing in which the future asset owner makes the decision to take part in a specific investment.” Institutions have directly invested in illiquid assets, such as real estate, since the late 19th century. However, interest in direct investing has grown in the wake of the 2007/8 global financial crisis, as institutions have searched for ways to increase long-term returns and diversify their portfolios. Direct investment can be defined as investing in an asset in which the future asset owner decides to actively participate in a specific investment opportunity. The three main ways in which asset owners invest directly are:

- **Solo (independent) direct investing**, offers the most discretion but is the most demanding model, requiring significant commitment of time and resources. The investor identifies the investment, makes the investment decision and performs (or directly oversees) critical investment activities.
- **Partnership direct investing** with other asset owners or an asset manager, allows investors to share risks, tasks and responsibilities. Partners invest together in a specific deal (or series of deals) over time. This model allows investors to pursue bigger deals, offers a broader range of deal sourcing and can help to mitigate risk. (See Case Study 1)
- **Co-investing** with an asset manager alongside a traditional fund investment is the most popular and least demanding model. An institution invests in a fund run by an asset manager and then may have the opportunity to invest directly alongside the asset manager.¹⁹

The Pros and Cons of Direct Investment

Direct investing in housing projects can offer benefits to pension funds as it increases transparency within the context of the institution’s overall portfolio. Also, it makes it easier to assess the value, risk, and liquidity of a specific asset.²⁰ Direct investing became more attractive since the financial crisis, as it gave the investor more control over the assets and investment decisions were not shared by other

investors with different investment time horizons or liquidity profiles.

While the costs of running direct-investing programs can vary depending on the size, complexity and asset types included in the investment, running a sophisticated direct-investing team can be higher than using external managers. However, removing layers between the asset owner and the underlying asset, can serve to reduce the complexities and costs associated with additional intermediaries and can result in higher operational flexibility.²¹

Direct investing also provides asset owners with direct control over assets and helps to reduce principal-agent challenges, which occur when a principal employs an agent to perform a task, and is not able to directly supervise or measure the agent’s activities.²² It is important to ensure that the right incentives are provided so the agent can act in the principal’s best interests but aligning compensation schemes with long-term time horizons can be harder for asset owners investing in illiquid assets, like real estate. Removing an intermediary layer helps to overcome the principal-agent challenge but places significant additional responsibilities on those governing a pension fund, such as senior management, or the board, who would need to spend significant amounts of time understanding the direct investment program at the appropriate level of detail.²³

In many developing economies, direct investing may be the only option available to pension funds as capital markets and financial intermediaries are

limited in scope and experience. However, direct investing has some challenges. The small size of many pension funds and low liquidity can prevent them from participating in direct investment. Direct investment in real estate – including residential housing - requires sizeable resources that allow for building, acquiring, managing and disposing of assets.²⁴ Direct investments are also not suitable investments for funds with high liquidity needs.

In addition, when pension funds have invested directly in housing projects, the experience has not always been successful, particularly in small markets and when investors do not have sufficient knowledge of the real estate market.²⁵ They normally lack the market knowledge, experience and scale to manage such projects, and may be ‘encouraged’ or persuaded to invest for developmental or social reasons, without due regard for economic/financial returns. Stringent governance checks are also required to prevent the misuse or embezzlement of funds.²⁶

In the aftermath of the global financial crisis, volatile and uncertain returns from traditional investments encouraged investors to increase allocations to illiquid assets. Indeed, the potential for improved returns, greater control and increased value for money have led many investors to explore the extent to which they could make these investments directly.²⁷

Preconditions for Successful Direct Investment

- Institutions need to ensure that the size of their institution can afford the cost of staffing a direct investments team and that their governance structure is sufficiently robust to manage the downside risks of direct investing. Furthermore, the institutions’ strategic goals and its comparative advantage must be aligned with the potential direct investment.
- Institutions should have the structure, cultural flexibility and swift decision-making protocols needed to support the investment.

- Institutions require the correct investment processes, staffing capacity and capabilities, risk management models and back-office infrastructure to provide appropriate oversight.
- Institutions should cultivate a deep expertise and insight into the asset class within a specific geographic location.
- Institutions must be prepared to be publicly accountable for each investment decision and its relationship with their broader activities, and to be able to manage any reputational risks.
- Institutions must ensure that ownership, governance and decision-making mandates match investors’ asset-management, liquidity and exit strategies.
- Deals need to be structured to minimize cross-border and inter-company tax liabilities.
- The regulatory environment associated with the direct investment must be reliable, transparent and attractive enough to permit investment.
- Policymakers must be willing to permit direct investment. Large-scale deals involving assets that are perceived as strategic may require multiple layers of approvals to enable execution.
- Under normal circumstance, investors are concerned with and have to take a view on the long-term liquidity of assets and their exit strategies. This challenge is magnified in the case of illiquid asset classes. Therefore, developments to standardize and package emerging alternatives such as infrastructure debt, in order to create a liquid market, make a material difference to enhance assets’ attractiveness.²⁸
- Direct investment exposes pension funds to the cyclical nature of real estate markets. The quality of market infrastructure – including reliable information on price/rents, professionalism of real estate intermediaries (brokers, appraisers, property managers etc) – is therefore a key factor for success.

Equity Investment in a Housing Developer

Pension funds taking a direct equity stake in a housing developer represents a sub-set of a direct investment model. However, it is somewhat of an arm's-length transaction because the pension fund (depending on the size of its equity stake) can choose to distance itself from the daily management and operational activities of the housing developer.

Pros and Cons of an Equity Investment in a Housing Developer

Pension funds would be placing significant reliance on the strategic and operational decisions of the housing developer to run a successful business, and on the developer's knowledge of the industry and experience in the sector. The pension fund thus mainly assumes 'normal' equity risk, placing reliance on the caliber of the company's board and management team.

Case Study 1. Direct Investment – How Partnerships Unlock Emerging Markets

Caisse de dépôt et placement du Québec ('Caisse') is an institutional investor that manages several public and para-public pension plans and insurance programs; and is the second largest pension fund in Canada.

Caisse's real estate subsidiary, Ivanhoé Cambridge, has been looking to emerging markets as it seeks opportunities outside its traditional markets. To manage risks in emerging markets, Ivanhoé Cambridge regularly partners with local operating companies with a strong track record and with in-depth knowledge of the region.

In 2006, Ivanhoé Cambridge partnered with the Carvalho family in Brazil. The joint venture invested US\$ 1.5 billion in retail real estate, owning and managing 16 shopping centers and managing five additional shopping centers on behalf of third parties.

Ivanhoé Cambridge built on this partnership model in 2013 to partner with TPG in Prague and invested US\$ 1 billion in supply-chain warehouses servicing Central and Eastern Europe. This was followed by additional investments in Italy, Poland, Romania and the Czech Republic to double the company's assets in less than a year.

In 2014, Ivanhoé Cambridge partnered with a US-based company to develop mixed-used urban communities in Mexico, initially investing over US\$ 100 million.

Ivanhoé Cambridge attributes its success in direct investment in emerging markets to its partnership approach.¹

Following its initial foray into the commercial real estate sector, Ivanhoé Cambridge has significantly increased its investments in residential properties. As at 31 December 2017, the group's investments in residential real estate constitutes 16.5 % of its overall portfolio. The portfolio includes 84 multi-residential properties in the United States and United Kingdom. Ivanhoé Cambridge is also currently involved in the development and/or refurbishment of 2,336 housing units in the United States and Canada to the value of US\$ 267 million.

Caisse has also branched out in to the real estate funding market, providing finance for commercial real estate mortgages, as well as syndicated loan finance for residential mortgage bond portfolios. Through its subsidiary, Otéra, which has US\$ 9.2 billion under investment, the group has invested US\$ 1.35 billion (or 14.5% of its investment portfolio) in multi-residential mortgage bonds.²

Notes:

¹ Information correct as of 30 June 2014 (WEF, 2014)

² Information obtained from the Caisse, Ivanhoé Cambridge and Otéra websites. Available online at:

<https://www.cdpq.com/en/investments/real-estate>

<http://www.ivanhoecambridge.com/en/multiresidential-buildings/projects>

<https://www.oteracapital.com/en/about-us/activities>

Unless the pension fund acquires a majority stake in the company, it will have little to no control over the company's business operations. (See Case Study 2)

Preconditions for a Successful Equity Investment in a Housing Developer

- Swift and transparent flow of relevant information.
- Liquid and mature stock markets (for listed housing developers) to enable market-related pricing and valuations, and trading ability.
- Strong governance and regulatory environment.
- A relatively large number of mature, experienced and large housing development companies to achieve economies of scale and to facilitate competitive market conditions.
- Vibrant and sophisticated banking sector that readily provides consumer mortgage finance.

Case Study 2. Equity Investment in a Housing Developer – When Things Do Not Go According To Plan

Housing Investment Fund South Africa (HIFSA)

The Old Mutual group is an international investment, savings, insurance and banking group, which was established in 1845 in South Africa. The group has more than 19 million customers with US\$ 276 billion of assets under management as at 30 June 2017¹. It is dual-listed on the London Stock Exchange and Johannesburg Stock Exchange; and is included in the FTSE 100 index.

The group's Alternative Investments capability includes the Housing Investment Fund South Africa (HIFSA) in its portfolio. HIFSA is an impact investment fund, i.e. investments that provide investors with commercial returns while delivering positive social and developmental impacts on scale. HIFSA invests in assets/areas where gaps or backlogs in social infrastructure have not been adequately addressed, with a primary focus on developing affordable housing and providing access to quality education. The knock-on benefits of these initiatives are tangible economic development and job creation. As at March 2016, HIFSA managed in excess of ZAR 9 billion and originated approved deals of ZAR 15.6 billion.²

RBA Holdings

As part of its stock exchange listing prospectus in 2007, RBA Holdings noted that "...it was established in 1997 and had grown to become one of the leading suppliers of fully (mortgaged) quality homes on a turnkey basis to the affordable housing market in (South Africa)...(having) built more than 5,000 homes since its establishment...with the capacity to deliver about 1,200 homes per annum. This capacity can be increased to deliver in excess of 2,000 homes per annum."³

In 2014, RBA entered into an agreement with HIFSA for a loan of ZAR 55 million. HIFSA subscribed for 550 million RBA shares at 10 cents each as part of an equity transaction.

By 2016, HIFSA had put RBA into business rescue reportedly as a result of injudicious management of their property portfolio and poor cash flow management. In 2017, RBA's main operating company and construction arm were declared insolvent and liquidated.⁴

This case study is an illustrative example of how, notwithstanding experienced and professional due diligence undertaken by the investor with an in-depth knowledge of the housing sector, inherent risks lie with the full reliance that must be placed on the strategic, functional and operational expertise and diligence of the company's management team.

Notes:

¹ Information from Old Mutual Investment Group website. Available online at <http://ww2.oldmutual.co.za/old-mutual-investment-group/about-us/assets-under-management>

² Old Mutual Alternative Investments. 2016. Housing Impact Fund South Africa (HIFSA). Old Mutual Investment Group, Fund Fact Sheet, March 2016. Available online at <http://ww2.oldmutual.co.za/docs/default-source/old-mutual-south-africa/omig/omig-fact-sheets/alternative-investments/hifsafactsheet.pdf?sfvrsn=10>

³ RBA Holdings Limited – stock exchange listing prospectus, 5 September 2007. Available online at https://www.rbaholdings.co.za/downloads/RBAHoldings_prospectus2007.pdf

⁴ Cokayne, R. 2017. RBA placed in final liquidation. Business Report, 23 March 2017. Available online at <https://www.iol.co.za/business-report/companies/rba-placed-in-final-liquidation-8303649>



SUPPLY-SIDE INVESTMENT OPPORTUNITIES – INVESTMENT IN HOUSING PORTFOLIOS

Rather than directly investing in individual housing projects or purchasing an equity stake in a company, pension funds can diversify their investments by investing in housing funds. This approach allows the for pooling of funds in order to:

- Provide funding to qualifying developers to upgrade or construct housing for ownership, rental or for social housing – **co-funding for housing funds**.
- Invest in a pool of assets that will, in turn, be income generating – collective real estate funds. These **collective real estate funds** can be structured as public listed, public non-listed or private funds.

Co-funding for Housing Funds

Money for the co-funding of housing funds is often initially (partially or wholly) funded by the public sector (government), who may then invite the private sector to provide funding to match, or top up, the housing fund with additional funding. In addition, the objective of the funding is generally for developmental housing projects (see Case Studies 3) or for social housing (see Case Study 4). For the private sector, and thus participating pension funds, providing co-funding would fall within its impact investing, community development or social responsibility mandate.

Pros and Cons of Co-funding for Housing Funds

The upside of co-funding for pension funds is that in most instances the responsibility for sourcing appropriate housing development opportunities generally falls to the housing fund itself. The housing fund would not only be responsible for deal origination but also for project assessment, risk management and controls, and investment administration. In addition, for some housing funds, the state may offer some form of risk-sharing

guarantee, which could substantially reduce the project risk to the pension fund.

Preconditions for Successful Co-funding for Housing Funds

- A clear strategic mandate and governance framework for the housing fund must be in place.
- All parties involved must have a clear understanding of each parties' roles and responsibilities.
- If the objectives of the housing fund are to promote developmental- or socially- driven projects, then there probably is a need to include some form of risk mitigation and/or incentives to attract funding.
- The housing fund must have the capacity, capabilities and resources to undertake the deal origination, project assessment, risk management and administrative functions.

Investment in Real Estate Investment Trusts (REITs)

Collective real estate investment trusts (or 'REITs') are a particular type of real estate fund that owns, operates and manages income-producing real estate. REITs are similar in structure to 'mutual funds', which allow investors to invest in a collection of equities. REITs can be publicly traded on major exchanges, public but not listed, or private. REITs which are listed on a stock exchange are a more liquid investment option. Housing REITs are a specific type of REIT which invest in underlying housing projects.

Case Study 3. Gauteng Partnership Fund

The province of Gauteng in South Africa is the country's largest contributor (over 30 percent) to national GDP and generates about 10 percent of the entire African continent's GDP. The Gauteng Partnership Fund (GPF) is a state-owned institution established in 2002 to address the housing needs of the province. GPF plays a pivotal role in bringing together the private, non-profit and public sectors to fund and develop social and affordable housing, within a human settlements framework.

GPF's mandate is to:

- Raise funding and facilitate investment by using public sector funds to leverage additional finance
- Facilitate equitable risk sharing through project finance models
- Develop project funding packages that will attract external funders
- Implement, coordinate and oversee projects on behalf of the investment pool
- Take custodianship of state-owned land and to unlock value of the land in order to create sustainable human settlements
- Turnkey planning and execution of strategic projects

GPF has set up several housing funds that target specific housing needs:

- Rental housing fund, which enhances the viability of affordable housing by rental developers/entrepreneurs
- Entrepreneur empowerment property fund program – an incubator program to designed to enable previously disadvantaged individuals to enter the affordable, rental property market
- Social housing fund, which enhances the viability of affordable, rental housing projects initiated by Social Housing Institutions
- Student housing fund, which enhances the projects developing student accommodation by rental developers/entrepreneurs
- Funding of mixed income housing developments, which develops optimal funding structures and raises funding

GPF has secured senior debt and concessionary funding from the Public Investment Corporation (the investment arm of the state employees' pension fund) and Futuregrowth (part of the Old Mutual Investment Group).

GPF uses a range of funding models (private equity/private fund, bonds, REITs and SPAC²) and variety of equity and debt (long- and short- term) instruments.

As at March 2016, GPF had committed ZAR 1.7 billion of its own funds and had leveraged a further ZAR 3 billion of additional public and private sector funding to develop social and rental housing. This funding has led to the construction of 25,000 housing units.

Notes:

¹ Information from the Gauteng Partnership Fund presentation to the Gauteng Infrastructure Funding Summit held on 4 May 2017. Available online at http://www.gpf.org.za/Portals/0/Docs/2017%20events/GPF-GIFS-Presentation_Final.pdf?ver=2017-05-05-124804-667

² A Special Purpose Acquisition Company (SPAC) is a publicly trade shell that has a special mandate to acquire or merge with other companies or assets. At the time of listing, the company must have no operations of its own. The SPAC must be led by an experienced management team with prior M&A and/or operating experience. The SPAC has 24 months to conclude the transaction. SPACs are in many ways an alternative to raising capital for acquisitions.

Case Study 4. Social Housing as an Investment Asset Class for Pension Funds¹ – Opportunities in the UK

Social housing in the UK, i.e. affordable accommodation provided to people on low incomes, is provided mainly by registered social landlords (RSLs or “housing associations”) and local councils. Around 1,717 of these housing associations² offer approximately 4 million homes³. The Government supports social housing through a system of grants and housing allowances, and RSLs must comply with the Homes and Communities Agency (HCA) rules and with standards of corporate governance as set out in the Companies Act.

A Conducive Environment

Historically, medium-sized and smaller housing associations in the UK approached banks for their borrowing requirements (usually for 30- and 50- year term finance) or issued bonds via The Housing Finance Corporation (THFC). Only the largest associations could borrow directly in public bond markets. However, following the 2007/2008 global financial crisis and the deployment of Basel 3 capital requirements, banks had become increasingly reluctant to hold long term illiquid assets on their balance sheets and investor appetite had also dwindled as clients sought refuge in (risk-free) AAA sovereign bonds. At the same time, the UK government’s austerity measures led to a cut of almost 50% in grants to the sector. In 2013, it was estimated that housing associations would need to borrow around £15 billion to fund planned regeneration and maintenance projects to 2015.

Ways for Pension Funds to Access Social Housing Investments

- **Purchase inflation-linked social housing bonds** – However, these bonds are not readily bought and sold. Due to the lack of liquidity, asset managers launched social housing fund vehicles for pension schemes to invest in which provided exposure to a portfolio of different social housing bonds diversified across different RSLs, in different parts of the UK.
- **Development partnerships** – These represent equity investments in social housing and are usually used by housing associations that have reached their maximum level of balance sheet leverage. This way of access carries higher risks (in particular the risks associated with getting involved in the development stages of a building project) but also offers higher expected returns.
- **Sale and leaseback agreements** – This consists of buying a number of existing properties and leasing them back to the housing association for a period of 30 to 50 years. Depending on the agreement, the property ownership may revert back to the association, in which case the pension scheme investor would receive the amortization of the capital value (i.e. income stream) over the term of the lease

Pros and Cons of Social Housing as an Investment Asset Class

- The most attractive features of this asset class is its liability matching properties, combined with its higher yields relative to the currently very low government bond rates. Compared to inflation-linked bonds, in 2013, social housing bonds could potentially return 1.5% to 2.5% extra return for investors. Even higher returns could be enjoyed if housing associations’ debt is structured around development partnerships and sale and leaseback agreements – although these come with additional risk.
- In addition, this asset class also provides inflation-linked, regular cash flows. In the UK, since 2005, the government set rent increases for housing associations at RPI⁴ plus 0.5%, linking rental streams to inflation and making investments in social housing comparable to long-dated, inflation-linked assets.
- From a risk perspective, investing in social housing represents a relatively high level of credit worthiness. In 2013, Moody’s publicly rate 26 housing associations in the UK, ranging between Aa2 to A1 suggesting that in the ‘unlikely event of a housing association facing acute liquidity stress, the UK government will very likely provide extraordinary

support'. The rating also reflects the fact that the social housing stock itself serves as collateral in the event of a default, as the houses would be sold and the proceeds would go to the creditors. Furthermore, the majority of the associations' rental income comes from local government with very robust rent collection rates.

- Social housing investments qualify as socially responsible (or impact) investing.
- Changes to welfare policies or greater government austerity measures could increase the risk of non-payment of rents. This risk can be mitigated with the introduction of mechanisms to manage arrears.
- The risk/return profile of the various social housing investments is influenced, to different degrees, by the type of housing being built, the quantum of development risk assumed by the investor, the size of the project and the location of the development.
- Poor liquidity of the investment vehicles means that investments in social housing are better suited to 'buy to hold' investors.

Notes:

¹ Pensions and Lifetime Savings Association. 2013. Investment Insight: Social Housing. NAPF, March 2013.

² As at 1 April 2018. - UK Government. 2018. Current registered providers of social housing – List of registered providers as at 1 April 2018. Available online at <https://www.gov.uk/government/publications/current-registered-providers-of-social-housing>

³ In 2015, the number of social housing units provided by local authorities numbered 1.643 million and those provided by registered housing associations numbered 2.387 million dwellings.

UK National Audit Office. 2017. Housing in England: Overview. Department for Communities and Local Government, HC917, Session 2016/17, 19 January 2017. Available online at <https://www.nao.org.uk/wp-content/uploads/2017/01/Housing-in-England-overview.pdf>

⁴ In the UK, the Retail Price Index (RPI) is a measure of inflation, which includes the cost of housing, calculated based on an arithmetic mean [whereas the Consumer Price Index (CPI) excludes the cost of housing and is calculated based on a geometric mean].

A REIT is a corporation or a business trust that combines the capital of many investors to acquire (or provide financing for) various real estate assets. As such, a REIT is designed to aggregate funding from diverse sources and at the same time, offers opportunities for a wide range of investors from international, institutional and even small households to invest in a tax-efficient investment vehicle.²⁹ Also, these investments allow investors to pool risk and tend to be spread geographically to further reduce risk.³⁰

REITs can invest in both commercial and residential real estate. For the affordable housing sector, residential REITs, to the extent that they are directed to affordable housing, can successfully channel investment into an underserved market.

The different types of REITs include:

- **Mortgage REITs** – deal in investment and ownership of property mortgages. Mortgage REITs raise equity by issuing shares to investors

and raise additional funds from financial institutions. This funding is then used to originate mortgages to property buyers, to purchase mortgages that were originated by banks and then sold on the secondary mortgage market, and/or to purchase mortgage-backed securities (MBS). Their revenues are generated primarily by the interest income that they earn on the mortgage loans. REITs use the interest income to service their debt finance costs and to pay dividends to their investors. Fewer than 10 percent of REITs are mortgage REITs. These REITs make loans that are secured by real estate but they do not generally own or operate real estate³¹ and. ³²

- **Equity REITs** – generate income through the growth of equity held in a property, through the collection of rental income and/or from sales of long-term properties holdings. By issuing shares to investors and/or applying for loans from financial institutions, REITs raise financing towards purchasing existing properties and/or developing

new properties. These acquired properties form the REIT's portfolio of income-generating properties. The REIT receives rental income from tenants and pays the majority of the resulting profit to its shareholders as dividends.³² The majority of REITs are in the form of equity REITs.

- **Hybrid REITs** – effectively combine equity REITs and mortgage REITs resulting in the REIT owning properties and mortgage loans. By diversifying across both types of investments, hybrid REITs intend to leverage off the benefits of both types of REITs, with less risk than if it invested in one or the other.

Pros and Cons of REITs

Equity REITs are generally safer than mortgage REITs, as investments are made in properties, which are leased to high-quality tenants in order to generate a respectable and growing income stream. In addition, since real estate values tend to increase over time, the intrinsic value of these companies can increase as well. The combination of property appreciation and dividends can produce impressive total returns with relatively low risk.

Risks are, however, not entirely mitigated as it is possible for property values to fall, for vacancies to increase, or for interest rates to spike and make borrowing money more expensive. Nevertheless, REITs typically have relatively low volatility and consistent income.

The business model for mortgage REITs to generate income is to borrow money at low short-term rates and investing in longer-dated mortgages that pay higher interest rates. In order to achieve the requisite spreads, mortgage REITs tend to be highly leveraged. The main risk to mortgage REITs is interest rate fluctuations.

Both equity and mortgage REITs receive taxation benefits in most countries,³³ effectively removing double taxation and increasing profits available for distribution as dividends.³⁴ In order to receive the tax benefits, most REITs must comply with regulations, which were first introduced by U.S. markets, and which most global regulations have followed:

- 75% of the REITs' assets and income must be derived from real estate, and;
- A minimum of 90% of the taxable income must be paid out as dividends.

In this sense, REITs are very attractive to pension funds because they are exempted from corporate tax and also share most of the profits as dividends. In addition, unlike property development projects which have high perceived risk due to the illiquid nature of property investment, REITs have several other attractive features for investors.³⁵

- **Diversification** – Through pooled capital funds, REITs are able to diversify their property portfolio and allow investors to a hold balanced, diversified portfolio.
- **Liquidity** – Listed REITs allow for quick access to, and exit from, various investments via the share trading platform of a listed stock exchange. This, in turn, results in a more efficient allocation of capital resources.
- **Regulation and good governance** – With respect to publicly traded REITs, financial statements and other relevant information must be made available to investors and lenders, and must comply with strict reporting requirements and regulations, which enhances transparency and good governance.

Preconditions for Successful REITs

In order to develop successfully, an enabling environment for REITs include:

- Institutional strength and property markets – robust property rights, accurate records of title deeds.
- A certain level of market development and maturity, including accurate and reliable property valuations and property market transparency.
- Legislative and regulatory context, such as appropriate rental market legislation (i.e. legislation that protects both tenants and landlords) and appropriate tax legislation and financial regulations.

- A high demand environment, characterized by a flourishing private rental sector.
 - The presence of supply-side factors, such as large-scale landlords, property managers etc.
 - A well-established rental market with depth of supply and demand.
 - Existing property markets must have reached a certain scale and maturity, as REITs require critical mass to attract investor interest.
 - Minimum diversification in underlying REIT assets (which need to be fully constructed and leased so the REIT does not become a construction loan vehicle for developers – highly risky lending mostly left to banks). Diversification by sector should be – mostly left to banks (typically starting with commercial property) and location is also advised.
 - Incentives - tax incentives for REITs, as well as tax incentives for shareholders³⁶
- One of the general lessons about REITs, is that the conditions for a vibrant formal rental market are usually missing in most emerging markets. This relates to other reforms (including landlord/tenant legal relationships, lack of property managers, hostile taxation regime for landlords etc.). The lack of these factors can depress net rental yields for formal rental investors (net of taxes, net of risks) which prevent REITs markets from emerging and expanding.

Case Study 5. REITs in Africa

The Centre for Affordable Housing Finance in Africa (CAHF) undertook a comprehensive study of seven African REIT markets – Ghana, Kenya, Morocco, Nigeria, Rwanda, South Africa, Tanzania - in 2017. As REIT markets were still in the early stages of development, REITs have been only marginally successful in many of African countries. The varying performance of REIT markets across the continent appears to be contextually driven, suggesting that in addition to exploring the potential for affordable housing REITs in Africa, it is essential to understand the contextual factors that support or undermine REIT markets. (See Figure 7)

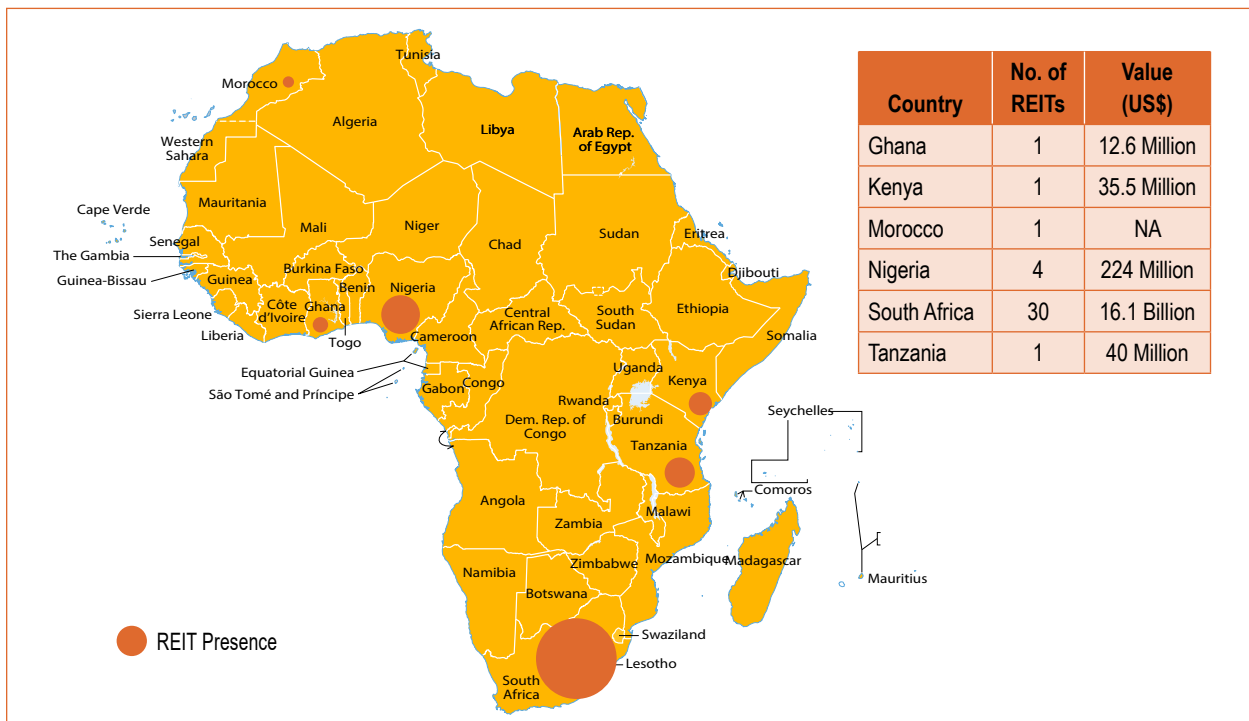
- **Housing Finance Company (HFC) REIT – Ghana** – The REIT was created to boost housing supply as HFC's mortgage lending business found that there were not enough houses to finance. It was also a way to mobilize long-term funds that was cheaper than traditional construction finance, thus lowering the cost of residential housing construction overall. Ninety-five percent of investors were local retail investors (who also use the REIT as an avenue to save for future home purchases) and five percent are local institutional investors.
- **Union Homes Hybrid REIT – Nigeria** – The REIT was established to provide retail and pension fund investors with an opportunity to invest in a diversified portfolio of real estate assets, i.e. in properties and mortgages. The REIT does not prioritize developmental projects; 69% of its portfolio was invested in luxury apartments to maximize regular rentals and capital growth. Nevertheless, the REIT suffered a negative net performance in 2014, as two of the REIT's key properties were vacant due to renovations and as a result of a major asset revaluation. Regulatory ceilings on investments in real estate were expected to continue to place limitations on REITs' performance.
- **Watumishi Housing Company (WHC) REIT – Tanzania** – The REIT was structured to enable pension funds (and other institutional investors) who had reached their real estate investment ceilings a further opportunity to invest. The majority of shareholders in the REIT are pension funds. The REIT has prioritized the construction of low-middle income homes for ownership or rental by Tanzania's public officials. In 2017, pension fund members were added to eligible purchasers. The REIT had negotiated preferential mortgage finance rates with the commercial banks. It is not known whether the REIT has provided funding for mortgages or provided underlying guarantees in order to secure these lower rates. WHC REIT has thus reduced the cost of housing units and secured cheaper mortgage finance.
- **Indluplace – South Africa** – Was S.A.'s first focused residential REIT, prioritizing ready-built, high-yield rental properties. It is noted, however, that REITs such as Indluplace generated high, short-run returns but may experience diminishing returns in the long-term if they shy away from development and construction.

- **Transcend REIT – South Africa** – This REIT targets affordable and middle-income rental properties. Their portfolio is 2,500 units with a projected dividend yield of 8.5%.
- REITs need to determine if the demand is in affordable housing or in commercial property. For example, South Africa has an oversupply of office, retail and industrial property rentals, whereas there is an inadequate attention to affordable housing. On the other hand, Tanzania’s commercial REIT market is perceived to have greater potential.
- African residential REITs show mixed results in their returns (e.g. Nigeria’s Union Homes Hybrid REIT failed to distribute dividends in 2014 due to negative performance; Ghana’s HFC REIT delivered higher returns compared to local benchmarks and to government notes; South Africa’s Indluplace generated average returns of 9.5 percent).
- Instability in the economic conditions and the concomitant increase the cost of capital can adversely affect the demand for REITs.
- There is a demand for more liquidity but REITs need long-term and patient capital (e.g. pension funds)
- Regulatory frameworks and tax incentives need to be in place, particularly for affordable housing REITs, where risks (management and economic) are higher
- The limited stock of housing (especially of affordable housing) places constraints on the future development of the REIT market, e.g. Tanzania.
- Low public awareness about REITs curtails their ability to attract investors.

Notes:

¹ Kruger-Levy, N. & Bertoldi, A., 2017. Residential REITs and their Potential to Increase Investment In and Access To Affordable Housing in Africa – Report 2: Case Studies of African REITs. CAHF, February 2017. Available online at http://housingfinanceafrica.org/app/uploads/RGSA_CAHF_-Study-Residential-Reits-in-Africa_Case-study-Report-2017.pdf

Figure 4. REITs Across Africa



Source: CAHF, 2017



SUPPLY-SIDE INVESTMENT OPPORTUNITIES – INVESTMENT IN SOCIAL HOUSING BONDS

There has been a growing phenomenon amongst policymakers of using social impact investing (SII) to assist in addressing housing shortages for low income households. These initiatives have ranged from tax incentives,³⁷ social enterprises and social housing bonds.

Social impact investing involves three core characteristics:

- A purposeful intention to make a specific social impact through the investment and to pursue a specific social outcome.
- The intention to derive both a social and a financial return on the investment.
- To achieve outcomes which are measurable from both a social and financial perspective.

Social impact investing can be used to both construct housing and maintaining affordable housing stock, as well as delivering services necessary to support vulnerable households to maintain their tenancy. To achieve these objectives, there are three common types of investments:

- **Schemes that promote direct investment** in affordable housing construction and which are often linked to tax incentives earned by discounting rentals.
- **Social enterprises**,³⁸ i.e. not-for-profit enterprises which are led by an economic, social or environmental mission which fund a substantial proportion of their mission through trading activities and reinvest a large proportion of their profits toward the fulfilment of their mission.
- **Social impact bonds** are a type of government bond through which private investors earn a return on investment provided that agreed social outcomes are delivered. Whereas property funds and community housing providers (CHPs) are primarily focused around affordable housing

provision, social impact bonds tend to centre around providing support services which assist households to maintain their occupancy. Essentially, social impact bonds work similarly to a regular government bond, except for the fact that its return on investment varies according to the social outcomes achieved. (See Case Study 6).

Pros and Cons of Investing in Social Housing Bonds

- One effect of this type of arrangement is to transfer the ‘risk’ in respect of outcomes being achieved from taxpayers to the private sector. Under a normal government funded housing support program, taxpayers bear the entire burden for programs or initiatives which are not successful. Under a social bond, that risk is largely transferred to private sector investors.
- Social housing bonds provide government with long-term funding. From an investor perspective, there is liability matching.
- Due to their bespoke nature, social housing bonds are relatively complicated to set up.
- Social housing bonds enable governments to share the burden for delivering on developmental objectives by creating a partnership with the private sector.
- Depending on the structure of the social housing bond, provision can also be made to also supply funds for support services to assist vulnerable households to maintain their tenancy.

Preconditions for Investing in Social Housing Bonds

- More often than not, there is a finance ‘gap’ which exists between what might have been earned through rental payments to vulnerable tenants and the costs that are incurred in providing housing.

To overcome this:

- Private sector investors will need to be persuaded to accept a lower than market return in exchange for the knowledge that their investment will achieve a socially beneficial outcome, (which may not square with the fiduciary duty of most pension funds) and/or;

- Governments may have to bridge the finance ‘gap’.
- Risk mitigants have to be put in place to ensure that beneficiaries are not impacted in instances where the investment does not deliver upon its full anticipated return from a financial perspective.
- There must be a flexible approach to measurement metrics and expected outcomes, as there may be a need to adjust these measures once participants have gained experience when the project goes ‘live’.

It must always be borne in mind that social impact investing represents just one of several possible solutions and is not, in itself, an ultimate panacea to the affordable housing shortage.³⁹

Case Study 6. Social Housing Bonds – The Australian Experience¹

Social Impact Bond (SIB) Processes Led by State Governments

By July 2017, eight social impact bond (SIB) contracts had been concluded in Australia, all of which were initiated by state governments. Each of these governments pursued their SIB contracts by releasing an open request for proposals to select the eventual service provider, who would often partner with financial intermediaries or other parties. The parties then enter what is referred to as a ‘joint development phase’ where the feasibility and details of contracts are established. Large not-for-profits in Australia are much larger and deliver across a wider range of services than in the UK, so they have the capacity and experience to negotiate directly with government, rather than through an intermediary. The joint development phases have resulted in outcomes-based contracts between the state government in question and their chosen not-for-profit service providers. Not all projects that have entered this joint development phase have exited, with some projects deemed unfeasible. It is worth noting that the first two SIBs made changes to their payment metrics after observing them in practice.

Investors

The majority of SIBs raised funds on the open market, resulting in a greater number and range of investors than SIBs in other parts of the world. Investors include trusts, foundations, institutions (including superannuation/pension funds), charities and high net worth individuals². The minimum investment for all has been AU\$50,000. All SIBs have been oversubscribed.

Attracting Investment

As the SIB process is government-initiated, there is a perception that SIBs save governments a lot of money and that governments should thus be actively enticing providers and investors to participate by sharing some of those savings. As the contract is signed before investors are sought, there is a need to make the SIB attractive to investors. If investors do not sign up, the new service will not be delivered and years of work is potentially wasted.

- Most Australian SIBs include a ‘standing charge’, where government pays a fixed amount (which can be up to 50% of contract value) regardless of outcome. In many other SIBs around the world, government payments are only made in response to outcome achievements. This was used in the Benevolent Society Social Benefit Bond to create a ‘guarantee of principal’ for one tranche of investors.

- There are exit or termination points for investors, so that the program can be terminated if early results are not good, and the unspent proportion of the investment returned.
- Rates of return to investors are capped much higher than overseas – the maximum rate of return for one tranche of the Benevolent Society SIB is 30% IRR, in comparison to Peterborough's 13% and Belgium's 6%.
- Metrics were created that limited risk for investors. For example, the Newpin Social Benefit Bond funds separate programs for mothers and fathers but as the fathers' program had less evidence, it was not included in the payment metric for investors. The fathers' program was included, however, in the payment metric for the charity providing the services.
- The media has been used to promote SIBs as an investment opportunity, with coverage of each investment opportunity including the national financial newspaper, the Australian Financial Review.
- The Victoria government appointed two consortia to provide stable and affordable housing, case management and specialist support to young people leaving out-of-home care and to other groups experiencing chronic homelessness and harmful and other drug use.³

Notes:

¹ Tomkinson, E. 2017. Social impact bonds (SIBs) in Australia. Online blog available at <https://emmatomkinson.com/2017/07/18/aussie-sibs/>

² Individual investment is restricted to 'wholesale' investors, i.e. a finance professional or a 'sophisticated investor' i.e. one who has an income of over AU\$250,000 per annum for the last two years or assets in excess of AU\$2.5 million. An offer restricted to wholesale investors safeguards retail investors from buying products they do not sufficiently understand and is cheaper to issue.

³ Premier of Victoria, Australia. First Social Impact Bonds for Disadvantaged Victorians. Treasurer, 18 April 2017. Available online at <https://www.premier.vic.gov.au/first-social-impact-bonds-for-disadvantaged-victorians/>



SUMMARY – SUPPLY-SIDE INVESTMENT OPPORTUNITIES

While this section has attempted to theoretically categorize both potential investment opportunities and the available investment mechanisms, it is important to note that there are no clear delineations between the opportunities or the investment mechanisms. For example, investors can adopt a venture capital approach to make a direct investment in a construction project with a partner, use a venture capital approach to investing in a housing fund, or select a REIT that focuses on investing in emerging construction companies.⁴⁰ This phenomenon provides pension funds with the flexibility to adopt, and adapt, investment avenues and financing structures in the housing sector that best reflect the investment profile of their members.

Direct investment and investment in housing developers maybe the simplest route for pension fund managers to understand – being closest to their experience with real estate investments. However, it is not without risk. Housing development is highly cyclical, with even experienced banking lenders frequently having to write off such investments. Political or other types of nefarious interference in such investments is also, sadly, only too common.

Overall exposure to the real sector can sometimes be ‘hidden’ by pension funds, by taking stakes in developers when they reach their regulatory asset allocation limits to direct real estate. Such considerations need to be made carefully by pension fund trustees and managers,

and the regulators overseeing them, within the context of their overall portfolio.

REITs do provide pension funds with more diversified exposure within the instrument itself, but less diversification on a portfolio level as, being listed instruments, REITs generally move in line with equity markets. Their supposed liquidity may also be theoretical rather than real. Again, the success of these instruments is not widespread due to a lack of suitable supply making it challenging to achieve sufficient scale.

Social bonds are an increasingly popular option, but need to be structured in a way which can meet pension funds’ fiduciary duties.



DEMAND-SIDE INVESTMENT OPPORTUNITIES - INVESTMENT IN PROVISION OF MORTGAGE LOANS

Instead of investing on the supply-side of the housing value chain, pension funds could elect to facilitate housing finance to the consumer, through the provision of mortgage loans. There are different ways in which a pension fund can invest in the provision of mortgage loans to the consumer:⁴¹

- By taking an equity stake in a mortgage lender (the intermediary), who then offers mortgage loans to the end-user.
- By providing wholesale funding to an intermediary, who then provides mortgage loans to end-users.

Pension Funds Investing in Intermediaries Offering Mortgage Loans

Pension funds could elect to invest in intermediaries who offer mortgage loans to consumers. The form of the investment could take the form of:

- Either an equity stake in the entity that provides mortgage loans to consumers, or;
- To provide a wholesale funding line directly to the intermediary, who, in turn, on-lends the funds to the consumer.

Pension Fund Taking an Equity Stake in a Mortgage Originator

The structure of the equity investment in a mortgage originator generally involves the buying and holding of shares in anticipation of an income stream from dividends and participating in any capital gains. Typically, equity holders receive voting rights, meaning that they can vote on candidates for the board of directors to exercise their interests or an

alternative, usually employed by large private investors and pension funds, is to hold shares directly. (See Case Study 8)

Pros and Cons of Taking an Equity Stake in a Mortgage Originator

The upside and any potential downside risks of a pension fund electing to take an equity stake in a mortgage originator is the same as that of any equity investment. Depending on the size of the equity investment, and whether or not the shares are publicly listed or not, determines the level of strategic input or control the pension fund has in driving its affordable housing agenda.

Pension Fund Providing Wholesale Funding to an Intermediary

As an alternative to taking an equity stake in an intermediary, the pension fund could provide a wholesale loan to the intermediary, who would then on-lend the funds (in the form of mortgage loans or personal loans) to the consumer.⁴² The risk to the pension fund of adopting this approach is its reliance on the governance, management ability and business acumen of the intermediary. Typically, these funding arrangements are structured around a risk-sharing framework between the fund and the intermediary.

Case Study 7. New Dutch Approach to Mortgage Origination

Recently, more non-bank institutions have entered the market to provide mortgage loans and have attracted institutional investors, like pension funds, to provide finance.

The Netherlands is Europe's second largest mortgage market estimated at over €600 billion in 2015. Since the financial crisis, new mortgage originations and public RMBS securitizations across Europe had fallen due to tighter regulation and cheaper financing available through the European Central Bank.

Although the Netherlands experienced a decrease in mortgage originations during 2008–2013, originations have since increased to pre-crisis levels. However, fewer of the new originations flowed from traditional sources such as banks and insurance companies but rather from mortgage funds known as “regiepartijen”, which are originating nearly a quarter of new loans.

Regiepartijen are financed by equity from external counterparties such as pension funds, insurance companies and other financial institutions. The equity is used to originate new loans through broker networks. Essentially, regiepartijen allow institutional investors to originate mortgages through a fund. Because they offer a higher yield than Dutch government bonds, they have proven to be extremely attractive to investors. By mid-2015, the funds accounted for around 10 percent of Dutch mortgage origination.

The Netherlands is home to six or seven mortgage funds that are raising equity for new loan originations, one of the most well-known being Syntus Achmea, which is backed by an insurance company.

In the UK, London-based TwentyFour Asset Management launched a mortgage fund backed by equity from investors. The company's trust, UK Mortgage Ltd, acquires loan portfolios and plans to utilise equity to fund originations – just like the Dutch model.¹

Note:

¹ Pastras, G. 2016. The new Dutch approach to mortgage origination. Clayton Euro Risk, 10 March 2016. Available online at <https://iir.nl/blog/the-new-dutch-approach-to-mortgage-origination/>; AND Hale, T. Dutch lenders lose ground in battle for new mortgage market. Financial Times, 8 February 2016. Available online at <https://www.ft.com/content/006f0238-cc34-11e5-a8ef-ea66e967dd44>

DEMAND-SIDE INVESTMENT OPPORTUNITIES - INVESTMENT IN MORTGAGE SECURITIES

Pension and insurance institutions contribute to a rapidly growing pool of funds that constitute a key potential source of long-term housing finance. Mortgage-related securities are the instruments through which long-term funding in capital markets can be accessed and inherent risks can be managed. Mortgage-related securities include bonds, pass-throughs (PTs) and structured finance instruments.

Variations of mortgage security instruments discussed in this report include:

- Covered bonds
- Mortgage Backed Securities (MBS)
- Bonds issued by Mortgage Liquidity Facilities (MLFs)

Pros and Cons of Mortgage Securities

- Mortgage securities can increase the flow of funds to the housing sector. An increase supply of housing finance should reduce the cost of mortgage finance and increase access to mortgage finance.⁴³
- It allows for better allocation of risks inherent in housing.
- Mortgage securities allow markets to tap into pools of contractual savings.
- Institutional investors (pension and insurance funds) with long-term liabilities are better positioned to manage liquidity risk than short-funded depository institutions. Pension funds and life insurance companies have long-term liabilities and look for longer term assets to match their cash flow and investment requirements.
- Mortgage securities allow pension funds that are constrained by their portfolio size to participate in the housing market. However, mortgage securities can be complex and may not be an appropriate instrument for pension funds in emerging economies.
- A well-functioning mortgage securities market, frees up lenders from having to develop expensive distribution channels (e.g. retail bank branch network) to raise deposits to fund mortgage loans. Securitization, for example, enables thinly-capitalized lenders who specialize in mortgage origination and servicing to enter the market. Greater specialization could lead to operational efficiencies, cost savings and reduced spreads (and improved affordability).⁴⁴ That said, mortgage lending and securitization require faith in the long-term future of local capital markets, something that is missing in most emerging markets.⁴⁵ (See Case Study 8)
- Mortgage securities can also increase competition in primary markets by allowing non-bank financial institutions to compete with the banks.
- Mortgage pools offer different durations and different risk profiles, giving investors a wide choice to suit their investment preferences.
- Mortgage securities increase the liquidity of mortgages and thus reduce originators' risks and the required risk premium.
- For the broader economy, the development of capital markets facilitates financial deepening, fosters economic growth and improves stability in the financial system.

Case Study 8. SA Home Loans – Securitization as a Funding Tool¹

Securitization activities in South Africa have decreased over time, with the assets of securitization instruments traded on the JSE2 decreasing from ZAR 125.7 billion to ZAR 59 billion in the third quarter of 2016³.

SA Home Loans (“SAHL”) is a dedicated mortgage finance provider which was launched in South Africa in 1999, offering mortgage finance at 19.6% at a time when the prevailing prime lending rate was 23.5%. The company has continued to offer below-market mortgage interest rates through its securitized funding model, and in 2005 introduced a 20-year fixed interest rate mortgage loan (“Varifix”). SAHL is not a deposit-taking institution and as such, has to fund the mortgage loans via a securitization funding platform, where cash flow-producing assets (such as mortgage loans, car loans, etc.) are pooled and packaged as securities, which are then sold to institutional investors in the capital markets.

Initially, SAHL utilized short-term funding mechanisms (such as overdraft warehouse funding lines) to fund newly-originated mortgage loans. Once a sufficient pool of mortgage loans has been built up, large institutional investors (capital market participants), like pension funds, are approached, given details of the specific home loan pool (to enable them to assess the risk of the pool of home loans) and then offered residential mortgage backed securities (RMBS), which are secured by the specific, ring-fenced pool of loans in a securitized structure (legal entity). The securities offered to investors are generally between 3 to 5 years in duration. The proceeds from issuing securities to the investors are used to purchase the mortgage loans from short-term funding structures of the lender. In this way the funding for the mortgage loans gets converted from short-term funding to long-term funding. The securitization poses no risk to the borrower. It is the lender and the capital market funders who face the risk of the individual borrower defaulting on their mortgage loan and the full balance not being recovered.

In order to facilitate the use of securitization as a funding tool the mortgage bond over the property is registered in the name of “The South African Home Loans Guarantee Trust”, which in turn, guarantees the lender payment in respect of the mortgage loan agreement. All borrowers sign an indemnity which places the obligation for payment of the loan on the borrower and as security for the obligation, authorizes the Guarantee Trust to register a mortgage bond over the property. If a borrower defaults on their obligation, the property is foreclosed upon and the trust will realise the security (through sale of the property). The proceeds of the sale of the property will then flow to the lender.

Securitization in South Africa

In South Africa, the lender, being the securitized entity, which has acquired the mortgage loan assets, holds the primary risk in the securitization transaction, incurring a certain percentage of initial losses in the structure, which is usually sized at a level to allow for the securities notes issued to the market to have an investment grade rating. This rating is supported by substantial cash reserves which are injected into the securitized entity at the outset (generally by the originator, i.e. SAHL).

The South African model ensures that the originator, as well as the securitised entity (“lender”) retains a significant vested interest in ensuring the high credit quality of assets originated, as it holds the rights under the agreement and the obligations to the borrower. This was not always the case in non-South African transactions. - A further distinction from the overseas market is that South African securitization transactions have remained relatively simple and have primarily been used as a means of raising funding. This is unlike the international experience where structures became increasingly complex and risky. Consequently, there have been no defaults by securitization structures in South Africa and securitization remains a robust and viable funding and investment mechanism for both lenders and investors.

Oversight and regulation of Securitization in South Africa

- All securitization transactions must comply with the Securitization Regulations incorporated in the Banks Act, in terms of legal documentation that properly documents the nature of the transaction. South Africa’s central bank, the SA Reserve Bank (SARB), must approve every new securitization.

- Independent trustees are appointed to ensure that investors' interests are protected.
- Rating agents assign an initial rating to the various tranches of notes and continue to monitor the structures after issue date and report on any changes to the risk faced by investors.
- Independent auditors are appointed for every new securitization transaction. Auditors provide an initial report on compliance with the Securitization Regulations, as well as undertaking annual audits of the securitization legal entity.

Notes:

¹ SAHL. Undated. Securitisation as a funding tool. Available online at <https://www.sahomeloans.com/content/uploads/2016/11/Securitisation-A-Funding-Tool.pdf>

² Johannesburg Stock Exchange (JSE)

³ Kemp, E. 2017. Measuring shadow banking activities and exploring its interconnectedness with banks in South Africa. South African Reserve Bank Occasional Paper Series OP/17/01, December 2017. Available online at <https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/8160/OP1701.pdf>

Preconditions for Creating a Successful Mortgage Security Market

- A macroeconomic and fiscal environment that facilitates the supply of and demand for good quality securities.
- A robust legal, regulatory and institutional framework. For example, appropriate legal, tax and accounting framework, efficiency of the land registry, strength of the balance sheet of mortgage lenders.
- A relatively well developed financial sector.
- A developed primary mortgage market. The magnitude of countries' mortgage market varies significantly between developed and developing economies, and is largely dependent on the sophistication and maturity of financial markets, the strength of the legislation protecting lenders' and borrowers' rights, the depth of the credit information systems and the prevailing macroeconomic environment.⁴⁶ Naturally the mortgage market penetration is much deeper in developed countries than in emerging markets, where there are, therefore, fewer opportunities for such investments. (See Figure 5)
- Mortgage securities must offer an attractive risk-adjusted return since the securities issued against mortgage pools vary widely in terms of duration and credit quality, and investors may

not be completely protected against default and market risks. Most pay-through mortgage-backed securities structures protect the senior bondholders against default risk by prioritizing the principal and interest payments for the senior bonds. But if default rates rise high enough, as in a financial crisis, even senior bondholders may suffer from default risk.

- Governments must not issue debt extensively as this 'crowds out' other issuers.⁴⁷

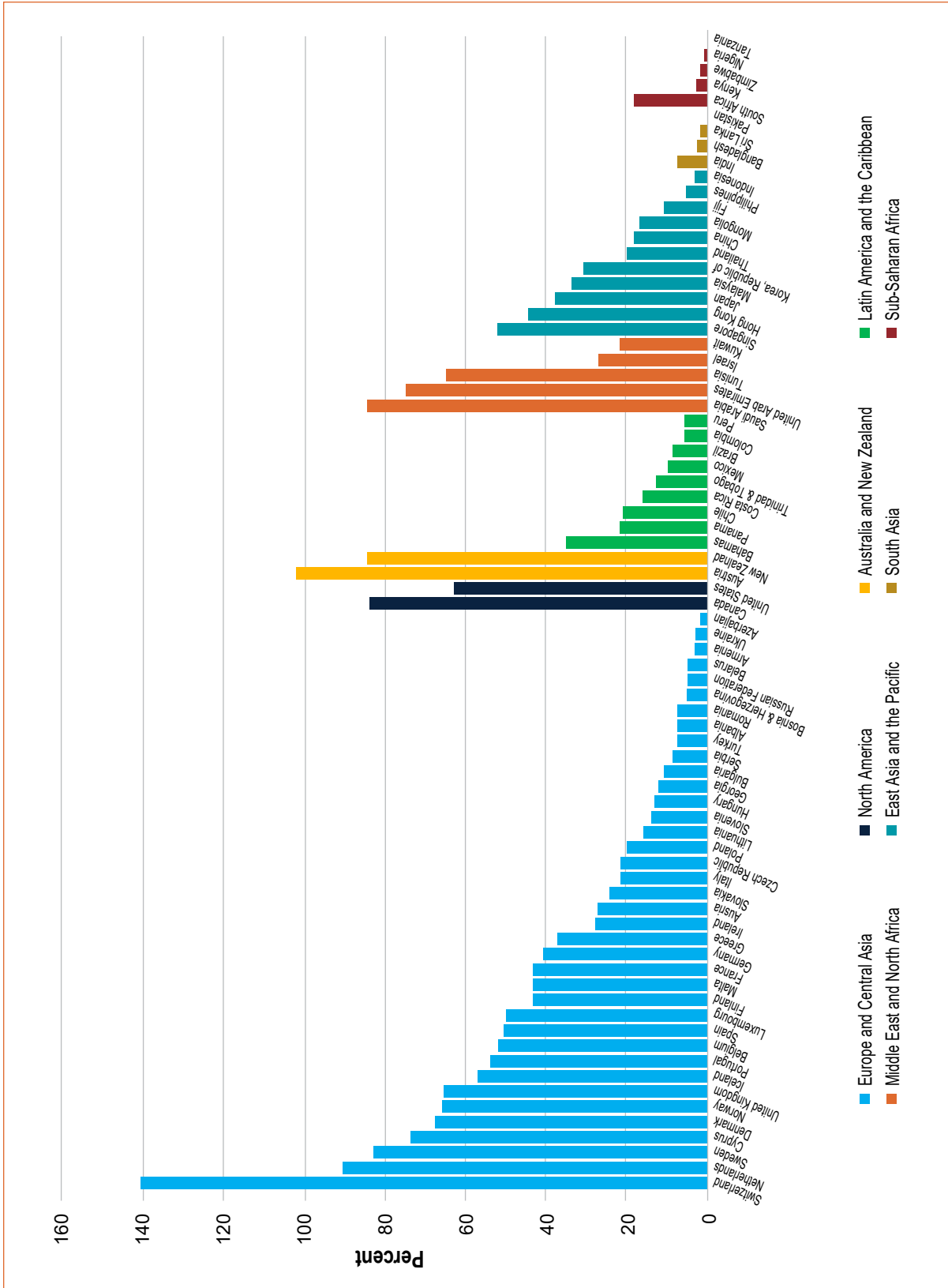
Mortgage Securities – The Experience in Emerging Markets

According to Chiquier et al,⁴⁸ there have been many examples of mortgage-related securities transactions issued in emerging markets. (See Figure 9) The mortgage securities ranged from simple mortgage bonds to more complex pay-through structures. Nevertheless, the funding from capital markets in developing economies for housing remains relatively low.

Examples of successful mortgage securities transactions included mortgage bonds in Chile, the Czech Republic and Hungary; mortgage backed securities (MBSs) in Columbia and Mexico; liquidity-facility issuance in Jordan and Malaysia. 'Success' was measured as evidence that there was:

- Repeat issuance of standardized securities.

Figure 5. Mortgages Outstanding (By Country) as a Percentage of GDP



Source: hotfinet.

Figure 6. Capital Market Facilitated Housing Finance in Emerging Markets

| Mortgage Bonds | Structured Finance (Asia, Africa) | Structure Finance (Latin America, CEE) | Conduits | Liquidity Facilities |
|----------------|-----------------------------------|--|--------------------|----------------------|
| Chile | China | Argentina | Argentina | India |
| Colombia | Hong Kong, China | Brazil | Brazil | Jordan |
| Czech Republic | Korea, Republic of | Colombia | Colombia | Malaysia |
| Hungary | Malaysia | Chile | Hong Kong, China | Mexico |
| Kazakhstan | The Philippines | Mexico | Korea, Republic of | South Africa |
| Latvia | Thailand | Panama | Trinidad | Trinidad |
| Poland | Morocco | Peru | Thailand | |
| | South Africa | Trinidad | | |
| | | Latvia | | |
| | | Russia | | |

Source: Chiquier, Hassler & Lea, 2014.

- A significant share of housing finance flowing from capital markets.
- Secondary trading in mortgage security instruments.

Covered Bonds (on-balance sheet mortgage securities)

Covered bonds (or ‘mortgage bonds’) are bonds that are senior general obligations and issued against a specified pool of residential mortgages on a bank’s balance sheet. Mortgage bonds are created from the cash flows of a collateral pool.⁴⁹ Investors have a priority claim against the collateral pool in the event of the issuer’s bankruptcy; the collateral pool for the mortgage bond is separated from the assets of the bank and is available only to satisfy the claims of the mortgage bondholders. (See Figure 7)

As these bonds remain on the issuer’s balance sheet, their value remains linked to the financial strength of the issuing institution.⁵⁰ The pricing and quality of mortgage bonds depend on the credibility and financial strength of the issuing financial institution, as well as the quality of the collateral pool which has been ring fenced.⁵¹ Where banks have the market standing to issue bonds, the mortgage bond

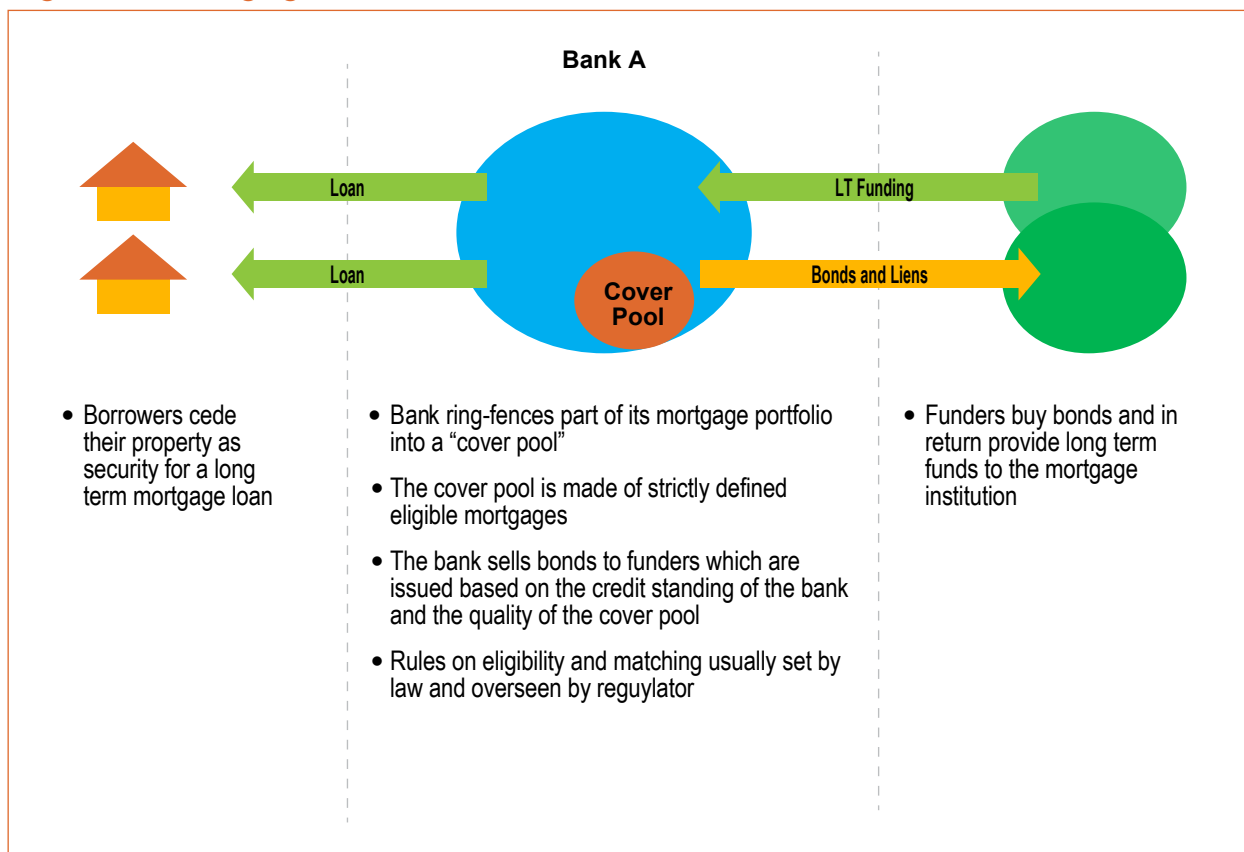
structure and ring fencing of collateral can increase the bond rating by one or more notches, reducing the cost of funding.

Mortgage bonds may be pass-through securities, as in Chile (see Case Study 10) and Denmark, where all cash flows are passed to investors, whether they are scheduled payments, prepayments, or defaults. More commonly, they are pay-through, where the bonds have a simplified payment structure similar to that of a standard corporate bond, such as semi-annual interest payments and principal at maturity.⁵²

This ‘on-balance-sheet’ instrument, based on specific legislation and supervision, provides the market with a long-term funding tool with cost efficient performance on the issuer’s side, as well as a stable and safe, long-term, liquid investment from the investors’ perspective, contributing significantly to the creation of an efficient housing market and financial stability.⁵³

At the end of 2016, over EUR 2.1 trillion of covered bonds remained outstanding and continued to play an essential role in European banks’ funding strategies.⁵⁴ The amount of outstanding mortgage covered bonds was equivalent to over 20 percent of outstanding residential mortgage loans in the EU.⁵⁵

Figure 7. Mortgage Covered Bonds



Source: World Bank, 2011.

Covered bonds, along with deposits and securitization form a balanced, sustainable and efficient mortgage funding mix, catering to a wide audience of lenders and investors; offering a channel for pension fund investment while increasing mortgage finance affordability for households.⁵⁶

Pros and Cons of Covered Bonds

Benefits for the issuer:

- Increased duration of the liability which allows for proper matching to portfolios of long-term assets.
- Stability of the funding mix, allowing increased predictability in balance sheet maturity profile.
- Increased diversification in the investor base, in both type and geography.

On the other hand, benefits for the investor include:

- Double recourse to issuer and the collateral pool.
- Higher credit rating than unsecured debt.
- Lower risk weighting and favorable treatment under Solvency II, Basel III.
- Favorable repo treatment at the European and other Central Banks.

Finally, mortgage borrowers’ benefits include: increased affordability; more choices; better consumer protection.⁵⁷

It should, however, be noted that covered bonds are largely limited to only a few markets (4 countries make up 50% of the outstanding issuance). They are also highly dependent on the enabling framework (legal structures, rating systems, payment flows etc.).

Case Study 9. Covered (Mortgage) Bonds – Chile’s Letras de Crédito

In Chile, mortgage bonds have been the dominant fixed-income, investment instrument for insurers and pension funds¹. Letras de crédito (letters of credit) were introduced following the collapse of the Chilean savings and loans industry in 1997. Their introduction coincided with the launch of the first private pension funds, who became natural investors in these instruments.²

Mortgages with up to 25-year maturity have been available in Chile since the 1970s, funded by letras de crédito hipotecario, which are covered bonds typically indexed to inflation³ – responding to annuity providers’ need to preserve the purchasing power of pensioners – but with the legal possibility of denomination in pesos.⁴

In 1980, when Chile created a fully funded pension system with individual retirement accounts, it also permitted insurance companies to sell annuities backed by letras as investments for the retirement accounts in the payout phase of the privatized pension system.

As market conditions changed, particularly the taxation and regulatory framework, Chile moved away from mortgage bonds and toward securitization. The government eliminated stamp taxes on refinancing, making it more attractive for individuals to take advantage of steep declines in interest rates between 2000 and 2004. Prepayment rates⁵ rose dramatically, reaching an annualized 39.8 percent for prime mortgages in November 2004. Likewise, stamp taxes on securitization were eliminated, changing the cost-benefit calculus for mortgage bonds and securitization. The pass-through feature of letras proved difficult for institutional investors to manage as prepayments rose. Securitization is more flexible for banks, as they began to offer a wider range of loan products. There were also more legal restrictions on mortgages funded with letras than on other kinds. At the end of 2005, 39 percent of mortgages were financed with letras, down from 67 percent in 2003 and 70 percent in 2001. Institutional investors are major buyers of mortgage-backed securities, just as they were of letras.⁶

Despite the declining popularity of letras, it is clear that mortgage bonds were a precursor to creating a fully functional, capital market and that the synergistic development of the market coupled with the rise of the private pension fund sector resulted in a successful housing finance model.

Notes:

¹ These mortgage bonds received widespread acceptance without being backed by government guarantees.

² Chiquier, L. & Lea, M. 2009. Housing Finance Policy in Emerging Markets. World Bank. Available online at <https://openknowledge.worldbank.org/handle/10986/2641>

³ Mortgages indexed to inflation create additional default risks in times of extremely high inflation but at the same time creates potential for one of the asset classes sought by annuity providers and private pension fund managers. Inflation-indexed mortgages provide the basis for securities that are ideal for long-term institutional investors (Chile, Colombia, and Mexico). Colombia’s indexing system lasted from the early 1970s to 1998, when interest rates spiked during the financial system crisis and the mortgage index, linked in part to short-term rates, also spiked, driving up monthly payments. As a result, defaults rose to 33 percent of outstanding loans.

³ Cheikhrouhou, H., Gwinner, W.B., Pollner, J., Salinas, E., Sirtaine, S. & Vittas, D. 2007. Structured Finance in Latin America: Channelling Pension Funds to Housing, Infrastructure and Small Business. The World Bank, Washington D.C. Available online at <http://siteresources.worldbank.org/EXTECAREGTOPPRVSECDEV/Resources/StructuredFinanceinLAC.pdf>

⁴ Market risk is linked to the duration of the mortgage security and varies according to market circumstances. When mortgage pools prepay, mortgage security investors are deprived of the interest income they would have earned on the outstanding principal over the contractual maturity.

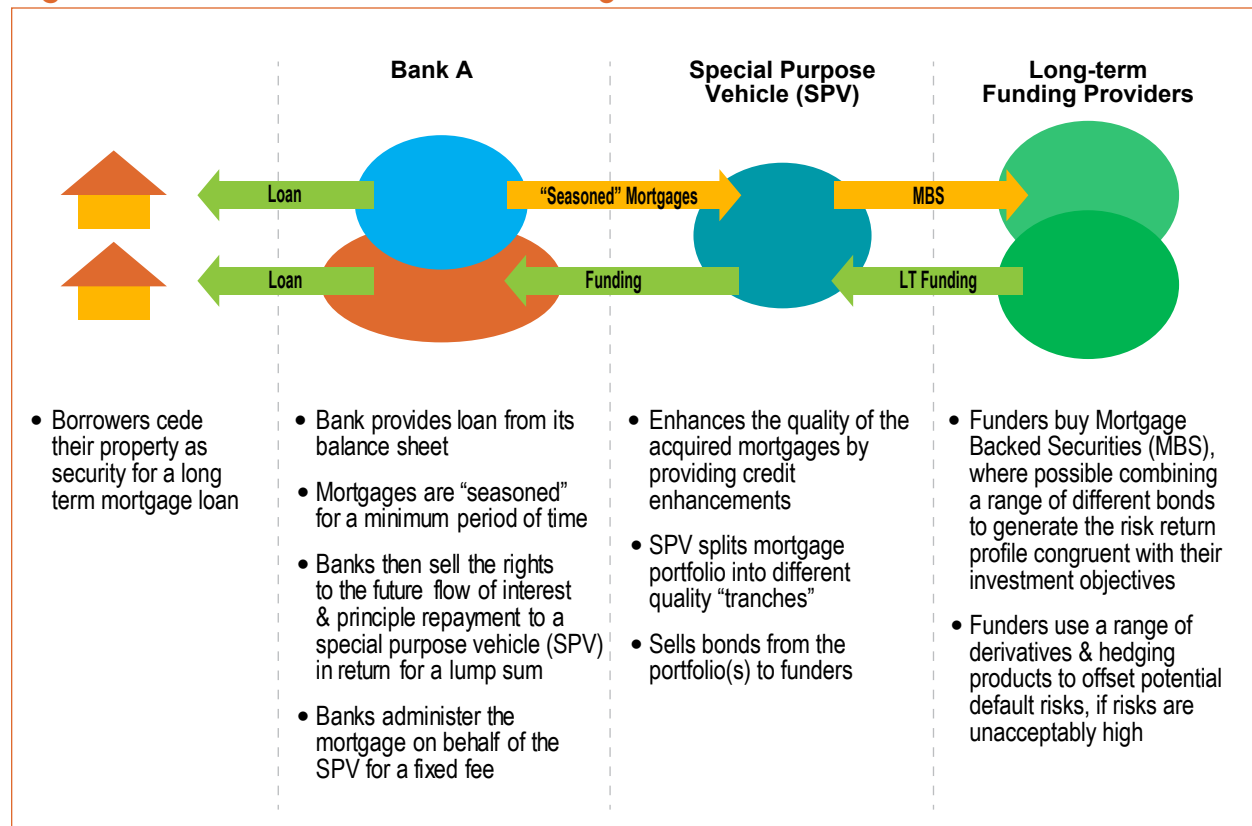
⁵ Ibid

Mortgage Backed Securities (off-balance sheet mortgage securities)

Issuers of mortgage backed securities sell the pool of mortgage loans to a trust or other specially created legal entity, or ‘special purpose vehicle’ (SPV). The SPV then issues bonds. The collateral pool must be completely removed from the balance sheet of the issuer in an arm’s-length transaction that reflects market pricing of the assets. There can be no recourse to the seller in the case of default of mortgages in the collateral pool, nor may the seller view the collateral pool as a resource in case of need. If the seller goes bankrupt, the seller’s creditors have no access to assets of the special purpose vehicle. Since the pool of a mortgage backed security stands alone, financially weak institutions can securitize assets and raise cash, unlike mortgage bonds, where significant reliance is placed on the financial standing of the issuer.⁵⁸ (See Figure 8)

Mortgage backed securities may be pass-through securities, where all cash flows are passed to investors, whether they are scheduled payments, prepayments or defaults; or they may be pay-through, where separate bonds convey distinct rights to the cash flows of the collateral pool. In a pay-through mortgage backed security, the issuer typically creates senior bonds and subordinate bonds. In the simplest pay-through structures, senior bonds receive scheduled interest and principal, as well as principal prepayments. Subordinate bonds receive cash flows only after the scheduled payments and prepayments are allocated to the senior bonds. The subordinate bonds suffer first from defaults and their receipt of interest payments is reduced by any prepayments. Mortgage backed securities are popular partly because the structuring allows cash flows to be allocated in an infinite number of ways, allowing the issuer to tailor the bonds to the precise needs of institutional investors.⁵⁹ (See Case Study 10)

Figure 8. The Mechanics of Securitization



Source: World Bank, 2011.

Case Study 10. United States – Mortgage Backed Securities Market¹

Examples of some of the earliest mortgage backed securities issuances were farm railroad mortgage securities in the United States in the mid-19th century. The United States still represents one of the most extensive and sophisticated mortgage backed securities markets worldwide.

In the U.S., pools of mortgage backed securities were sold to a federal government agency, like Ginnie Mae, or to a government sponsored-enterprise (GSE), such as Fannie Mae or Freddie Mac, or to a securities firm to be used as the collateral for the issuance of a new MBS. The majority of MBSes carry the guarantee of the issuing organization to pay interest and principal payments on their mortgage backed securities. While Ginnie Mae's guarantee is backed by the "full faith and credit" of the U.S. government, those issued by GSEs are not.

MBSes issued by private firms ('private label') are typically issued by subsidiaries of investment banks, financial institutions, and homebuilders whose credit-worthiness and rating may be much lower than that of government agencies and GSEs.

Unlike traditional fixed-income bonds, MBS bondholders receive monthly (not semi-annual) interest payments, as homeowners pay their mortgages monthly and these mortgage payments are what ultimately find their way to MBS investors.

Another difference compared to, say, a Treasury bond is that the Treasury bond pays interest only and a lump-sum principal amount on maturity, whereas a MBS pays interest and principal throughout the life of the investment (with no lump-sum payment on maturity). In the beginning cash flow from the MBS is mostly from interest but over time, a greater percentage of the proceeds flows from the principal.

Some of the most common types of mortgage backed securities are:

- Pass-Throughs are a mechanism (in the form of a trust) through which mortgage payments are collected and distributed (or 'passed through') to investors. The majority of pass-throughs have stated maturities of 30-, 15- and 5-years. While most are backed by fixed-rate mortgage loans, adjustable-rate mortgage loans (ARMs) and other loan mixtures are also pooled to create the securities. Because these securities "pass through" the principal payments received, the average life is shorter than the stated maturity life, and varies depending upon the paydown experience of the pool of mortgages underlying the bond.
- Collateralized mortgage obligations (CMOs) are a complex type of pass-through security. Instead of passing along interest and principal cash flow to an investor from a single pool of assets (e.g. 30-year fixed mortgages at 5.5 percent, which happens in traditional pass-through securities), CMOs are made up of many pools of securities, referred to as 'tranches' or 'slices'. There could be many tranches, with each one operating according to its own set of rules by which interest and principal gets distributed.

The advent of the global financial crisis, however, put a significant dampener on the MBS market in the U.S., as investors lost hundreds of billions of dollars in over-hyped mortgage backed securities. In a decade of MBS litigation, investors devised numerous ways to hold banks, mortgage issuers and even credit rating agencies accountable for misrepresenting the quality of the mortgages underlying the complex investment instruments.²

Notes:

¹ Financial Industry Regulatory Authority (FINRA). Undated. Mortgage-Backed Securities. Available online at <http://www.finra.org/investors/mortgage-backed-securities>

² Frankel, A. 2018. New front in MBS litigation: Pension funds claim Ocwen breached ERISA duty. Reuters, 8 March 2018. Available online at <https://www.reuters.com/article/us-otc-mbs/new-front-in-mbs-litigation-pension-funds-claim-ocwen-breached-erisa-duty-idUSKCN1G12VJ>

Pros and Cons of Mortgage Backed Securities

From the investor's point of view one of the biggest problems is that they are now directly exposed to the risk of default, which can be a big problem, as was the case in the last financial crisis.

Additionally, there are some other obstacles that emerging countries must confront in order to develop this instrument.⁶⁰

- High issuance cost – In the beginning, lenders would have to be prepared to offer a significant premium on the securities above the risk-free rate to attract investors. This cost would most likely be in the form of credit enhancements such as over-collateralization, quality of securitized assets, a liquidity facility for the SPV or other mechanisms limiting some of the risk.
- Lack of detailed portfolio data – A lack of mortgage data limits the amount of analysis which can be done by investors on possible mortgage portfolios to be securitized. Without good data, investors would assume the worst-case scenario and demand a higher level of risk mitigation which makes securitization more expensive for the issuers.
- Potentially negative impact on competition – The scale needed to develop securitization could lead to problems in competitive market forces (monopoly, duopolies, etc.).
- Risk management issues – One of the lessons of the last financial crisis is the dangers of separating the origination, servicing and risk-taking functions. Confronting this problem is one of the biggest challenges in emerging countries.
- Prudential risks – Securitizing the best assets from a bank's portfolio leaves a bank with more funding and capital but potentially a higher proportion of non-performing loans. This has prudential implications for the regulator who may have concerns about banks weakening their balance sheets in this way.
- Lack of 'feed stock' – For securitization to work, market liquidity needs to be generated through regular issuances in large amounts. At present the size of the mortgage market is not sufficiently

large to get the necessary economies of scale and the volumes of issuance that would lead to a liquid MBS market. This would be reflected in the pricing of the MBS which would be even more expensive than otherwise.

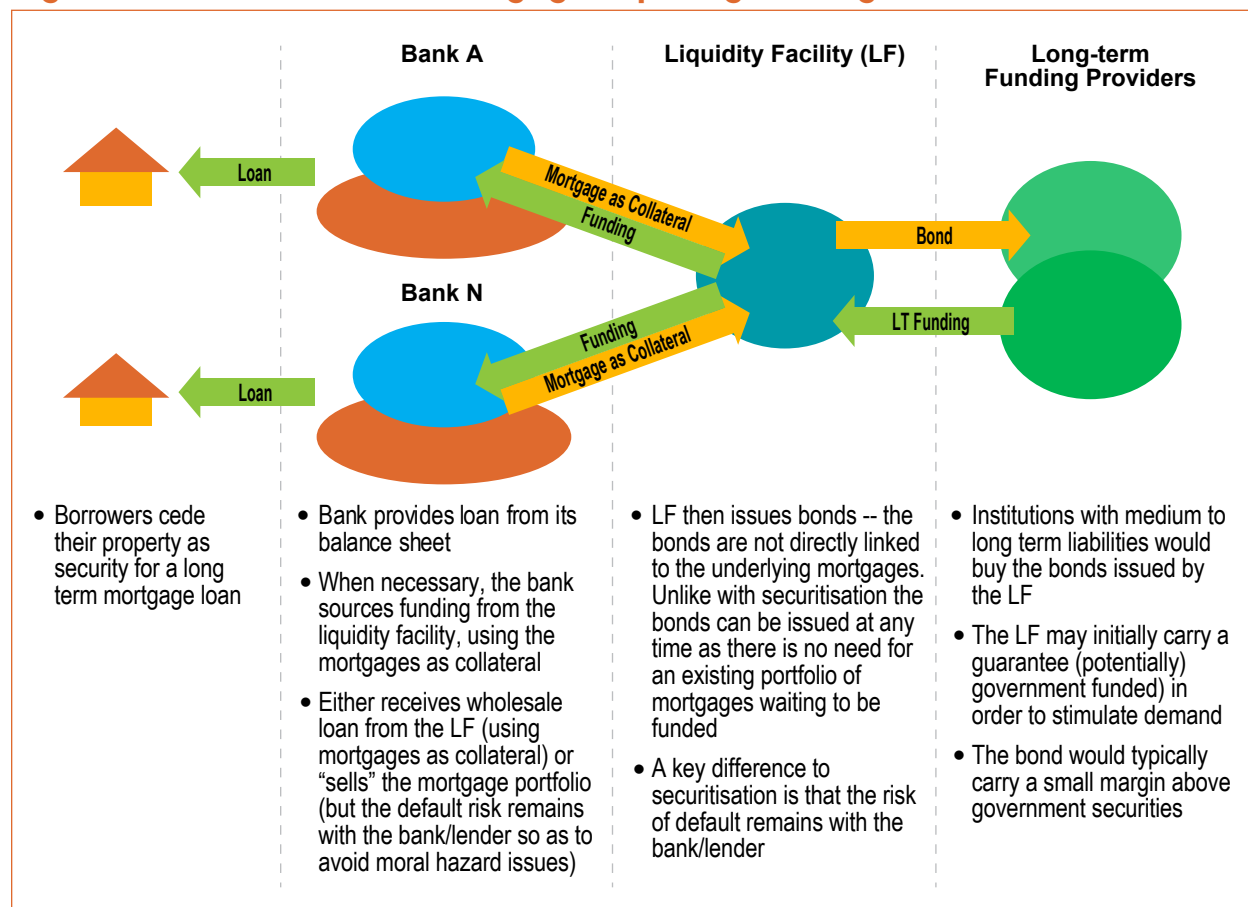
Bonds issued by Mortgage Liquidity Facility (MLF)

Mortgage Liquidity Facilities (MLFs) represent a move away from the traditional portfolio lending model (or 'primary market') towards an unbundled housing finance value chain (or 'secondary mortgage market'). A MLF acts as an intermediary between primary mortgage lenders and the bond market. Banks provide mortgage loans from their own balance sheet and, when necessary, will then source funding from the liquidity facility, using their mortgages as collateral. The bank either receives a wholesale loan from the MLF (using mortgages as collateral) or "sells" the mortgage portfolio (but the default risk remains with the bank/lender so as to avoid moral hazard issues). The liquidity facility then issues bonds, which are not directly linked to the underlying mortgages. (See Figure 9) Unlike with securitization, the bonds can be issued at any time as there is no need for an existing portfolio of mortgages waiting to be funded.

These are simple, unsecured, unstructured, corporate issuance (usually by highly rated or guaranteed institutions) and consequently are frequently purchased by pension funds. Institutions with medium- to long-term liabilities, like pension funds, then buy the bonds issued by the liquidity fund. The MLF may initially carry a guarantee (potentially government funded) in order to stimulate demand and the bond would typically carry a small margin above government securities to attract investors.⁶¹

Bonds issued by a Mortgage Liquidity Facility (MLF) are generally more appropriate investment instruments in emerging markets than securitization and can play a vital role in the establishment of a more developed secondary mortgage market (including securitization). Key differences between bonds issued by a liquidity facility and securitization are that liquidity facilities are generally less complex, involve lower levels of

Figure 9. Mechanics of a Mortgage Liquidity Facility



Source: World Bank, 2011.

risk transfer (the risk of default remains with the bank/lender) and that the bonds are not directly linked to the underlying mortgages. These differences combine to make liquidity facilities’ bonds more appropriate for emerging markets.⁶²

MLFs have an important role to play in contributing to the evolution of market maturity and can be used to promote mortgage securitization once the proper conditions are put in place. The two instruments (MLF bonds and securitized loans) can, however, co-exist, enabling users and investors to choose between different combinations of features, risks and prices. MLFs are seen as ideally suited to the relatively early stages of market development.⁶³ (See Case Study 11)

In the course of the development of a secondary mortgage market, a MLF is one structure that can

be adopted and can be viewed as more ‘palatable stepping stone’ for the following reasons:

- The sophisticated legal framework, accounting systems and governance processes required for more complex mortgage securitization transactions may not be in place.
- The MLF could act as a powerful intermediary, achieving ‘economies of scale’ by sourcing long-term funding at better rates and more preferential terms and conditions, than if the primary mortgage lenders acted alone.
- Capital market funding is an important source of addressing the maturity mismatches between primary mortgage lenders’ liabilities and assets,⁶⁴ and a MLF is an appropriate conduit to access this long-term funding.

Case Study 11. Nigerian Mortgage Refinance Company (NMRC) – On the Mark – Successfully Connecting Mortgage Financing to Capital Markets

The NMRC is a private sector-driven mortgage refinance company which was incorporated in June 2013 and which obtained its operating licence from the Central Bank of Nigeria (CBN) in February 2015. NMRC's objective is to deepen primary and secondary mortgage markets by raising long-term funds from capital markets, in order to promote home ownership in Nigeria.

NMRC has the following stated business objectives:

- To encourage financial institutions to increase their mortgage lending by providing them with long-term finance.
- To increase the maturity structure of mortgage loans and assist to reduce mortgage (interest) rates.
- To increase the efficiency of mortgage lending by taking a lead role in proposing changes to the enabling environment for mortgage lending, as well as by standardizing mortgage lending practices of financial institutions.
- To introduce a new class of high quality, long-term assets to the pension funds and other investors.¹

NMRC has 21 investors which include the Ministry of Finance Incorporated (MoFI) and the Nigerian Sovereign Investment Authority which hold 17.02% and 22.7%, respectively. Other investors include five commercial banks and fourteen primary mortgage banks (PMBs) hold a further 12.07% and 48.21%, respectively. NMRC currently has 25 member banks who draw on their services.²

The organization has N8.63 billion³ Tier One capital, with a further US\$ 120 million in Tier Two capital in the form of a subordinated loan⁴ from a World Bank International Development Agency facility.

In July 2015, NMRC successfully issued a “15-year N8 billion Series 1 Bond” under its N140 billion medium term note program, backed by an unconditional Federal Government of Nigeria guarantee. Local pension funds were the main buyers This is being deployed to the refinancing of the mortgage portfolio of member Primary Mortgage Banks (PMBs).

NMRC increased the value of portfolios refinanced with recourse from N1.9 billion in 2015 to N8.2 billion as at 31 December 2016. In the policy space, NMRC developed uniform underwriting standards to facilitate home ownership in the informal sector in collaboration with the Nigerian Central Bank and lobbied with government to introduce more robust property foreclosure regulation and processes.

From an operational perspective, NMRC designed an internet-based Mortgage Market System (MMS) that provides an end-to-end financing solution, aimed at overcoming the cumbersome processes associated with home ownership by integrating key components of the housing value chain from construction finance, mortgage origination and administration to secondary market mortgage refinancing. It is hoped that increased operational efficiencies and improved data collection will enhance business intelligence that drives policy, business decision making and credit penetration.

To counter the effects of Nigeria's 2016 recession, resultant tight liquidity and high interest rates, which slowed the tempo of mortgage creation by member banks and depressed NMRC's refinancing activities, the company began the process of issuing a Sukuk (no-interest Islamic finance product) and obtained the CBN's approval to raise its equity (Second Tranche Equity Raise) in order to raise cheaper funding that should drive down interest rates for borrowers. This should be assisted by NMRC's and the NMRC Bond's ratings at BBB+ and AAA, respectively.⁴

In 2015, NMRC signed a Memorandum of Understanding with Cantor Fitzgerald & Co., a global private investment firm with strong expertise in asset-backed mortgage securities, for the firm to invest a minimum of US\$ 1 billion (about N200billion) in the Nigerian mortgage sector. The firm has made arrangements to build 10,000 houses in Kadura, Lagos, Enugu and Abuja within the year and plans to use the NMRC vehicle for refinancing the related mortgages.⁵

Notes:

¹ Nigerian Mortgage Refinancing Company (NMRC) website. Available online at <http://nmrc.com.ng/about-nmrc/>

² NMRC 2016 Annual Review and Financial Statements. Available online at <http://nmrc.com.ng/wp-content/uploads/2017/08/NMRC-AR-2016.pdf>

³ Nigerian naira (N)

⁴ The loan is aimed at: (1) strengthening the balance sheet; (2) providing confidence in NMRC as a bond issuing entity. The loan is available to NMRC in 6 instalments, subject to the attainment of specified disbursement-driven milestones.

⁵ Hofinet. 2015. Nigerian Mortgage Refinancing Company Open for Business. 6 April 2015. Available online at <http://www.hofinet.org/news/article.aspx?id=185>

- In several jurisdictions, the instruments to raise funds directly from capital markets are not available, or they may be too costly or complex to access.
- MLFs can also be structured to provide temporary liquidity support to lenders through collateralized short-term operations, such as repurchase agreements. This short-term flexibility may not be achievable via other secondary mortgage market structures.
- Investors may have some concerns over the risks associated with mortgage securitization and require some form of additional reassurance in order to be persuaded to enter the market. As MLFs are typically government owned [structured as a public-private partnership (PPP)] or government supported, this may provide the additional reassurance that market participants and investors in their bonds may require.⁶⁵
- A liquidity facility can act as a first step in linking mortgage markets to capital markets but without the same levels of complexity and risk transfer as a fully-fledged secondary mortgage market (while still allowing the mortgage market to grow in the absence of the infrastructure necessary for a more developed secondary market).
- During this transitional phase, MLFs can also facilitate the standardization of policies and practices in the market and set the foundations for the further evolution of the secondary mortgage market.
- MLFs can contribute to strengthening the mortgage market by promoting efficient and effective credit bureaux, mortgage and land registration systems, judicial oversight and enforcement, appraisal services and other institutions which help to lower transaction costs and lower risk.⁶⁷

Pros and Cons of Mortgage Liquidity Finance

The benefits of MLF include:

- MLF can provide lenders with lower cost funding than they would be able to access individually. This is especially beneficial for second-tier banks, which suffer the most from liquidity constraints. In turn, this enables lenders to offer better interest rates thus improving end user affordability.⁶⁶
- In the absence of a liquidity facility only financial institutions with good credit ratings or extensive branch networks (with sufficient deposits) could meaningfully participate in the mortgage industry. However, because liquidity facilities enable smaller banks and non-bank financial institutions to participate in the industry, a more competitive environment can exist.
- By issuing its own bonds, MLF increase the leverage of existing funding, allowing short-term deposits to (more easily) be converted into long term assets, with the safety net of the liquidity facility to deal with liquidity risk issues.
- The bonds of a MLF provide long term investment opportunities in which long term liabilities can be invested. This is particularly useful for pension funds, life insurance companies and social security funds.⁶⁸
- MLFs can be used as a tool for delivering policy objectives, such as promoting affordable housing or the promotion of local currency lending. If managed carefully MLFs can be used to pursue affordable housing objectives without necessarily distorting the objectives of market-based pricing. The MLF may be able to set specific criteria for the refinancing of loans to particular groups of society, such as low-income groups.⁶⁹

Preconditions for a Mortgage Liquidity Facility

- An underlying motivation for financial institutions to refinance or sell their mortgage loans driven by lender demand (resulting in capital or liquidity constraints) or due to cash flow risk management needs.
- Investor demand for long-term assets and the ability to invest in mortgage-related securities.

- A sufficiently developed private bond market capable of supporting cost-effective credit rating, bond underwriting, and servicing infrastructures. (See Case Study 15)
- A stable macroeconomic environment.
- A sufficiently homogenous pool of mortgages underwritten under sound origination standards.
- Commitment by the central bank and/or government to initially take at least a minority ownership stake in the MLF to provide market support and to lend credibility.
- Robust regulatory oversight by a relevant authority. More specifically, there is no need for:
 - A legal framework to create bankruptcy-remote structures, such as special purpose vehicles (SPVs).
 - A specialized legal framework for MLFs, and the capacity and willingness by authorities to implement.
 - A tax framework capable of treating securitization in a tax-neutral manner.
 - A specific accounting framework.
 - The ability to transfer/assign security interest at low cost.⁷⁰

SUMMARY – DEMAND-SIDE INVESTMENT OPPORTUNITIES

Demand-side investment opportunities involve a range of investments in mortgage security instruments that enable access to financing through capital markets. From a pension fund's perspective, it is apparent that this range of potential investment opportunities also pose varying degrees of credit risk to the scheme and/or can impact significantly on the long-term investible assets of the fund.

Covered bonds offer a more protected version of these instruments, but the complex legal framework to support them has limited their widespread adoption to only a few markets globally. Investing

in bonds issued by MLF are often a first step in emerging markets, before full scale mortgage backed securities are issued.



CONCLUSION

It appears as though some inroads are already being made in linking invested pension fund assets with investments in housing developments in specific developing economies. Nevertheless, it is also evident that there remains significant potential for more investment by pension funds in housing-related instruments.

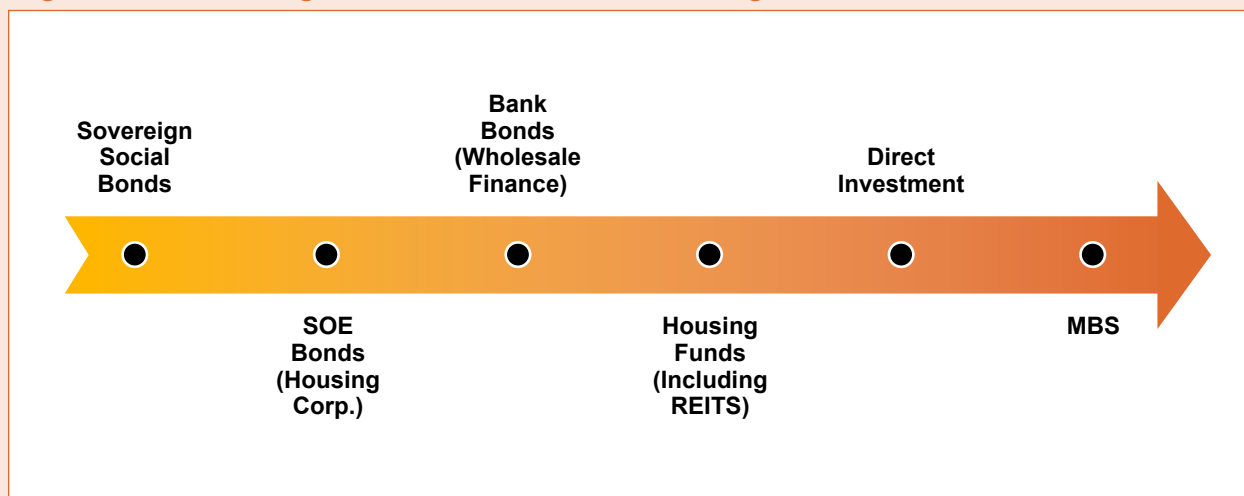
There are, therefore, several critical observations around when the ‘stars are aligned’ and pension funds can invest in the housing sector:

Pension System Considerations

- A fundamental requirement determining whether pension funds invest in housing is the prevailing **legislative and regulatory framework** in a jurisdiction. An inadequate legal and regulatory framework governing alternative investments has been cited as one of the major reasons for a lack of pension fund investment in housing.⁷¹ and⁷²
- Furthermore, the generally accepted and commonly applied **investment mandates adopted by pension funds’ board of trustees**, also play an important role in determining the acceptability of investing in housing. The nature of the mandates that are ultimately adopted as common practice

are often shaped by national policies, the quality of the information available to pension funds about housing investments or directed by the needs (for example, for access to housing finance) articulated by the fund membership. Pension fund trustees are also conservative and generally prefer to invest in commonly accepted vehicles and sectors. In the case of housing, there is often a dearth of knowledge about housing markets. This lack of familiarity with the vagaries and risks associated with housing investment either persuades funds to avoid investment in housing altogether or to make housing investments without fully appreciating the associated risks. Therefore, the need to expand information flows to inform and educate both funds and their members is an area that requires attention. Most information, training and partnerships for trustees will be needed the more risky the housing instrument they move into.

Figure 10. Housing Investment Instrument by Level of Risk



Source: Authors.

- **Size of the pension fund industry and of individual pension schemes.**⁷³ As discussed in the report, many economies with the greatest housing needs are not supported by a sufficiently large or robust pension fund sector that could drive meaningful investment in housing. Low pension coverage of the workforce constrains overall involvement in housing. At a scheme level, some funds may not have the capacity to evaluate and manage housing investments, or may not be in a position to withstand the sometimes-uneven performance of housing investments, or to manage any inherent risks that may arise from housing investments.
- **The typology and liquidity requirements of the pension scheme.** Thus, key considerations when defining the regulatory framework and designing investment instruments are:
 - How the benefits are determined, i.e. whether the fund is defined benefit (DB), defined contribution (DC) or a hybrid arrangement. DB schemes are usually large, have a closed membership and have to manage their liabilities over decades. This means that they are better placed to provide long-term, illiquid funding than DC schemes. Other factors, such as the average age of participants in the pension scheme.
 - How the benefits are financed, i.e. whether on a full or partial pay-as-you-go (PAYG) basis or if they are fully funded (or capitalized) in advance.
 - How free participants are to switch from one provider to another, i.e. whether the pension fund is open or closed.
- **Certain pension funds have a stated developmental mandate** to contribute to broader social upliftment or have a policy of impact investing, and these would be ideal institutions to approach to provide financing for housing. However, for the majority of pension funds, the primary objective of trustees and management is to maximise members' returns. Therefore, a 'carrot and stick' approach is required to either attract investment through incentives that promise some up-side or to use 'moral suasion' to actively persuade funds to participate.
- Whether the scheme is a **public- or private-pension fund determines the monitoring environment** within which it operates.⁷⁴ Typically, monitoring is more stringent for private schemes, as trustees are individually liable. Monitoring and regulation of public funds tend to be relatively lax and politically driven.⁷⁵ Therefore, the investment behaviour of public and private schemes differ. For instance, if there is a national policy to promote investment in housing, public schemes could be persuaded to direct investment to housing through political pressure, while a private scheme would be more reluctant to bow to political pressure.
- For many emerging markets, the present **demographic dividend**⁷⁶ is an opportune time to invest more aggressively in housing. If the age profile of the fund tends towards a larger proportion of younger members, the fund is able to tolerate a higher risk investment strategy as the time to payout is further into the future, whereas funds with an older membership base tend to be more conservative. In addition, it is more likely that countries with a larger, younger population also have a relatively greater demand for affordable housing.
- **Employment volatility and mobility** in firms or in an industry have an impact on pension funds' investment approach. The higher the likelihood of staff turnover, the more liquidity required by the scheme. Therefore, investments in housing (a more illiquid asset class) would better suit pension schemes catering to firms or industries will lower levels of staff turnover.⁷⁷
- In addition to taking into account the typology and liquidity requirements of pension schemes, they **need to deliberate on, evaluate, manage and mitigate for the following investment risks:**
 - Solvency risks related to instrument issuers, be they companies or corporations developing projects, or financial agencies or banks that act as financial intermediaries, as in the case of securitized instruments or bonds or mortgage certificates.

- Interest rate risks in the case of fixed income instruments;
- Market risks associated with the intrinsic and specific risks of the housing sectors.
- Liquidity risks related to financing projects through debt instruments, which are usually long-term.⁷⁸

Country-specific Considerations

- Accessing pension funds to finance the development of housing must be designed to mimic the pension fund **savings profile of the specific country** (and not seen a generic panacea for all economies). Country-specific challenges, for instance, high levels of unemployment or where there is a high degree of informal business, must be factored into any decision to look to pension funds to finance housing development. As such, there is a need to develop innovative retirement products that could cater to this market. For example, ‘PAYG’ pension contributions for the unemployed or informally employed.
- In jurisdictions where the need for large-scale and urgent housing developments is greatest, policymakers should strongly consider putting in place **preconditions that attract foreign pension fund investment** (because domestic markets would not be able to provide the required quantum of financing).
- The existence of a **well-developed capital market** is an important precondition for the level of investment in housing as capital markets facilitate the ease of financial flows and are better situated to match long-term funding requirements with the long-term profile of housing investments. Furthermore, the level of sophistication of capital markets also generally determines the range of investment instruments available and the pace of new investment product development.
- To support housing investment, there is also a need for a **well-developed housing sector**. This would include role-players in the end-to-end housing value chain and depending on the market

conditions would include, amongst other things – stable macroeconomic fundamentals, strong financial institutions active in capital markets and in the mortgage lending space, established developers and construction companies, vibrant home ownership and/or rental markets, robust registration, titling and administrative processes, political will and supporting policies to advocate for investment in housing.

Areas for Future Investigation

In the course of undertaking research for this report, several issues arose which pointed to the need for further investigation.

- Unsurprisingly, the **need for accurate and consistent quantification of the housing shortage** is important. In addition, the establishment of common definitions to express the nature of the ‘shortage’ (or ‘lack’). For example, in terms of what would qualify a dwelling to be of ‘substandard’ quality; what number of inhabitants per square meter of space would constitute ‘overcrowding’. Solving for this issue would be no easy feat as standardization (for geography, local conditions, cultural norms and acceptability, affordability levels) would be extremely challenging. Nevertheless, the need for data to better understand and quantify the global housing shortage must be noted.
- At an aggregate level having access to **comprehensive and accurate data that quantifies the quantum of assets under investment of public and private sector pension funds** and at a more granular level, a more **detailed breakdown of the types of investments being made in what is currently categorized as ‘land and buildings’** (e.g. whether it is in commercial or residential property, or housing-related investment instruments), would prove extremely helpful to determine the potential pool available for investment in housing. This information would also be useful in guiding how legislative and regulatory frameworks should be constructed, and contribute to designing appropriate and relevant investment products that would prove attractive to pension funds.

- Further **quantitative data on how the different housing instruments have performed** in different regions would be enlightening, to understand better the different risk/ return profiles. Examining the actual investment performance by pension funds in selected countries which have invested in their instruments would be helpful.
- Whilst there is a need to ‘customize’ housing investment instruments in a country to attract both domestic and foreign pension funds in order to cater to the unique requirements of a particular geography, it would be instructive and useful to collate a **set of generic policies and guidelines for each of the housing finance instruments**. This obviates having to recreate legislative, regulatory and operational policies and processes from scratch. It is also an opportunity to incorporate any learnings from the experiences of other economies.
- The importance of a conducive legislative and regulatory environment to promote pension funds’ investment in housing cannot be underestimated. Many countries, both developed and developing, have created the legislative and regulatory frameworks to facilitate successful investing. Establishing a **repository of successful legislative and regulatory frameworks** would contribute to facilitating an effective investment environment. This requires an extensive investigation to comprehensively collate this information. Several countries have also adopted investment policies that have not proved to be successful. This information would also prove to be useful and should be included in the proposed repository.
- More granular work needs to be undertaken to understand the **dynamics of pension schemes which allow members to directly withdraw funds** from accumulated savings and the impact on the funds’ overall performance.
- There needs to be a search for innovative examples of how funds have prevented ‘**leakage**’ from funds where withdrawals have not been used for housing purposes.

In Summary

It has been estimated that by 2025, one billion new homes will be needed worldwide at an estimated cost of US\$ 16 trillion and in the same period a further 440 million households (or 1.6 billion people) would occupy crowded, inadequate and unsafe housing, or would be financially stretched.

This report examined supply- and demand- side investment opportunities available to pension funds, outlined pros and cons of the instruments, and highlighted the necessary preconditions to facilitate the success of these investments. In addition, where available, relevant case studies were included to illustrate potential learning opportunities.

Housing investment instruments could offer pension funds a, longer term, asset class, which could complement and enhance existing investment strategies. However, for many emerging markets, significant work still need to be done to create the ideal investment environment and lessons from practical experience (both good and bad) should be examined further.

ANNEXES

| Type Of Investment Instrument (Supply-Side) | Investment Characteristics | Enabling Conditions | Suitability For Pension Scheme |
|---|---|---|---|
| Investment In Housing Projects | | | |
| Direct investment in housing projects | <ul style="list-style-type: none"> • Large-scale projects • Requires in-depth understanding of real estate market dynamics • Relatively illiquid investment (committed until project complete) • Greater control over assets and investment decision • Program management relatively expensive | <ul style="list-style-type: none"> • Requires sizeable resources (financial, industry expertise, management and administrative capacity) and investment in time • Requires agile and flexible management culture • Robust governance and transparent reporting • Conducive legislation and regulatory environment | <ul style="list-style-type: none"> • Large defined benefit (DB) funds, with in-house capacity and expertise in the housing sector |
| Equity investment in housing developer | <ul style="list-style-type: none"> • Significant reliance placed on the industry knowledge and expertise of the housing developer • Normal 'equity' risk – reliance placed on company's board and management team • Liquidity (for listed housing developers) | <ul style="list-style-type: none"> • Strong governance and regulatory framework • Large number of large-scale housing developers to leverage economies of scale and competitive forces • Vibrant banking sector willing to provide consumer mortgage finance | <ul style="list-style-type: none"> • Large defined benefit (DB) funds • Defined contribution (DC) funds with lower liquidity requirements |
| Investment In Housing Portfolios | | | |
| Co-funding for housing funds | <ul style="list-style-type: none"> • Public-private sector partnership • Reliance on housing fund for deal sourcing, project assessment, risk management and controls, investment administration • Reduced project risk for pension fund | <ul style="list-style-type: none"> • Clearly defined roles and responsibilities for all parties • Risk mitigation or incentives required to offset developmental/societal objectives • Housing fund must have appropriate capabilities and capacity | <ul style="list-style-type: none"> • Smaller pension schemes • Defined contribution/open funds |

| | | | |
|--|---|---|--|
| REITs | <ul style="list-style-type: none"> • Usually tax benefits for investors • Regular income streams and potential long-term capital appreciation upside • Diversified investment assets • Liquid • Highly regulated environment | <ul style="list-style-type: none"> • Institutional strength and vibrant property markets • Some level of market maturity • Legislative and regulatory framework • High rental demand environment • Large-scale landlords • Tax incentives for investors | <ul style="list-style-type: none"> • Most pension funds |
| Social Impact Investment | | | |
| Social housing bonds | <ul style="list-style-type: none"> • Specific social impact targets • Clear financial objectives • Usually a public sector-driven initiative • Matching of government's long-term funding needs with investors' horizons' • Outcomes risk' passed from taxpayer to private sector • Relatively complicated structures | <ul style="list-style-type: none"> • Potential 'finance gap' either covered by government or accepted by investor • Risk mitigants introduced to cater for to reduce risk of lower financial returns • Flexibility with measurement metrics | <ul style="list-style-type: none"> • Funds with a social/developmental mandate |
| Type Of Investment Instrument (Demand-Side) | Investment Characteristics | Enabling Conditions | Suitability For Pension Scheme |
| Investment In The Provision Of Mortgage Loans | | | |
| Pension funds as direct providers of mortgage loans | <ul style="list-style-type: none"> • Provision of direct benefit to fund members • Access to funds during 'lifetime of membership • Any losses from default borne by pension fund • Potential erosion of and/or removal of investible assets from the investment pool • Risk of exposure to limited number of companies or industry in the event of crisis | <ul style="list-style-type: none"> • Requires creation of in-house (or outsourced, but managed) credit risk assessment capabilities, processing resources and administrative support | <ul style="list-style-type: none"> • Larger funds, with in-house capacity and expertise in risk and loan management |

| | | | |
|--|--|---|---|
| <p>Equity investment in mortgage lender</p> | <ul style="list-style-type: none"> • Significant reliance placed on the industry knowledge and expertise of the mortgage lender • Normal 'equity' risk – reliance placed on company's board and management team • Liquidity (for listed mortgage lenders) | <ul style="list-style-type: none"> • Strong governance and regulatory framework • Large-scale mortgage lenders to leverage economies of scale and competitive forces • Vibrant banking sector willing to provide consumer mortgage finance | <ul style="list-style-type: none"> • Large defined benefit (DB) funds • Defined contribution (DC) funds with lower liquidity requirements |
| <p>Wholesale funding to intermediary who on-lends to consumer</p> | <ul style="list-style-type: none"> • Reliance on intermediary's risk assessment, loan management and administrative expertise • Ring fenced risk for pension fund | <ul style="list-style-type: none"> • Clearly defined roles and responsibilities for all parties • Clearly defined risk assessment criteria/Clear deliverables/outcomes | <ul style="list-style-type: none"> • Medium- to large- funds |
| <p>Investment In Mortgage Securities</p> | | | |
| <p>Investment in covered bonds</p> | <ul style="list-style-type: none"> • Investors have priority claim over specified pool of residential mortgages • Collateral pool separate from issuer's assets • Reliance on strength and credibility of issuer • Potential reduction in cost of funding (based on financial strength of issuer) • Allows for asset and liability matching • Double recourse for investor (to issuer and collateral pool) | <ul style="list-style-type: none"> • Institutional strength and vibrant property markets • Some level of market maturity • Legislative and regulatory framework | <ul style="list-style-type: none"> • Most pension funds |
| <p>Investment in Mortgage Backed Securities (MBS)</p> | <ul style="list-style-type: none"> • Pool of mortgage backed assets sold to special purpose vehicle (SPV) • Collateral pool totally removed from issuer's balance sheet • Investor directly exposed to credit default | <ul style="list-style-type: none"> • Understanding of the risks associated with underlying assets • Accumulation of portfolio data in order to assess portfolio risk • Market liquidity to ensure regular issuances in large amounts • Vibrant mortgage lending market • Robust legislative and regulatory framework | <ul style="list-style-type: none"> • Pension funds with sufficient investment knowledge / expertise (in-house or via specialist external managers) |

| | | | |
|---|---|--|--|
| <p>Mortgage Liquidity Facility (MLF)</p> | <ul style="list-style-type: none"> • Intermediary between primary mortgage lenders and the bond market • Mortgage lenders accesses a wholesale loan in exchange for bond issue • No need to have an existing portfolio of mortgages to issue bonds • Plays a role in developing more mature markets • Promotes economies of scale by sourcing long-term funding at better rates on behalf of individual mortgage lenders • Facilitates expansion of mortgage markets • Promotes strengthening of mortgage markets (e.g. credit bureau, land and mortgage registration systems) | <ul style="list-style-type: none"> • Initially, MLF requires a guarantee (potentially government funded) to stimulate demand • Requires a sophisticated legal framework, accounting systems and governance processes | <ul style="list-style-type: none"> • Large defined benefit (DB) funds • Defined contribution (DC) funds with lower liquidity requirements |
| <p>Pension Supported Loans</p> | | | |
| <p>Direct withdrawal from pension fund</p> | <ul style="list-style-type: none"> • Provision of direct benefit to fund members • Access to funds during 'lifetime of membership • Relatively higher contributions required from members • Ring fenced accounts allocated for different objectives, e.t. housing, healthcare • Potential erosion of and/or removal of investible assets from the investment pool | <ul style="list-style-type: none"> • Requires a relatively large base of contributors – perhaps structured at national level • Member education and support required to understand the scheme | <ul style="list-style-type: none"> • National mandatory pension funds (with sufficient contribution rates) • Provident funds with separate 'use of funds' accounts |

| | | | |
|---|---|--|--|
| <p>Direct loans to pension fund members</p> | <ul style="list-style-type: none"> • Provision of direct benefit to fund members • Access to funds during 'lifetime of membership • Any losses from default borne by pension fund • Potential erosion of and/or removal of investible assets from the investment pool • Risk of exposure to limited number of companies or industry in the event of crisis | <ul style="list-style-type: none"> • Requires creation of in-house (or outsourced, but managed) credit risk assessment capabilities, processing resources and administrative support • Legislative and regulatory framework allowing fund members to access accumulated savings | <ul style="list-style-type: none"> • Larger funds, with in-house capacity and expertise in risk and loan management |
| <p>Providing collateral for housing loans from third party</p> | <ul style="list-style-type: none"> • Provision of direct benefit to fund members • Access to funds during 'lifetime of membership • Any losses from default borne by third-party loan provider • Potential loss investible assets from the investment pool if member defaults • Member could lose accumulated retirement savings and/or fixed property | <ul style="list-style-type: none"> • Agreement of loan terms and conditions with third-party loan provider (e.g. maximum loan amount as a percentage of accumulated savings, interest rate, loan processing and administration) • Legislative and regulatory framework allowing fund members to access accumulated savings | <ul style="list-style-type: none"> • Large funds |



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ENDNOTES

1. Pension fund members in various countries may also use their own pension savings to underwrite housing loans to finance their own home purchase. This topic is discussed in a separate, companion paper to this report.
2. UN-Habitat, 2016 chapter 3, ‘The Fate of Housing’.
3. Woetzel et al, 2014.
4. Johnstone, 2017.
5. United Nations, 2010.
6. The UN Special Rapporteur on adequate housing (United Nations, 2014) noted that “...significant problems of homelessness and inadequate housing also exist in some of the most economically developed societies... increasing homelessness in the most developed countries and countries suffering from grossly unequal distribution of wealth...”
7. UN-Habitat, 2015.
8. OECD, 2017.
9. Luüs, 2014.
10. ‘Housing’ as an investment asset class is not reported separately from real estate investing, so regulations applied to this investment category would also apply to direct investment in housing. Asset-backed and securitized products would normally be included under regulation on derivatives. Some countries – such as UK, US and Australia - apply the ‘prudent person rule’ and impose no specific asset class restrictions on pension fund investments. Derivatives are restricted to non-speculative usage, but are generally allowed. However, many other countries still apply fairly stringent (if not full) restrictions on direct investments in real assets, such as housing. Other indirect restrictions may apply, such as ruling out exposure to non-listed, non-rated or sub-investment grade instruments – which many housing investments may involve.
11. Short et al, 2009.
12. Mutero et al, 2010.
13. Philipps, 2011.
14. FIAP’s survey (Philipps, 2011) concludes that: “Pension schemes’ direct investment in housing and infrastructure, is constrained by legal and regulatory frameworks in surprisingly numerous countries.”
15. Phillips (2011) cited Mexico as having legislation that governed investments promoting housing as a preferred investment objective (along with developing the country’s strategic infrastructure and regional development). – Peru is noted as the country with the most comprehensive legal framework for promoting investments in housing financing instruments, authorizing investment in first issuances of instruments destined to finance the development of new projects, specifically investment in financial instruments which are associated with the development of infrastructure projects and concessions.
16. Sy, 2017.
17. Cheikhrouhou et al, 2007.
18. WEF, 2014.
19. Ibid.
20. Ibid.
21. Ibid.

22. Ibid.
23. Ibid.
24. Inderst, 2009.
25. For example, a Brazilian pension fund lost money that it had invested in real estate when building contractors sold only 240 of the 3,600 luxury apartments built in 2016 due to the economic crisis (Yanqui Zaza, 2017).
26. A recently reported unfortunate example involved housing investments and the National Social Security Association (NSSA) in Zimbabwe. *Newsday* 4th May 2018, 'Grace Sucked in NSSA Plunder'. <https://www.newsday.co.zw/2018/05/grace-sucked-in-nssa-plunder/>.
27. WEF, 2014.
28. Ibid,
29. Kruger-Levy & Bertoldi, 2017,
30. Peppercorn & Taffin, 2013,
31. Investopedia, Undated,
32. Ibid,
33. REITs are exempt from paying tax on distributable net income or subject to preferential corporate tax rates; exempt from capital gains tax when selling off assets; exempt from or subject to concessions on stamp duty and transaction tax on transfer of properties.
34. Ibid,
35. Ibid,
36. Ibid,
37. In 1986, the United States changed its Internal Revenue Code and introduced the Low Income Tax Credit Program, in terms of which investors/ developers receive tax credits for agreeing to rent a portion of the housing at below market rates. Between 1987 and 2014, around 2.78 million dwellings were created through 43,092 separate development projects. Over the 20 years to 2014, an average of 107,000 dwellings were created each year across around 1,420 projects.
38. A common form of social enterprise in housing is community housing providers (CHPs). These work with governments and private sector partners to build and manage properties. Many lease properties from state governments, whilst others develop and maintain their own housing stock. An advantage of CHPs is that their structure associated with dealing with a range of other parties from the government and for-profit sector promotes transparency whilst the 'enterprise' nature of their model encourages innovation.
39. The section on Social Housing Bonds is based on the following article: Heaton, A. 2017. Impact Investing Could Be Key to Affordable Housing. *Sourceable*, 4 October 2017. Available online at <https://sourceable.net/impact-investing-key-affordable-housing-pub-sept-15/>.
40. Venture capital tends to focus on emerging companies that are seeking substantial funds for the first time, while private equity tends to fund larger, more established companies that are seeking an equity infusion.
41. As noted, the members of pension funds in some countries can also access their pension savings early and use these funds as down payment on a house or as collateral as a loan. In some (rare) cases, pension funds themselves also act as providers of mortgage loans to their members. These issues are covered in a separate companion paper to this report.
42. The pension fund could also provide wholesale funding to an intermediary to provide commercial finance to property developers or construction companies on the supply-side of the housing value chain. – For example, in South Africa, the pension fund asset management company, Futuregrowth, provides a line of credit to the National Urban Reconstruction and Housing Agency (NURCHA). NURCHA

- on-lends the funds to established- and start-up construction companies that build privately-owned affordable and government-subsidized dwellings.
43. There is evidence that where pension funds are involved in the mortgage market, interest rates can be reduced. Chile is a good example of this impact. Evidence shows that, across Latin America, access to the financial system (number of banked adults taken as a proxy) correlates with lower levels of housing shortage – with more people having access to loans to fund a housing purchase. In addition, pension savings are correlated with lower interest rates on mortgages – with affordability, as well as access, being key to providing more housing finance.
 44. For example, in Australia, the entry of wholesale-funded specialist lenders led to a reduction of 200 basis points in mortgage spreads from 1994 to 1996 (Cheikhrouhou et al 2007).
 45. Chiquier & Lea, 2009.
 46. Warnock & Warnock, 2008.
 47. Ibid.
 48. Chiquier & Lea, 2009.
 49. Ibid.
 50. Ibid.
 51. For ring fencing of collateral to be effective, most countries require a special law for its establishment.
 52. Cheikhrouhou et al, 2007.
 53. Milyutin, Undated.
 54. European Covered Bond Council (ECBC) Covered Bond Fact Book 2017 Edition <https://hypo.org/ecbc/press-release/ecbc-publishes-2017-edition-european-covered-bond-fact-book-including-market-statistics-2016/>
 55. Ibid.
 56. Ibid.
 57. Ibid.
 58. Cheikhrouhou, et al, 2007.
 59. Ibid.
 60. World Bank, 2011.
 61. World Bank, 2011.
 62. Langan, 2016.
 63. Ibid.
 64. For institutions with small (or no) deposit base, capital markets are the only source of funding. Even large commercial banks, who may not require external funding, may need to access capital markets to address maturity mismatches between their short-term deposits and long-term loans. Holding marketable bonds or being able to pledge loan portfolios for short term advances are ways to address this requirement. (Langan, 2016).
 65. Ibid.
 66. In emerging markets, the availability of fixed interest rate options reduces the impact of potential risks of interest rate and/or inflation volatility and provides lenders and borrowers with a degree of certainty. (Langan, 2016).
 67. Ibid.
 68. World Bank, 2011.
 69. Langan, 2016.
 70. Ibid.
 71. Mutero et al 2010.
 72. Philipps, 2011.
 73. The size of assets under management does not necessarily depend on the type of pension system adopted. In some countries, large pension assets have accumulated as these systems

require mandatory savings (e.g. Chile). In others, it is a large market of voluntary pension schemes offered by employers which has built up significant assets (e.g. UK, US). Some of the larger systems are defined contribution (DC) in nature (e.g. Australia), others are defined benefit (DB), such as the Netherlands. Some are managed by a number of competing private pension providers (e.g. Hong Kong), others consist of one large government scheme (e.g. Namibia). (Stewart, 2017).

74. Pallares-Miralles et al, 2012.

75. Mutero et al, 2010.

76. Demographic dividend, as defined by the United Nations Population Fund (UNFPA) refers to “the economic growth potential that can result from shifts in a population’s age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older). It is assumed that there is a boost in economic productivity when there are growing numbers of people in the workforce relative to the number of dependents.

77. Ibid.

78. Philipps, 2011.

