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Article

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Michael Voigtländer

Homebuyers, Liquidity Constraints and Private Market Solutions – European Best Practices

Even though the cost for owner-occupied homes fell sharply in the last years, homeownership rates in the EU remain sluggish. Sound economic policy would promote homeownership especially as rents are on the rise. Policies that facilitate schemes such as equity release options, housing saving plans and crowdlending seem promising. Low and temporary subsidies could jump-start private market solutions in those areas. Enabling many individuals to buy a home is sound, since individually-owned homes are a major driver of individual wealth accumulation. Moreover, higher homeownership rates can encourage growth.

The past few years have been characterised by a dramatic decrease in mortgage rates across Europe. In the Eurozone, average interest rates for fixed-rate mortgages of more than ten years dropped from over five percent in 2008, to less than two percent in the first half of 2018. The reasons for this development are well-known. First, there is the European Central Bank's expansionary monetary policy. In order to mitigate the effects of the financial crisis and the sovereign debt crisis, the ECB has pursued a very loose monetary policy, including unorthodox measures such as quantitative easing and the purchase of sovereign bonds.¹ Second, demographic changes are dampening the development of interest rates. In all OECD countries, the population is ageing. What is more, retirement ages have not been fully aligned with increased life expectancy, thus lengthening the period of pension payments.² Consequently, households need to save more in order to supplement their pension. Third, investments are stagnating. There are many reasons for this but it is presumed that the shrinking workforce is a main driver since fewer workers tend to result in less need for capital. Furthermore, digitisation demands better-educated workers but fewer capital investments, especially since industry 4.0 focuses

on network and machine communication rather than on huge capital investments. Decreasing public investment over time is another contributing factor. Thus, the real interest rate is decreasing as a result of less or stagnating investments and increased savings.³ While ECB policy is expected to change in the coming years, the demographic factor will endure and gain importance, thereby limiting future increases in mortgage rates.

For (potential) first-time buyers in the housing market this is a promising prospect. Given the user cost of housing approach, the cost of owner-occupied homes is determined by the purchase price combined with additional costs, such as stamp taxes and notary fees, foregone interest on equity, mortgage costs, maintenance fees and wear and tear, tax treatment of homes and average changes in the price of land.⁴ Changes over time stem primarily from changes in purchase prices and interest rates, given that the other factors tend to be constant and land prices strongly correlate with purchase prices.⁵ Calculated in this simple way, user costs for self-occupied properties have decreased in all European countries since 2010, while rents have tended to increase, as Figure 1 suggests. User costs for homebuyers decreased by more than 50%

¹ See for example D. Quint, O. Tristani: Liquidity Provision as a Monetary Policy Tool: The ECB's Non-standard Measures after the Financial Crisis, in: *Journal of International Money and Finance*, Vol. 80, 2018, pp. 15-34.

² See for example D.E. Bloom, D. Canning, G. Fink: Implications of Population Aging for Economic Growth, in: *Oxford Review of Economic Policy*, Vol. 26, No. 4, 2010, pp. 583-612.

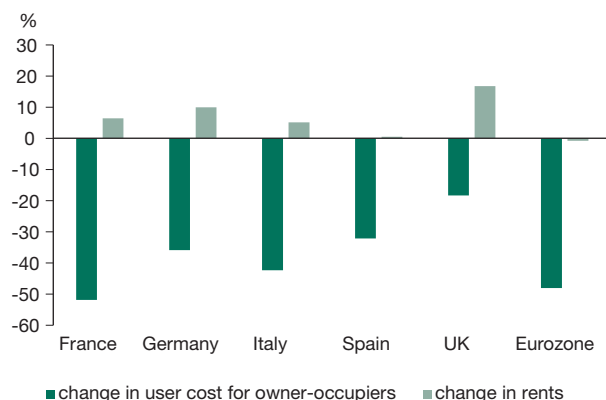
³ This is commonly known as secular stagnation, see L.H. Summers: Reflections on the 'New Secular Stagnation Hypothesis', in: C. Teulings, R. Baldwin (eds.): *Secular Stagnation: Facts, Causes and Cures*, London 2014, CEPR Press, pp. 27-38.

⁴ See J.M. Poterba: Tax Subsidies to Owner-Occupied Housing: An Asset-Market Approach, in: *The Quarterly Journal of Economics*, Vol. 99, No. 4, 1984, pp. 729-752. The user cost of housing approach is widely used in real estate economics, see for example C. Himmelberg, C. Mayer, T. Sinai: Assessing High House Prices: Bubbles, Fundamentals and Misperceptions, in: *Journal of Economic Perspectives*, Vol. 19, No. 4, 2005, pp. 67-92.

⁵ See D. DiPasquale, W. Wheaton: The Markets for Real Estate Assets and Space: A Conceptual Framework, in: *Real Estate Economics*, Vol. 20, No. 2, 1992, pp. 181-198.

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Figure 1
Price changes for renters and owner-occupiers,
2010-2017



Notes: For the calculation of user costs and rents, the OECD housing prices databank was used. Average mortgage rates for the Eurozone were provided by the ECB, whereas country specific mortgage rates were taken from European Mortgage Federation: EMF Hypostat 2017, Brussels.

Source: OECD: Housing prices databank; own calculations.

in France and by 18% in the United Kingdom between 2010 and 2017. On average in the Eurozone, user costs for self-occupants decreased by 48%. In contrast, rents increased in most countries, resulting in a significant increase in the attractiveness of homeownership.⁶

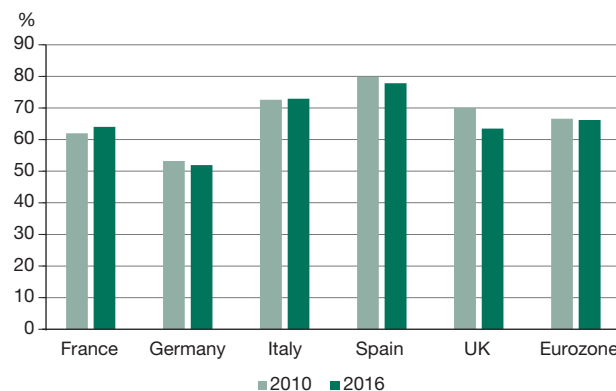
Although this is only a rough calculation, results are impressive and one should expect an increase in homeownership rates. Eventually, the low mortgage rates in the noughties triggered a strong increase in homeownership rates in countries like the US, the UK and Ireland. However, in most countries featured in Figure 2, homeownership rates either stagnated or even decreased following the crisis. Obviously, households could not take advantage of favourable macroeconomic conditions. There are notably various factors that influence homeownership rates, such as rental market regulations, subsidies for homeowners (which have increased in France, for example) and conditions of the labour market or housing supply.

Nonetheless, one reason seems straightforward, as it applies to all countries: financial regulation has tightened. As a consequence of the financial crisis, politicians as well as regulators have demanded a de-leveraging of the economy.⁷ Thus, new capital requirements have been in-

⁶ Comparable results can be found in C. Whitehead et al.: Understanding the Role of Private Renting: A Four-Country Case Study, Cambridge 2016, University of Cambridge.

⁷ See International Monetary Fund: Financial Stress and Deleveraging. Macroeconomic Implications and Policy, Global Financial Stability Report, Washington DC 2008, IMF.

Figure 2
Select homeownership rates



Source: European Mortgage Federation: EMF Hypostat.

troduced (Basel III). In some countries, caps on Loan-To-Value (LTV) ratios have been applied as part of an introduction of macroprudential instruments; in others, such as the Netherlands, tax benefits for mortgage loans have been reduced. While in the noughties mortgage markets were highly flexible to allow for high LTV ratios, banks and consumers today are pushed to finance with greater deposits. This is reasonable, as it will prevent a banking crisis in the future. Excessive lending for home purchase was one of the causes of the financial crisis, thus the demand for a financial architecture that is more robust, and therefore sustainable, is undisputed. Of course, a side effect of this is the increasingly restricted access to homeownership, possible only for households that have sufficient income to save enough capital for high deposits or that could receive considerable inheritances. Even with constant LTVs, restrictions are increasing as low interest rates have contributed to higher prices – although price increases were disproportionally lower compared to mortgage rate reductions. In addition, low interest rates for savings hinder the accumulation of capital necessary to settle down payments and transaction costs.

Thus, there is a certain risk that homeownership becomes a luxury good, only accessible to rich households. There are at least three reasons why this poses a problem for societies and policymakers:

- Owner-occupied homes are a major driver of individual wealth accumulation. A large share of discrepancies in wealth accumulation between both countries and individuals can be traced back to property investments.⁸

⁸ See B. Wind, P. Lersch, C. Dewilde: The Distribution of Housing Wealth in 16 European Countries: Accounting for Institutional Differences, in: Journal of Housing and the Built Environment, Vol. 32, No. 4, 2017, pp. 625-647.

Thus, restrictions on purchasing can contribute to a further unequal distribution of wealth. This is especially relevant in times of low interest rates since households are reluctant to invest in stocks.

- Empirical studies indicate that up to a specific level, homeownership promotes growth.⁹ Since investments in property are a major contributor to capital formation, and as first-time buyers invest more than landlords, an increase in homeownership rates contributes to economic growth. However, at a ratio of roughly two-thirds, an overinvestment in housing compared to other sectors might occur and stunt growth. For most Western European countries, this threshold level has not yet been reached.
- Lastly, the rental market is not sophisticated enough in all countries to provide housing for a growing number of tenants. Countries like the UK or Sweden struggle to boost the rental sector in order to supplement self-occupied housing.¹⁰ As it turns out, it takes a long time to convince investors as well as tenants of the rental market's attractiveness.

Therefore, states are in a dilemma. On the one hand, they do not want (and do not even have the capacity) to endanger financial robustness by allowing for expansionary mortgage lending like in the noughties, but on the other hand, they do not want to restrict access to purchasing a home. As a further constraint, public money is limited, and thus costly subsidies for homeowners that could substitute equity of first-time buyers should be avoided.¹¹ Moreover, such subsidies are difficult to justify as they redistribute from renters to homeowners.

However, there seems to be a way out. Using alternative sources for funding deposits or shifting riskier parts of mortgage financing to more robust lenders are options for making homeownership accessible without endangering financial stability. Such private market solutions do not have to be designed from scratch – they are common in some countries and may only need slight adjustments in order to be implemented elsewhere. Furthermore, recent developments such as crowd lending offer new opportu-

nities for investors and first-time buyers alike, when regulation is reasonable. Such market solutions are discussed below as well as options for progress derived. The analysis focuses on the Swiss option of equity release, German housing savings plans and the provision of mezzanine capital for homebuyers. Potentially, readers may be surprised that two measures from Switzerland and Germany are presented since both countries are famous for their low homeownership rate. However, a low homeownership rate is grounded in very different reasoning; and, particularly because restrictions are high, private market actors and policymakers alike have been inventive in the past to help households purchase a home.

Equity release options

In the Swiss pension system, households are allowed to release capital that they have saved in company or private pension schemes for the purpose of purchasing a self-occupied home.¹² The amount that households can use is not limited, but a minimum of 20,000 Swiss francs (roughly 17,000 euro) is required.¹³ The Swiss model is widely used, as Zimmermann points out.¹⁴ According to her survey, 58% of home purchasers make use of it, whereby 49% use savings from company pension plans, 24% from private pension plans and 27% from both. The average amount taken from company pension plans was 100,000 Swiss francs, and from private pension plans 53,000 Swiss francs in 2011. Hence, equity release contributes significantly to financing deposits and transaction costs.

The equity release option has no direct cost for the state. However, tax treatment is a tricky issue. If housing is treated as an investment good, i.e. if imputed rents are fully taxed, there is no special treatment necessary, although users of the equity release system would be worse off, since tax rates are usually lower during retirement than during employment. But even in countries where housing is treated as an investment good, imputed rents are typically below market value. In most countries, in contrast, self-occupied homes are treated as consumer goods. As such, a special tax solution has to be found to avoid favouring homebuyers. In principle, the tax payment should equal the discounted cash flow of taxes that would have to be paid on the released equity as if the equity remained

9 See C.E. Schmidt: Homeownership: Boom or Bane? Both!, 2016, Heilbronn University.

10 See for example C. Whitehead, S. Monk, S. Markkanen, K. Scanlon: The Private Rented Sector in the New Century: a Comparative Approach (med dansk sammenfatning), Copenhagen 2012, Boligøkonomisk Videncenter.

11 In Germany, the so-called 'Baukindergeld', a child-related subsidy of 24,000 euro to be granted to a family with two children that purchases a home, was introduced in 2018. However, as the instrument turned out to be very costly, the government recently agreed to terminate the program in 2021 – before the first subsidy was even granted.

12 See Y.S. Zimmermann: Vorsorgegelder zur Finanzierung von Wohneigentum: Wie und von wem werden sie beansprucht?, in: Die Volkswirtschaft. Das Magazin für Wirtschaftspolitik, Vol. 84, No. 5, 2011, pp. 59-62.

13 In other countries, equity release is also available, but sometimes with more restrictions. For instance, in Germany equity release is limited to the so-called Riester-Rente, a subsidised private pension plan.

14 See Y.S. Zimmermann: Nutzung von Vorsorgegeldern zur Finanzierung von selbstgenutztem Wohneigentum. Eine deskriptive Analyse, Luzern 2013, IFZ Hochschule Luzern.

in the pension plan and was paid out during retirement. Therefore, information on future yields, tax rates, other future sources of pensions and the duration of pension payments is necessary. This, however, turns out to be infeasible. Alternatively, the released equity could be taxed during retirement by assuming that the equity transfers to a fictive pension plan payment that is then taxed. This system is applied in Germany. Still, even then an assumption has to be made on the yield of self-occupied homes. Furthermore, the prospect of paying taxes on fictive pension payments seems to confuse most households and therefore reduces the acceptance of such an instrument. Consequently, a tax rate that roughly equals the tax payments during retirement seems to be a more pragmatic approach for dealing with this issue.

The high average amounts released in the Swiss example would not apply to all countries. In Switzerland, occupational pension plans are compulsory, thus capital accumulation is higher compared to countries with voluntary pension schemes. Nevertheless, in most European countries some kind of occupational or private pension plan is implemented and incentivised.¹⁵ According to ECB statistics, the total assets of pension funds amount to 2.4 billion euro in the Eurozone area, and the OECD estimates the total assets saved in all capital-based pension plans to be roughly six billion euro. Particularly in the current low interest rate environment, shifting money from pension plans to property could be beneficial, since most regulated pension plans rely predominantly on debt securities that only yield low revenues. According to ECB statistics, pension funds have invested more than 23% of their assets in debt securities, but only 12.5% in equity.¹⁶ Governments should take precautions to prevent creating poverty among the elderly as a result of high equity releases. Thus, a minimum pension payment has to be ensured by sufficient capital accumulated in pension plans. Consequently, the equity release option would chiefly enable middle-aged households with at least average incomes to purchase a home.

Housing savings plans

Housing savings plans are a classical financial product, with the first building society providing such a scheme dating back to 1775.¹⁷ In general, housing savings plans are a bundle of a saving plan and a mortgage loan. Typically, households have to save for a specific period in

order to qualify for a preferential mortgage loan. In most cases, yields in the savings period as well as the mortgage rate are below market level. In addition, loans are typically subordinated, i.e. they can substitute equity. Although housing savings plans have a long history, they are only used in a couple of countries. They are widely implemented in Germany and Austria, as well as being common in the Czech Republic, Slovakia and Hungary, among others. In the UK, where the first building society was founded, housing savings plans have vanished completely. The main reason for this was the expansion of mortgage markets. As banks offered higher loan-to-values, the necessity to save for, and thus postpone the purchase of a home diminished. With recent regulatory developments, however, the situation might change.

It is the possibility of granting subordinated loans, i. e. loans that in case of a default are not treated preferentially, that makes housing saving plans particularly appealing. Given that building societies know their customers, and only customers who qualify for a subordinated loan are those who manage to save continuously over a period of three to seven years, the risks for lenders are minor. Furthermore, by saving money, customers also build up equity, which reduces risks. Moreover, mortgage loans do not usually cover the complete purchase price, so additional equity is required. This reduces risks for lenders, too. Nevertheless, housing savings plans help yield savings and the granted loan can substitute equity, thus reducing the requirement of equity from other sources (like equity release).

Housing savings plans offer further advantages both for customers and the financial system. First, rates for mortgage loans are set at the start of the contract, which means they are determined years before the loan is granted. Thus, customers gain planning reliability and can secure preferential mortgage rates. Second, housing savings plans are based on a pay-as-you-go system, which allows for the hedging of financial risks, both for customers and the financial system as a whole.¹⁸ For instance, pay-as-you-go systems are especially favourable if the population (or more specifically the number of participants in the system) is growing. Lastly, behavioural economics demonstrate that people encounter difficulties saving money for a future event. Thus, committing through a contract could help achieve objectives.¹⁹

¹⁵ See OECD: Pensions at a Glance 2017. OECD and G20 Indicators, Paris 2017, OECD Publishing.

¹⁶ Most capital is allocated to investment funds with untraceable investment strategies.

¹⁷ The first building society was Ketley's Building Society, founded in Birmingham, England.

¹⁸ See P.O. Plaut, S.E. Plaut: The Economics of Housing Savings Plans, in: The Journal of Real Estate Finance and Economics, Vol. 28, No. 4, 2004, pp. 319-337.

¹⁹ See N. Ashraf, D. Karlan, W. Yin: Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines, in: The Quarterly Journal of Economics, Vol. 121, No. 2, 2006, pp. 635-672.

To help people commit to a savings scheme, in most cases housing savings plans are incentivised by a moderate subsidy. In the case of Germany, individuals with an annual taxable income of less than 25,600 euro obtain a subsidy of 45.06 euro per year (for couples the sums can be doubled). The annual cost for this subsidy amounted to 250 million euro per year over the last few years. The subsidy provides an incentive to save and demonstrates the state's support for the savings scheme. As subsidies for saving schemes are granted in most countries, housing savings plans could be made eligible for such subsidies.

As an alternative, housing savings schemes could be proposed by major companies or employer associations. With demographic change, skilled labour is becoming increasingly scarce,²⁰ and hence management has started to focus more on binding employees. It is, therefore, in companies' interest that employees purchase a home, since homeowners are on average less mobile, but more motivated.²¹ By providing housing saving plans and granting subsidies, young employees are further incentivised to remain with the company, especially if they have to repay subsidies in the event of contract termination. In general, it is important that households begin saving early in order to secure the availability of a preferential mortgage loan when it comes to starting a family. Thus, housing saving plans focus predominantly, but not exclusively, on people in the job-entry period as well as on households with individuals beginning occupational training. In order to implement housing savings plans, a legislative architecture is needed that sets out the rules for such savings schemes.

Crowdlending

In contrast to housing savings plans, crowdlending is a rather modern financial product.²² Crowdlending involves individuals (the 'crowd') collecting money to finance specific projects. The money is repaid within an agreed period and with interest. At first view, therefore, the crowd simply replaces a bank. This is basically true. However, the advantage of crowdlending is that risks are not concentrated in one bank, but instead shared among individuals who typically only invest small sums. Thus, financial robustness of the market as a whole should not be deteriorated. Currently, crowdlending (debt financing) and crowdinvesting (equity financing) are booming. Accord-

ing to Zhang et al., the market volume for crowdfunding increased by more than 160% between 2014 and 2016, reaching a market volume of 4.56 billion British pound in the UK.²³ Property lending accounts for up to a quarter of that amount. With a share of nearly 60%, the UK is the most important market for alternative financing schemes in Europe. However, markets are developing rapidly all over Europe.

Crowdlending for real estate has become particularly popular. In most cases, the development of a specific project is financed via mezzanine capital or subordinated loans. This means that investors lose their money in case of arrears, and if the selling price is not sufficient to repay lenders. To compensate this risk, investors receive a risk premium. In Germany, with 10-year mortgage rates reaching a level of under two percent, investors receive more than five percent per year for lending money for (typically) three years according to various offers by crowdlending platforms in 2018. Of course, interest rates are adjusted according to the risks entailed and the duration of the contract. Although costs are higher, project developers are interested in taking the loan as it replaces equity. On the other hand, individuals as well as institutional investors are seeking out alternative debt-financing models that offer higher yields than sovereign bonds.

Similarly to project developers, homebuyers need a surrogate for equity, and investors would presumably be interested in lending money that is backed by residential property. For investors, it could be beneficial to lend money to a crowd of homebuyers, as this diversifies risks. In addition, homebuyers' default rates are usually low, since households will do whatever it takes to stay in their homes, while companies are more likely to become insolvent, sometimes even for strategic reasons.²⁴ Despite this potential win-win situation, property lending for private households is currently a niche, at best.²⁵

20 See J. Gagnon: Demographic Change and the Future of the Labour Force in the EU27, other OECD Countries and Selected Large Emerging Economies, in: OECD: Matching Economic Migration with Labour Market Needs, Paris 2014, OECD Publishing.

21 See A. Henley: Residential Mobility, Housing Equity and the Labour Market, in: The Economic Journal, Vol. 108, No. 447, 1998, pp. 414-427.

22 However, the first project that was funded by a crowd was the pedestal for the statue of liberty in 1885.

23 See B.Z. Zhang, T. Ziegler, K. Garvey, S. Ridler, J. Burton, N. Yerolomou: Entrenching Innovation – The 4th UK Alternative Finance Industry Report, Cambridge Centre for Alternative Finance, 2017.

24 In Germany, the first default in crowdlending for real estate happened in 2017, when a project developer became insolvent due to the dismissal of some top managers. The insolvency was declared precautionary as the sudden dismissal of managers impaired the capacity to act, see J. Hoffmann: Crowdfunding: Insolvenzantrag für Projekt in Berlin, Der Tagesspiegel, 25 September 2017, available at <https://www.tagesspiegel.de/wirtschaft/immobilien/pleite-fuer-crowd-finanziertes-projekt-crowdfunding-insolvenzantrag-fuer-projekt-in-berlin/20362518.html>.

25 The House Crowd (<https://www.thehousecrowd.com/>) and Lendinvest (<https://www.lendinvest.com/>) offer property loans for private households.

One reason for this is the state: In countries such as the UK and France, the state dominates the market for subordinated loans. In the UK, the 'Help to Buy' scheme offers households subordinated loans at preferential rates, and in France loans are guaranteed by state-owned banks. Thus, it is difficult for private initiatives geared toward homebuyers to reach a critical scale. Such crowding out is, however, irrational, since risks are concentrated in state-owned banks or in the budget. What is more, for political reasons state-dominated schemes do not differentiate between the various risks entailed. Thus, misallocations are likely, as was the case with the subprime crisis, triggered by the purchase of mortgage-backed securities by Fannie Mae and Freddie Mac, regardless of the associated risks.²⁶ Another reason why property lending for private households remains limited is the legal framework.²⁷ Non-recourse mortgages would best suit the needs of borrowers, i.e. in the event of arrears, investors would be paid back if the selling price was sufficient to cover the cost of prime loans as well as subordinated loans; otherwise, the investors would lose money. However, a legal framework is not available in all countries. Furthermore, rules for consumer protection have to be drawn up. On the other hand, purchasing a home is the biggest investment most people make. Thus, a lender's track record is important for market success as it is a sign of trustworthiness. As this is a new market, market participants might have difficulty achieving a sufficient size. Thus, cooperation with banks might be helpful, at least at first.

A further obstacle might be the amount of the mortgage loan fee. In the beginning, with only a small number of customers, high fixed cost and uncertainty surrounding default rates, platforms might demand high risk premiums. This could deter households and threaten the political acceptance of this market. One option would be for states to subsidise low- and middle-income earners for a limited period until a suitable market scale is reached. In particular, if existing programmes were terminated, such subsidies could be justified. Designing such a market is unquestionably complex, as past initiatives have shown.²⁸ However, it is generally in the interest of homebuyers and

investors alike, especially since regulation demands alternative financing and low interest rates force investors to find new funding models.

Conclusion

Buying a home is the dream of a significant part of the European population. In general, the low interest rate environment made purchasing a home even more appealing, but with financial regulation tightening and prices increasing, high capital requirements are hindering households from buying. By subsidising homeownership or by providing state guarantees for mortgages, the access to homeownership could be eased – although the cost to society may be high – either by increasing budget costs and redistributing between renters and owners, or by posing a significant financial risk for the state in case of a housing market bust. Private market solutions, in contrast, have the potential to be as effective, but less costly for taxpayers. The solutions discussed in this contribution are both applied and well established in European countries, such as equity release options or housing savings plans, or promising alternatives like crowdlending. They act as a surrogate to equity, which facilitates access to homeownership. The risks posed to the financial stability of the country are manageable due to a number of reasons: households can use their own funds; subordinated loans are small; and either risks are shared between a wide-range of investors or loans are financed in an alternative way by using a pay-as-you-go system.

As indicated, these programs would also benefit from some kind of subsidy, although this is not compulsory. However, by offering an attractive tax solution for equity releases and by granting moderate subsidies for housing savings plans and crowdlending, the state would signal its acceptance for such market solutions and help them reach the necessary market size for using scale effects. At best, such instruments should be included in country-specific subsidisation of savings plans in order to avoid misallocations. Specific subsidies should definitely only be granted for a limited period to restrict costs for taxpayers and to avoid distortions in funding.

The aforementioned instruments are not intended to be used exclusively. Instead, a mix of the instruments would help satisfy households' financial requirements. In addition to subsidies, these solutions have to be incorporated into countries' financial architecture. This will be complicated and time consuming in some cases. However, it would appear that by using private market solutions, access to homeownership could be facilitated without endangering other objectives, such as maintaining financial stability and a more sustainable budget.

26 See P.S. Mills, J. Kiff: Money for Nothing and Checks for Free: Recent Developments in US Subprime Mortgage Markets, IMF Working Paper No. 07/188, International Monetary Fund, 2007.

27 See S.J. Smith, C. Whitehead, P.R. Williams: A Role for Equity Finance in UK Housing Markets? How Innovations in Equity Finance Could Make Home Ownership Safer and More Affordable, JRF Report, Joseph Rowntree Foundation, 2013.

28 See for example S. Pinnegar, H. Easthope, B. Randolph, P. Williams, J. Yates: Innovative Financing for Homeownership: the Potential for Shared Equity Initiatives in Australia, AHURI Final Report No. 137, Melbourne 2009, Australian Housing and Urban Research Institute.