1. IMF'S LATEST HOUSING MARKET ASSESSMENTS

- **China ([Article IV](#)):** "The property market trended down. Growth in real estate investment (excluding land purchases) was mostly negative in 2018, and both house price growth and sales growth slowed since late 2018. Housing inventories have started to build up in recent months, suggesting the housing cycle may still be in a downturn", says IMF's latest [report](#) on China.

- **Euro Area ([Article IV](#)):** "Macroprudential policies should be used more actively to manage financial vulnerabilities in both housing and corporate sectors. France, for example, has tightened large exposure limits for big French banks lending to highly indebted corporates, and some countries have increased their countercyclical capital buffers. However, bank-based tools cannot address risks arising from nonbank loans. As recommended in the 2018 FSAP, borrower-based tools could be legislated where they are currently unavailable, and used more proactively against risky firms and households. In particular a range of borrower-based tools for corporates (such as limits on loan-to-value ratios for commercial real estate, debt/equity caps and minimum ICRs) should be explored, and national macroprudential supervisors should have the authority to use these tools for all financial institutions. The authorities should also monitor liquidity risks in investment funds that are increasingly exposed to lower-grade corporate debt and real estate in search for yield. In order to be effective, comprehensive and comparable credit information systems need to be available in all countries. Urgently addressing data gaps in the area of commercial real estate and nonbank financial institutions is also needed to allow a fuller assessment of financial stability risks", says IMF's latest [report](#) on Euro area.

- **France ([Article IV](#)):** "Spending on housing is among the highest among European countries, with mixed outcomes for vulnerable groups (…). Similar to the UK, France spends 1.3 percent of GDP on housing development and housing benefits compared to 0.4

percent and 0.2 percent in Germany and Italy respectively. However, this is associated with mixed outcomes: while the overburden rate of poor households is among the lowest in France (16 percent compared to 37 percent in the UK), the number of rooms per person in poor households is lower in France than in the UK and in Germany, and houses of those at the lowest end of the income distribution in France are three times more overcrowded than in the UK", says IMF's latest report on France.

- **Germany (Article IV):** "House prices in major cities have continued to rise rapidly, moving further into overvaluation territory. Staff analysis suggests that house prices were overvalued in Germany's main cities, from 10–15 percent in Stuttgart and Dusseldorf to 25–30 percent in Hannover, Frankfurt and Hamburg and more than 40 percent in Munich in 2017.11 The government has stepped up efforts to increase housing supply, including by allocating €2 billion to build 100,000 new social housing units during 2020–21, selling federally-owned properties to local authorities at reduced prices to build affordable housing, and providing a special depreciation allowance for new rental housing construction. The impact on house prices, however, is expected to be limited", says IMF's latest report on Germany.

- **Indonesia (Article IV):** "There are no signs of asset bubbles—residential property prices grew by 3 percent (y/y) in 2018:Q4, while commercial property prices have been flat since 2017", says IMF's latest report on Indonesia.

- **Latvia (Article IV):** "The rapid rise in property prices merits attention. Despite a shrinking population, real house prices have increased by more than 7 percent per year over the last three years due to a surge in construction costs and prices of new dwellings. Current valuation indicators (price-to-income and price-to-rent ratios and deviations from long-term fundamentals) signal potential vulnerability to overvaluation of housing prices over the medium term. Yet, there are no acute financial imbalances, as the house price index is still about 20 percent below its pre-crisis peak in 2008, and aggregate house price developments have not been spurred by credit growth. Outstanding mortgage loans have dropped below 20 percent of GDP at end-2018, far below the euro area average of about 38 percent of GDP", says IMF's latest report on Latvia.

- **Namibia (Article IV):** "Private sector credit and house prices growth decelerated, while private sector indebtedness remained elevated. After years of double digit increases, nominal credit growth to the private sector sharply declined in 2017 and stabilized at around 6.8 percent in 2018.6 With liquidity easing, the deceleration was mostly driven by weak demand from a highly-leveraged private sector and the implementation of some macroprudential measures (…). Weak credit and economic conditions contributed reducing the growth rate in residential house prices to 1.7 percent (9¾ percent average over the past

five years). The economic slowdown began affecting the banking sector's asset quality. Over the last two years, NPLs more than doubled, although from very low levels. More recently, banks have started tightening lending conditions. With government's financing needs still high, banks' direct exposures to the public sector continued rising and reached about 10 percent of banks' total assets (7 percent in 2016)", says IMF's latest report on Namibia.

- **Portugal (Article IV):** "Growth of the Portuguese House Price Index (HPI) decelerated to 9.3 percent y-o-y in 2018:Q4 from its 12.2 percent y-o-y peak in 2018:Q1. Price increases have been more pronounced for existing dwellings, rising 9.5 percent y-o-y in 2018:Q4 and, in particular, in Lisbon and Porto, with the median value per square meter increasing more than 23 percent y-o-y in 2018:Q4. Data from the OECD (…) indicate that the price-to-rent and price-to-income ratios are slightly above their 2000:Q1–2018:Q3 averages, which suggests that housing markets are not significantly overvalued", says IMF's latest report on Portugal.

- **Saudi Arabia (Article IV):** "Mortgage lending is growing strongly, and real estate prices have declined in recent years. Risks at this stage are limited, but policymakers need to keep a close eye on financial and fiscal risks from the housing market. Real estate prices have fallen by around 20 percent since 2014. Housing rents have also been falling since early 2017. New supply is being driven by government initiatives to build affordable homes while the departure of expatriates may have slowed housing demand", says IMF latest report on Saudi Arabia.

- **Singapore (Article IV):** "The private housing market showed signs of overheating in 2017-18. Average monthly transactions increased by 35 percent in the year through June 2018, compared to the previous two years, and prices increased by 9.1 percent year-on-year in 2018Q2. Developer land purchase activity, including en-bloc purchases, in 2016-2018H1 led to high bidding activity (also implying a rising housing supply over the medium term). The number of foreigners purchasing properties, as well as the transactions values, increased significantly in 2017 and early 2018. In this context, the FSAP analysis found that foreigner residential property purchases had an upward effect on property prices (…)", says IMF's latest report on Singapore.

- **Slovak Republic (Article IV):** "There are early signs of a buildup of imbalances in the housing market. Overall house prices have increased in line with peers in the region. A regression-based assessment also shows that overall price increases since 2013 can largely be explained by economic fundamentals (…). Nonetheless, rising house price-to-income ratio shows a mild deviation from the historical average. Flat prices in urban areas have increased much more than the average house price, reflecting strong demand from domestic

investors and migrant rural workers as well as supply constraints resulting from limited plot availability and lengthy processes to obtain construction permits. The underdevelopment of the rental housing market—counting only around 10 percent of the housing market—contributes to higher property prices", says IMF's latest report on Slovak Republic.

2. EVALUATING HOUSING AFFORDABILITY POLICIES: WHAT WORKS?

In this interview, Stijn Van Nieuwerburgh talks about his new paper on "Affordable Housing and City Welfare". [Stijn Van Nieuwerburgh](#) *is the Earle W. Kazis and Benjamin Schore Professor of Real Estate and Professor of Finance at Columbia University's Graduate School of Business. The paper is co-authored with Jack Y Favilukis (University of British Columbia) and Pierre Mabille (New York University).*

Hites Ahir: The "housing affordability crisis" has been in the headlines in many parts of the world. How serious is this crisis?

Stijn Van Nieuwerburgh: One commonly agreed upon metric to quantify the lack of affordability is the fraction of renters that spend more than 30 percent of their income on rent. Among the 50 largest metropolitan areas in the United States, half of all renter households are *rent burdened*. Another popular metric is house price to average income ratio. The price-to-income ratios have been going up in every major city in the world. In my view, this is the leading challenge for local policy makers.

Hites Ahir: Your new paper builds a framework to evaluate four housing policy tools— zoning changes, rent control, housing vouchers, and tax credits—that policymakers employ to tackle housing affordability issues. In layman's terms, could you describe the framework?

Stijn Van Nieuwerburgh: The framework is adapted from modern macro-economics and finance: a large group of households that differ in age and labor productivity make choices about how much to consume, save, and work, whether to own or rent a house, the size of the house, and how large a mortgage to get--if they own. Savings are invested in a bond or in rental housing. We introduce a spatial dimension in this macro model: the city has a center where people work,

but only some live there. The rest commutes from the suburbs and outer boroughs of the city to the center. Commuting has a time cost and a financial cost. Households can choose their location in each period. Developers decide how much housing to build in each location but are subject to zoning rules, which are particularly strict in the center. This makes housing supply much less elastic in the center.

Developers are subject to an affordable housing mandate capturing the realities of mandatory inclusionary housing: when they build rental housing, developers must set aside a percent of the total square feet for housing that rents at below-market rates. These affordable housing units are allocated by lottery, but subject to an income qualification requirement. Once a household gains access to an affordable housing unit, it is allowed to stay there without having to satisfy the income requirement.

The model captures three main costs of affordable housing. First, supply reductions because developers face lower prices and rents. Second, misallocation of housing across the income and wealth distribution both because some underserving households gain access to affordable units despite having fairly high income or wealth and because they do not move out once their income rises. Misallocation also takes the form of distortions in the size of the housing unit chosen with some consuming more housing and others less than they would in the free market, and spatial misallocations. Third, a reduction in labor supply.

The model also captures a key benefit of affordable housing units: it acts as insurance device in the presence of income risk. When households fall on hard times, these affordable housing units provide shelter at low rents which improves housing stability. Because most models that deal with affordable housing do not model households' income risk, households' risk aversion, and market incompleteness, they miss this insurance benefit.

In sum, affordable housing policies have costs and benefits. Dialing the knobs of these policies up or down shifts the economy along the efficiency-equality tradeoff curve. Since a policy

usually benefits some households at the expense of others, we need to take a stance on how to aggregate individual households' welfare. We choose a utilitarian social welfare criterion which weighs every household equally. But because poor households have higher marginal utility, there is more social benefit to helping them. How much more depends on the curvature of the utility function and how much residual risk they face given the social insurance programs already in place.

Hites Ahir: What are the main findings?
Stijn Van Nieuwerburgh: We calibrate the model to the New York metropolitan area, and show that the model does a good job matching the observed income, housing, and financial wealth inequality, house price and rent levels, and home ownership rates. The model also captures current zoning policy and the share of affordable housing units currently in place. With this "status quo" as our baseline, we explore various policy changes.

The first main result is that reducing the misallocation of affordable housing units can lead to large welfare gains, about 3.6 percent of lifetime wealth. Specifically, we lower the income qualification threshold for affordable housing unit lottery winners, and force existing tenants to requalify every 4 years. By rotating out higher-income tenants and bringing in low-income tenants, we improve access to the insurance provided by affordable housing units. We can do so without dramatically reducing housing stability. Of all policies we analyze, reducing the misallocation of affordable housing units creates the largest welfare gains for society. This policy does not expand the number of affordable housing units.

The second main policy experiment studies an expansion of the affordable housing mandate. Developers now must set aside a larger percentage of square feet of affordable rental units of the total square feet of market rentals they build. This policy is akin to an expansion of rent control-- as recently transpired in New York State and Oregon--since a larger fraction of rental units will be affordable. We contemplate a fifty percent expansion, which results in 30 percent rather than 20 percent of the rental stock being rented at a 50 percent discount to the market rent This policy

creates modest welfare gains of 0.66% of permanent consumption. This gain is only about 1/6th as large as reducing the misallocation in the existing affordable housing stock but comes at great expense to the developers in the form of billions of dollars in lost rents. The reason for the modest gain is that while the policy helps more needy households, it also creates more housing and labor supply distortions, and more housing misallocation.

The third main experiment studies an upzoning policy, which increases the amount of residential housing that can be built in the city center by 10%. This policy has the intended effect of lowering rents and house prices by increasing housing supply. It also saves on commuting costs since more households can now live in the city center. But the welfare gain it creates is modest: 0.37%, or about half of the gain from the expansion of rent control. In contrast to the previous policies, zoning is much less redistributive in nature. It benefits all ages, income groups, and wealth groups, even most existing homeowners (who do suffer house price declines). By the same token, it fails to generate large welfare gains for the poor, which is where most of the bang for the buck lies in terms of welfare gains.

The fourth experiment expands housing vouchers, such as Section 8 vouchers. These are cash transfers earmarked for housing. In the model, the additional vouchers must be paid for with additional taxes. Since the tax system is progressive, the rich see their taxes rise. Because labor income taxation is distortionary, this results in a non-trivial reduction in labor supply. The city's economic output falls as a result. Nevertheless, the voucher expansion is well targeted on the poor and creates a sizeable welfare gain of 1.0 percent.

Figure 1 shows the welfare gains of the policies for households of different productivity levels. It clearly shows the redistributive nature of the policies that make affordable housing more efficient, that expand rent control, and that increase vouchers. The upzoning policy creates smaller, but more uniformly distributed benefits.

In the paper we also consider low-income housing tax credits, which we find to be fairly ineffective since they create modest rent reductions but are financed with distortionary taxation.

One final experiment worth mentioning is that moving all affordable housing units from the city center to the rest of the MSA leads to a welfare gain, but only if it is accompanied by subsidies for transportation. The financial cost of commuting is an important factor for low-income households.

Figure 1.
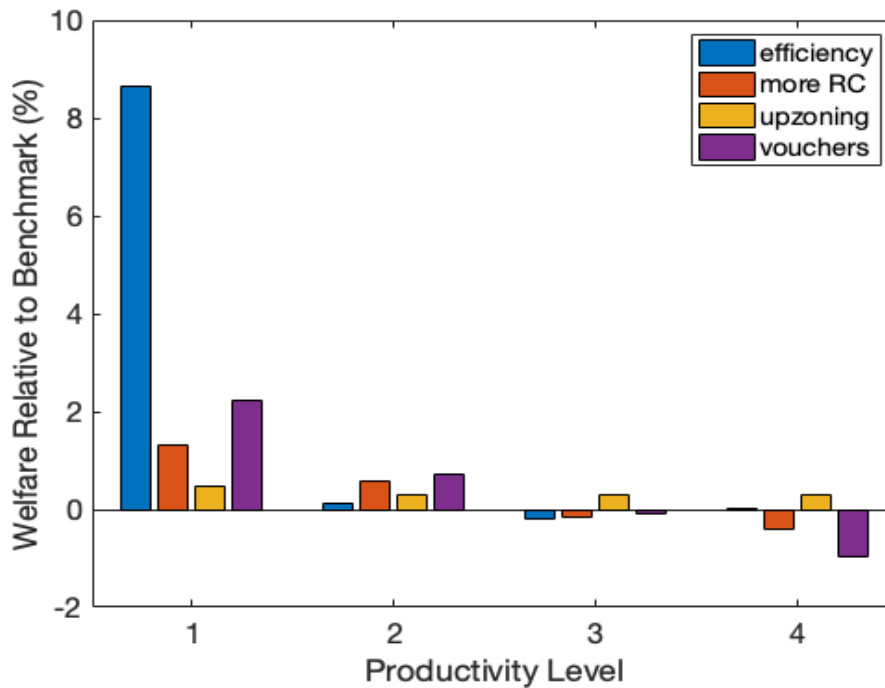
Hites Ahir: In the paper, you point out that standard affordability metrics do not capture the improved availability of affordable housing. Why?

Stijn Van Nieuwerburgh: In a spatial equilibrium model, households may respond to policy changes by moving. This changes the average income of a neighborhood. While rents may be falling in response to a policy change, average rent-to-income ratios may be rising if the policy attracts lower income households to the neighborhood. The policy experiment that creates more affordable housing units, for example, results in a rise in the average rent-to-income ratio in both

zones. A policy maker defining housing affordability by the average rent-to-income ratio would erroneously conclude affordability had gone down.

Hites Ahir: What are the policy implications of your findings?

Stijn Van Nieuwerburgh: They follow directly from the welfare gain calculations. We need more efficiency in the affordable housing system with a renewed focus on helping the neediest. Allowing people who make more than $200,000 stay in their affordable housing unit, like in the new New York rent control law, is the wrong reform. We do not require a massive expansion in the scope of the affordable housing stock, but modest expansions can help in combination with reductions in misallocation. We also need to expand supply, but cannot expect miracles from that approach alone.

Hites Ahir: What kind of questions you would like future research on housing affordability to address?

Stijn Van Nieuwerburgh: We hope the framework is useful as a jumping-off board for others to model more place-based policies, such as investments in transportation infrastructure.

ABOUT GLOBAL HOUSING WATCH NEWSLETTER

The Global Housing Watch Newsletter aims to present a snapshot of the month's news and research on global housing markets. If you have suggestions on new material that could be included or ideas to improve this newsletter, you can send it to Hites Ahir (hahir@imf.org).

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