2020 EUROPEAN SEMESTER COUNTRY REPORT:

Austria

Prices and rents are growing strongly, but housing remains comparatively affordable; risks in the banking sector are contained. Despite rising housing prices and rents, Austria's subsidy scheme and elaborate system of limited-profit housing associations keep costs relatively low. Consequently, housing cost overburden is less of an issue than in the EU on average, but some groups remain vulnerable. Risks to the banking sector seem contained, despite dynamic mortgage lending, but they warrant close monitoring.

Investment

In line with the economic slowdown, investment decelerated in 2019. From 2015, Austria saw investments pick up significantly, thanks to high capacity utilisation, strong housing demand and overall low financing costs. However, in a context of high uncertainty and weakening industrial production, investment growth turned negative in Q2 and Q3 2019 and is set to remain less dynamic in 2020-2021. On the other hand, excess demand for housing is likely to support investment in the construction sector. Public sector investment is also expected to be conducive to growth. Austria's investment ratio has been consistently above the euro area average since 2009. It has been increasing again gradually since the crisis, reaching 24% of GDP in 2018. This is mostly due to an increase in the share of business investment (household and public investment have remained broadly stable).

Housing

House prices have been growing strongly, driven mostly by developments in Vienna. In the past decade, Austria has seen repeated house price surges, leading to the strongest price rises in the euro area relative to a low pre-crisis levels. This can be mainly attributed to an accumulation of excess demand (higher demand than supply), also due to the low interest rate environment. The rises were driven mostly by the capital, Vienna, where prices have doubled over the past decade. However, between 2015 and 2018, prices also grew strongly in other regions, reducing slightly the gap between Vienna and the rest of the country (European Commission, 2019a). Risks to the banking sector stemming from the increasing exposure of banks to the real estate sector seem contained so far, but parallel increases in rents put pressure on the affordability of housing.

HOUSING MARKET AND REAL ESTATE FINANCING

House prices have risen strongly in the past decade, but recent data show opposing tendencies. House prices have gone up strongly, with nominal prices 82% above 2006 levels. In the last 2 years real house price growth has remained contained with2.5%growth (4.7% nominally) in 2018, after 3.2% (5.3% nominally) in 2017 (Eurostat). By contrast, the OeNB nominal residential property price index shows a clear acceleration, with 6.9% nominal growth in 2018 after 3.8% in 2017. Both sources indicate high nominal year-on-year growth in Q3 2019 of 6.18% (Eurostat) and 5.2% (OeNB). In Vienna, prices increased by 9.8% in Q2, a development last seen in 2013, but growth decreased slightly in Q3 to 7.6%. In other *Länder*, prices grew moderately and have been decelerating for several successive quarters (OeNB,2019).

Excess demand for housing appears to have peaked in 2016, as building permits and construction picked up. After peaking in 2016, increased construction activity and weaker demand are expected to eliminate excess demand by 2020, though it may take longer in Vienna (Schneider, 2019; European Commission, 2019a). This is also visible in the strong increase in the number of building permits issued in 2016 (+16.9%) and 2017 (+10.2%). While growth in the demand for building permits fell strongly in 2018 (-16.9%), it was still high (70,000 permits). First estimates for 2019 show stable development. The fact that permit applications focused on multi-family homes suggests that the dwelling stock in cities (in particular Vienna) may grow faster than in past years (IIBW, 2019). Construction of dwellings increased by 6.2% in 2017 and 1.3% in2018.

While investment in construction picked up since 2016, the parallel increase in GDP meant that residential investment as a percentage of GDP remained roughly stable. It increased slightly, to 4.5%, in 2017-2018, compared to 4.3% in 2012-2016.

Most indicators suggest that house prices are overvalued by 10% or more. Several assessment indicators suggest an average house prices overvaluation of 10-14%. As prices have increased more than income, the price to income ratio is 29% (Q3 2019) above its long-term average and among the highest in the euro area. In 2018, a 100 m² dwelling cost on average 10.7 years of the average annual household income, somewhat more than in most euro area countries. The OeNB fundamentals indicator for residential property prices increased further for Vienna, reaching 26% in Q3 2019, and went up to 14% for the country as a whole (OeNB, 2019). A key difference from other euro area markets is that rents also increased strongly. This has affected the affordability of housing. However, the price to rent ratio is only 15% (Q3 2019) above its long-term average and the model-based methods point to a rather low valuation gap. Risks to the banking sector seem contained.

AFFORDABLE HOUSING

Austria has an elaborate system of limited- profit housing associations and a subsidy scheme that keeps housing costs relatively low. The housing and rental market is characterised by a low home ownership rate (48%), combined with a well-established system of social housing, which usually provides accommodation at prices below market rents. Only 18% of households live in a private rented property, 17% in Limited Profit Housing Association (LPHA) properties and 7% in municipal housing. The remaining 9% live in dwellings with other forms of housing contracts (Amann and Mundt, 2019). Together with the legal framework, the building and loan association and housing subsidies, the social housing scheme is a powerful tool to increase economic and social resilience by stabilising the housing and construction sector. It also enables political intervention, e.g. fostering investment in the energy efficiency of buildings (Mundt, 2018; IIBW, 2019). However, a dearth of available dwellings and long waiting lists, together with often-substantial entry costs in the case of LPHAs, may *de facto* limit access for people at risk of poverty (Fink,2019).

Rising rental costs make it more difficult to access affordable housing. Rents increased by 13% between 2014 and 2018, especially on the private market. While the overall incidence of housing cost overburden is relatively low (AT: 6.8%; EU average: 9.9%, 2018), there are substantial regional disparities. This affects mostly people living in cities (11.6%). The housing cost overburden rate for people at risk of poverty is 36.5%

and even higher for those aged 16 to 29 (AT: 44.8%; EU: 40.4%). Strong house price rises in the past decade reduced affordability, in spite of low interest rates. Housing cost overburden was around 15.2% for tenants (2015-2018) and 1.9% for owner- occupied dwellings (EA19: 25.8% and 5.3%; EU 27.1% and 5.3% vs 14.1% and 2.3% in 2011-2014).

Housing subsidies have gradually decreased. The housing subsidy scheme is one of the most effective in the EU. It is also one of the most efficient: the share of expenses that can be attributed to housing subsidies is less than 0.5% of GDP, far less than in other EU countries (IIBW, 2019; Amann and Mundt, 2019). It is mostly a municipal competence (Amann and Mundt, 2012; Mundt, 2018) and mainly supply-side driven, with subsidies for (i) renovation (24% of total housing subsidies), (ii) and the construction new of flats (53%), single family-houses (8%), private homes (roughly 30%) and municipal and non-profit housing (70%). There is also a demand-side subsidy (iii) in the form of housing allowances, but this is much lower (16%) (IIBW, 2019; Amann and Mundt, 2019; Klien, 2019). However, despite rising house prices and rents, there has been a clear drop in expenses for housing subsidies (-18% since 2014), which are now below the 10-year average. This affected all areas (IIBW,2019).

Greenhouse gas emissions are still far above EU and national targets; without further measures carbon neutrality is unlikely to be realised by 2040. Reaching EU and national climate targets will require internalising the costs of CO_2 emissions, e.g. through implementing an eco-social tax reform. Reducing transport-related emissions is essential for meeting air quality standards and climate goals. Austria is shifting transalpine transport to rail, but more effort is needed on urban mobility. Promoting reuse, recyclability and secondary raw materials market should boost the circular economy and drive innovation. The transition to climate neutrality is a challenge for the regions with carbon- intensive industries. The Commission's proposal for a Just Transition Mechanism under the next multi-annual financial framework for the period 2021-2027, includes a Just Transition Fund, a dedicated just transition scheme under Invest EU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair, by helping the most affected regions in Austria to address the social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report.

Increasing the level and efficiency of energy taxes is key to reducing emissions. According to the Austrian Environment Agency 37% of Austria's greenhouse gas (GHG) emissions were covered by the European emissions trading system (ETS) in 2017. Private households produced about 18% of total CO_2 emissions through heating and transport (Austrian Parliamentary Budget Office, 2019b). Non-ETS areas are subject to national taxes and excises, which differ substantially between energy products (e.g. diesel vs petrol) and usage (heating vs propellant). Furthermore, national taxes and excises do not generally reflect the carbon content of specific energy sources (Kettner-Marx and Kletzan-Slamanig, 2018). As regards the taxation of fuel (as a major source of GHG emissions), Austria has the third lowest tax rates on petrol and diesel in the EU in terms of purchasing power parity (Kettner-Marx and Kletzan-Slamanig, 2018). Moreover, circulation taxes on buses, coaches and heavy-duty trucks are relatively low and electric buses are subject to higher taxes than old, fuel-inefficient buses. Overall, the uneven and generally low levels of energy taxation undermine its efficiency and effectiveness as a policy tool to incentivise environmentally beneficial consumption. Rather, low fuel taxes attract consumers from outside Austria (*Tanktourismus)* (Köppl and Schratzenstaller, 2015b, Kettner-Marx and Kletzan-Slamanig, 2018).

Austria is at risk of missing its 2020 greenhouse gas (GHG) emission targets. While total emissions decreased by 3.7% in 2018, with the emissions from industrial processes declining by close to 10%. However, the transport sector witnessed a further increase. From 1990 to 2017, GHG emissions have slightly increased in Austria, while they have significantly decreased in the EU as a whole (see Graph 3.5.1), as also reflected by SDG 13. Overall, in 2017, the main sources of GHG emissions (including ETS) were the energy and industry sectors (44.9%), transport (28.8%), buildings (10.1%) and agriculture (10.0%) (UBA, 2019). *Per capita* GHG emissions (9.35 t CO_2eq) were above the EU average (8.45 t) (EEA, 2019).

SUSTAINABLE BUILDINGS ANDTOURISM

Several measures have been taken to improve energy efficiency across sectors, in particular for buildings. Implementation of the Ecodesign Directive improved the energy efficiency of household appliances. The Energy Efficiency Law requires energy suppliers to achieve savings of 0.7% of the previous year's consumption, 40% of which must come directly from households. Energy-consuming companies (apart from SMEs) have to monitor or manage consumption, e.g. through energy audits. Strict requirements for building regulations and thermal renovation of buildings have already led to almost 50% more energy savings. Heat supply systems such as boilers, district heating, solar systems and heat pumps also contribute. Additional regulatory measures to phase out oil heating (ban for new buildings as of 2020) and renovation subsidies may improve efficiency further. The government aims to double the current building renovation rate through priority measures such as replacing fossil fuels for heating with renewables. The objective is backed by financial measures and administrative rules.

Belgium:

Over the past few years, Belgian housing prices have grown much more slowly than those in neighbouring countries. Nevertheless, some indicators point to overvaluation risks in the Belgian residential real estate market.

Belgium has significant investment needs in education, sustainable transport, energy, digital infrastructure such as 5G and social housing. Belgium's commitment to fully phasing out nuclear energy by 2025 means there is a need for major investment in power generation, as well as interconnection capacity, smart grids and storage. Addressing labour shortages, especially of employees with backgrounds and skills in science, technology, engineering and mathematics, will require investment in the training and education system. Important investments are on-going in suburban rail infrastructure and signalling. Renovating the old building stock, which predates the introduction of energy norms, will help Belgium meet its 2020 and 2030 emission reduction targets. There are important needs in terms of social infrastructure (early childhood education and care, social housing, schools) and workers in the social sector. Digitalisation of public services and justice, and the reinforcement of certain key enforcers and public bodies, would improve institutional governance.

Belgium faces important investment and regulatory challenges for sustainable growth and to ensure the low-carbon transition.

The Belgian National Energy and Climate Plan has low ambition in terms of energy targets. Large public and private investment needs have been identified and will be required to adapt mobility solutions, energy production and housing quality. Despite proactive policies, the building sector is responsible for a fifth of emissions in Belgium, notably due to the old age of the building stock and still low renovation rates. Road users pay around 43% (passenger) and 27% (freight) of their external and variable infrastructure costs, intensive agriculture, especially in Flanders, and relatively high population density exert strong pressures on land and biodiversity.

Household debt increased slightly and remains disposable income. Household debt has increased slightly to 59.7% of GDP, from 58.9% of GDP in 2017. It accounted for 104.1% of gross disposable income in 2018, up from 102.7% in 2017. This remains below what fundamental drivers would suggest is sustainable (see Section 3.2). However, it continues to rise above the level of the prudential benchmark (i.e. the level generally associated with heightened risks of banking crisis). In contrast, households' debt still accounts for a relatively modest share of their financial assets, at 21.2% in 2018, due to a very favourable aggregate net asset position.

Housing prices have increased moderately in recent years. Real house prices, as measured by the house price index, have increased by 1.1% year-on-year as of 2019 Q2, broadly in line with their evolution in recent years (1.2% per year since 2015). This moderate expansion follows a period of strong growth of about 5% per year from 1998 to 2007. Over the past few years, Belgian housing prices have grown much more slowly than those in neighbouring countries. Nevertheless, some indicators point to overvaluation risks in the Belgian residential real estate market.

Despite significant investment needs, public investment barely increased and remained below the euro-area average. Belgium has important investment needs in social housing, education, sustainable transport, energy and digital infrastructure. However, in line with previous electoral cycles, in 2018 gross fixed capital formation increased to 2.6% of GDP from 2.4% in the previous year. The increase is mostly due the regional and local governments, while investment from the federal government barely changed. At 2.6% of GDP, public investment in Belgium remains below the level in France (3.4%) and the Netherlands (3.3%), but above Germany (2.4%).

Some tax expenditures create a certain number of economic and social distortions. For instance, the existence of 'marital quotient' helps create work disincentives for second earners. Moreover, most tax expenditures, like the tax deductibility of service vouchers and housing loans interest deductibility on secondary residence, disproportionally benefit high-income earners. Mortgage tax deductibility has contributed to drive the increase in private debt. While well-designed tax expenditures can be justified and enhance positive spill overs and welfare, they may cause economic distortions and not be the most cost-efficient means of achieving economic and social policy goals.

The current tax rules governing housing contribute to overinvestment in real estate as compared to other types of investment. Differentiated tax rates and tax expenditures for several types of capital investment, make the tax system complex and lead to misallocation of capital. While mortgage tax deductibility for primary residences is now abolished in all regions except Wallonia, it still applies for secondary residences and rented housing. In addition, income from rented housing benefits from a favourable tax treatment as compared to income from other types of investment. Rental income from housing property located in Belgium is taxed based on the outdated cadastral income (indexed value of 1975 estimated income), which is on average substantially lower than the actual rental income received. Calculation by the European Commission's Joint Research Centre have estimated that taxing the net rental income would have a positive budgetary and redistributive impact. Any reform should, however, be carefully considered against the background of (rental) housing market policies, of the overall country taxation system and the possible impact on the real estate market.

Unequal tax treatment of rental income taxation

Unlike in most EU Member States, rental income is taxed based on a fictitious amount rather than the received housing rent in Belgium. ([1]) The tax treatment of rental income depends on the purpose for which the property is used. When immovable property is rented out for professional purposes, the actual rental income received is added to the personal income tax base. Related expenses are estimated to 40% of the rental income received and tax deductible. When immovable property is rented out for housing purposes, not the actual rental income but 140% of the indexed cadastral value (since 1991) is used to calculate the tax base. The cadastral value is on average approximately 20% to 25%[2] of the actual rental income received. Incurred related expenses are not tax deductible but a standard deduction of 40% applies.

A substantial amount of tax revenue is lost due to the current tax treatment of rental income. Based on EUROMOD, the budgetary and redistributive effect of the current tax treatment of housing rents was quantified by comparing it to a scenario in which households' actual rental income is subject to personal income tax. Results show that taxing actual rents under the personal income tax system, would generate additional tax revenue of approximately 0.15% of GDP on an annual basis.

Moreover, the overall distributional effects of the current tax system seem regressive[3]. Given that some properties are over-valued while others are under-valued, the use of outdated cadastral values also entails distributional concerns. Since high-income earners own relatively more immovable property than low- income earners, they benefit most from the favourable tax treatment of rental income. Moreover, given the progressive tax rate schedule in Belgium, they benefit proportionally more than high-income earners. Hence, taxing actual rental income would mainly affect the highest income groups.

Finally, the current tax treatment does not incentivise property owners to invest in the maintenance of their rented property. Currently only financing costs for acquiring rental housing can be deducted from the tax base. Other expenses related to the rental activity, like maintenance costs, are not tax deductible. Granting tax deduction to maintenance and renovation costs could stimulate the building sector. Moreover, it could help reduce the informal economy, as invoices would be needed for the tax deduction to apply. In addition, deductibility of renovation costs could improve the quality and the energy efficiency of the housing stock and help easing the energy transition.

(1) Only Greece, Croatia, the Netherlands, Slovenia, Romania, Finland and Sweden tax rental income separately from other personal income, often at a flat rate. Italy, Latvia, Malta and Poland have a two track system where the taxpayer can choose whether the rental income is taxed separately at a flat rate (without any deductions) or under the personal income tax system.
(2) European Commission, « Press Releases – Taxation: European Commission asks Belgium to revise its taxation of property income from abroad", 22 March 2012,https://europa.eu/rapid/press-release_IP-12-282_en.htm?locale=en
(3) EUROMOD simulations are based on survey Statistics on Income and Living Conditions (EU-SILC data) and cover a sample of the household population. Using administrative data may provide different simulation results.

Belgian house prices currently present signs of a limited overvaluation. After a period of dynamic growth between 1998 and 2008 (5% average annual increase) house prices have risen by 2.2% on average annually in nominal terms since 2008 and by 0.7% per year in real terms. Steadily increasing house prices might explain part of the increase in households' debt, as the latter is mostly mortgage-based. Traditional indicators (price to income, i.e. affordability and price-to-rent i.e. dividend) signal a potential 20% overvaluation gap of Belgian house prices. However, a more sophisticated indicator developed by the European Commission (Philiponnet, N. et al., 2017), which takes into account housing demand and supply fundamentals like interest rates shows no evidence of overvaluation, whereas the National Bank of Belgium valuation model only finds a moderate overvaluation (5.9%) (National Bank of Belgium, 2019).

The tax framework might also have played a role in the increase in housing prices and in mortgage debt by providing borrowers with several significant tax incentives. The decision of the Brussels and the Flemish regions to phase-out their mortgage tax advantages is a step in the good direction as it reduces incentives to borrow. However, there still remain tax incentives for borrowers at federal and regional level (‘chèque-habitat‘ in Wallonia).

Social housing remains a concern, in particular for those on the private rental market. About 8.6% of the population spends 40% or more of its household income on housing, which is below the EU average of 10.4%. However, there are large differences between regions and population groups. The housing cost overburden rate is higher for those renting on the private market (33.8% as compared to 27.4% for the EU average) and those living in Brussels. There are long waiting lists for social housing in 2018. In Brussels, the number of households on waiting lists) even exceeded the actual available social housing stock. The government agreements of all federated entities have announced investments in social housing. In Brussels, for example, a ’Housing Emergency plan‘ will be drawn up in 2020. This plan aims to provide effective housing solutions for 15,000 households. It will consist of additional investments in social housing as well as extending the social rental agencies and providing housing allowances. In Flanders, the government proposes to introduce a residence requirement in the municipality (10 years of residence of which 5 years uninterrupted) for social housing. This condition risks reducing access for vulnerable groups, such as refugees, and having a negative impact on labour mobility.

Construction sector

Labour shortages and cumbersome building permit procedures are holding back growth in the construction sector. Belgium faces a shortage of about 20 000 construction workers every year. Posted workers account for up to 20 % of the construction workforce. The labour shortage hampers the potential important role that the construction sector could play in reaching the 2030 target for reducing greenhouse gas emission by contributing to the renovation of the old and low- energy performing Belgium housing stock. Access to finance does not appear to be a problem. Companies of all sizes perceive credit constraints as low and according to the latest surveys, financing conditions are positively assessed.

Despite these shortages, there are large discrepancies in reforming the entry requirements for craft/construction services across the regions. Flanders abolished qualification requirements for a large range of professions. Wallonia only for five of them. In Brussels there has been very little reforms on qualification requirements. Discussions have started between the regions on a cooperation agreement to facilitate the free flow of professionals across the regions, but this has not resulted in any progress so far. In 2018, uncollectable receivables were most often associated with the insolvency of customers in the construction sector. In 2014, 61% of construction companies wrote off debt, as they were not able to collect it. A 2018 survey showed that for 30.4% of Belgian construction firms, this was due to the high costs associated with pursuing a payment.

Long delays to obtaining a building permit are a barrier to investment in construction, notably for the renovation of the existing housing stock. On national scale, the average number of permits issued per month has hardly increased since 2000 and has stabilised between 2,000 and 2,500 new homes and buildings to renovate and about 4,500 authorised projects on a monthly basis. In 2016, the renovation rate of the housing stock stood at 0.44%. In Brussels, the recent reform of the Code on Land Use (CoBAT) has tightened the deadlines for the administration to respond to building permit requests, while in Flanders the digitalisation of building permits is on-going. In Wallonia, the timeframe for obtaining a building permit was reduced by the reform of the land use code.

Non-ETS sectors – building, transport, agriculture and waste management

Renovation of the building sector is moving slowly in spite of proactive policies. The building sector is responsible for more than 30% of non- ETS GHGs emissions in Belgium. Belgium ranked low in relation to the energy performance of its existing housing stock, which is rather old with 80% of the stock built before the introduction of energy norms. In the existing plans and strategies, the renovation of buildings and sustainable construction take a central part, and renovation rates should gradually increase above the meagre 0.4% recorded in 2016. The National Pact for Strategic Investment estimated (with some significant degree of uncertainty) that total required investment for public buildings at about €33 billion by 2040, corresponding to an annual investment of more than €1.6 billion. Investment needs to the complete building stock (including residential buildings) are an order of magnitude higher, around €325 billion. To achieve this developing innovative financing mechanisms will be important, in particular for households that will be faced with high initial investment costs. Furthermore, the Court of Auditors underlined that the prescribed energy norms of new buildings in Wallonia are too low for meeting the renovation objectives (Court of audit, 2019). Renovation is also held back by bottlenecks affecting the construction sector like long building permit delays and shortages in adequately skilled construction workers. Furthermore, the energy consumption of the sector still mostly relies on fossil fuels.

While Belgium's target under the Effort Sharing Regulation is to reduce greenhouse gas emissions by 35% below 2005 levels by 2030, it remains not on track to reach its 2020 climate change target of a 15% reduction below 2005 levels. In sectors not covered by the EU ETS reductions were limited to -10% in 2017. They are expected to go down further to -12% or 3 pp. short of the 2020 target of -15%. By 2030 Belgium expects GHG emissions to drop by -14% below 2005 levels in the absence of additional measures. This suggests that significant additional efforts will be required to reach the Belgian effort sharing target of -35%. Some regions have put forward higher levels of ambition. Brussels intends to reduce its emissions by 40% and Wallonia has set itself an economy-wide greenhouse gas reduction target of 55% below 1990 levels. Meanwhile, the 20.2% reductions achieved by 2017 relative to 1990 mostly materialised in the electricity and the industry sectors. The final Belgian National Energy and Climate Plan adopted in December 2019 sets out these measures as well as specific energy target, including a renewables share in final energy consumption of 17.5% (EU-wide target of 32%) and a 12% improvement in final energy consumption (EU ambition of 32.5%). These new energy targets are less ambitious than the targets set out in the draft Belgium National Energy and Climate Plan adopted in December 2018. The presence of a caretaker federal government could delay adoption and implementation of new federal policy commitments.

Czech Republic

Despite slowing down, rising house prices are making housing less affordable. Various indicators suggest that the housing market is overvalued by 10-20%. Strong price growth is due to supply constraints coupled with an increasing demand for housing in large cities. A proposed new construction code may help simplify and accelerate construction-related procedures. Although the growth of the housing loan stock slowed in 2019, partly due to the implementation of the central bank's macro prudential recommendations, rising property prices may be a risk to financial stability in the medium term.

Czech regions have different challenges. While richer regions suffer from housing un-affordability and pressures on the suburban transport networks, the poorest areas face remoteness, demographic pressures, social exclusion, and an insufficient focus on important areas such as energy transition innovation, and digitisation.

Housing market and private indebtedness

Housing prices continue to grow, reducing affordability. Supply constraints and strong demand have been pushing house prices upwards, particularly in the biggest cities. Although price growth flattened off in 2019, it remains above wage growth, reducing affordability. Burdensome planning procedures continue to limit housing supply, which is not expected to meet demand in the near future, despite an increase in construction.

Household debt is increasing but does not yet pose a systemic risk to the banking sector. Household debt as a share of disposable income increased to 61.4% in 2018 but remains significantly below the EU average (100.6%). Similarly, household debt to GDP remained below both the fundamental benchmark (44%) and the prudential threshold (70%), reaching 32% in the first half of 2019, significantly below the EU average (53%). The total value of loans for house purchase, which represent around three quarters of all loans to households, continued to increase throughout 2018 and the first half of 2019. However, the volume of new mortgages saw a marked decrease in 2019 (-16.9%), as a result of limited housing supply, reduced affordability, and the new macro-prudential recommendations put forward by the central bank. Rising property prices and the non-legally binding nature of the central bank macro prudential recommendations may still pose a risk to financial stability in the medium term.

Social developments

While the overall risk of poverty is low, some challenges remain. 12.2% of the population was at risk of poverty or social exclusion in 2018 (EU average 21.9%). Overall income inequality has remained low and stable in recent years. Nonetheless, there are some concerns about the affordability of housing, personal indebtedness and homelessness of certain population groups. Inequalities of opportunities for children persist.

Housing market

House prices continue to grow, albeit more moderately than in 2017 and 2018. House prices increased in real terms by 9.2% in 2017 and 6.2% in 2018, exceeding the price level seen in the 2008 house price peak by over 20%. In 2019, price growth appears to have levelled off at slightly more moderate levels (+5.6% in the third quarter), partly influenced by the central bank's new macro prudential rules.

Valuation indicators of the housing market suggest a positive and increasing valuation gap. According to the European Commission's internal calculations, the housing market was overvalued by around 6% in 2018. The widest gap relates to the price-to-income ratio, which was 11.4% higher than the long-term average (+1.7 percentage points compared to 2017). Calculations from the Czech National Bank also suggested an increasing mismatch between transaction and fundamental prices in the housing sector of around 15-20% in mid-2019, mainly due to an undersupply of homes in cities. However, the increasing difference in recent months between growth in asking and purchasing prices for flats suggests that realized property prices could moderate in coming quarters.

Due to the sustained price increase, affordability has worsened further. Deflated house prices have steadily outpaced real wage growth at an average rate of 2.1 pps per quarter since 2014, which has lowered affordability even in a context of declining borrowing costs. Alternative metrics also suggest a worsening of affordability – according to Deloitte's House Price Index (Deloitte, 2019), Czechia has the lowest level of affordability in a sample of 12 EU countries, with 11.2 gross annual salaries needed to own a house, up from 7 salaries in 2015.

Affordability problems are most acute in Prague and other large cities. Czechia has a high variation in price growth between regions. In cities, an increase in demand due to internal migration and a strong demand for prime properties by foreigners are putting an upward pressure on prices, especially since cities are suffering from supply constraints. Prague's average offer price for new dwellings increased by 22.2% in 2018, significantly higher than the increase in the rest of the country (16.8% annual growth) (Deloitte 2019). Several sources also indicate that overvaluation is getting stronger in Prague (Andrle, M. and Plašil, M., 2019), which is particularly relevant as two thirds of the transactions in the country take place there. In parallel, the continued rise of Airbnb and other rental accommodation companies has been limiting supply, especially in the centre of Prague. Outside Prague, the city with the highest price growth was Ostrava, with a 30.3% rise in the price of flats in2018.

Housing construction is expanding, which could ease supply constraints in the medium term. The total number of newly started homes country- wide has been increasing since 2014 at an average rate of 9.6%% annually, albeit it is still below pre- crisis peaks. In Prague, although the number of newly started homes stalled throughout 2018, construction levels have increased significantly since the beginning of 2019 (+65% year-on-year in the second half of 2019). This will likely somewhat ease supply constraints in the coming years, although, according to Prague's city council, construction levels should still increase threefold in order to satisfy demand.

Burdensome planning procedures continue to limit housing supply. According to the World Bank, 21 procedures need to be undertaken to receive a building permit in Czechia (OECD average is 12.5) (World Bank, 2019a). Some progress has been made in streamlining procedures, but the number of building permits is still far below the historical average. Meanwhile, the number of second-hand apartments for sale is declining, further constraining supply (Deloitte 2019). With a change in the legislation process only expected to come into force in 2021, housing supply will likely remain below demand in the years ahead. The slow progress on the future Prague Metropolitan Plan has also contributed to housing shortages in the capital.

The total stock of housing loans continued to increase in 2019, although growth has moderated. The stock of housing loans has steadily increased over the past years, reaching a cumulative growth of 38% in 2019 compared to 2015. However, the annual growth rate has slowed in 2019 at 7.4%, down from 8.6% in 2018 and 9.3% in 2017. According to data by Hypoindex, the volume of new mortgages decreased by 16.9% in 2019 (Graph 3.2.2), partly affected by the new macro prudential recommendations by the central bank and the limited supply in the real-estate sector. Indeed, the number of new mortgages in Czechia decreased by 22% in 2019, fuelling this decrease in housing loan growth. Beyond mortgage growth, the average fixation period of new mortgages continued to increase, with more than 50% of new mortgages issued having a rate fixation period of more than 5 years. This could ease temporarily debt service requirements for households in the event of interest rate increases.

The central bank issued macro-prudential recommendations to protect against systemic risks building in the banking sector. It currently recommends that lenders should not provide retail loans secured by residential property with a Loan- to-Value (LTV) of over 90% and should limit the provision of loans with LTVs of 80%-90% to 15% of new loans in each quarter. Lenders should also not exceed a debt-to-net income (DTI) ratio of nine annual incomes and a debt service-to-net income (DSTI) ratio of 45% (with the permitted exception of 5% of new loans for both indicators). These recommendations were introduced to avoid the development of a spiral between property prices and property purchase loans that could pose a risk to financial stability. Nevertheless, until a legislative amendment is adopted by the Parliament, the central bank still lacks the statutory powers to issue binding macro-prudential recommendations, potentially limiting the effect of the current measures in the medium term (ESRB, 2019).

Banks have been broadly compliant with the new macro-prudential recommendations. The share of loans with a LTV ratio between 80-90% remained below the 15% limit, at an aggregate share of 13.5% of loans in June 2019. Meanwhile, 3% of loans issued over the same period had an LTV higher than 90%, thus not complying with the recommendation and confirming the need to have legally binding limits. On the other hand, the limits for the DTI and DSTI were met by most banks. In the first half of 2019, the share of loans with a DSTI of over 45% was around 5%, while loans exceeding the DTI limit of 9 accounted for around 3%. Finally, the provision of loans that exceed all three limits was reduced.

Overall, rising property prices can be a source of risk for financial stability. The European Systemic Risk Board (ESRB, 2019) issued a warning pointing to the medium-term vulnerabilities for financial stability stemming from the residential real estate sector. This is due to an overvaluation of house prices and high growth in housing credit up until 2019, coupled with loose lending standards and the non-legally binding nature of the macro-prudential recommendations put forward by the central bank. Although the Czech National Bank sees the current limits as sufficient, continued growth in housing prices could warrant a reassessment of the limits.

Poverty indicators show that Czechia performs better than the EU average, yet some challenges remain. The share of people at risk of poverty or social exclusion is 12.2% in 2018, below the EU average of 21.9%. In-work poverty is also low (3.4% in 2018). However, the share of older people (65 and over) at risk of poverty or social exclusion is rising steeply (from 10.1% in 2016 to 15.6% in 2017). People without employment and single parents are at a relatively higher risk of poverty (21.7% and 36.9% in 2018, respectively). The proposal to compensate single parents with children that do not receive maintenance payments could reduce their poverty risks. The new Social Inclusion Strategy for 2021−2030 is being prepared to underpin the investment projects in the next programming period of EU funds. It will focus on issues such as indebtedness, access to housing and social exclusion.

There are many homeless people in Czechia and many more are at risk. There are around 68,500 homeless people (of which 21,230 adults and 2,600 minors are ‘roofless’ according to the 2019 census) and 119,000 are at the risk of becoming homeless, according to estimates of the Ministry of Labour and Social Affairs. In 90% of cases, the reason for homelessness is indebtedness. Around 37% of Czech children live in households suffering from housing problems (FEANTSA, 2018). With rising housing costs, an increasing number of elderly people are also experiencing similar problems. The current legislative framework puts the responsibility on municipalities to provide qualitative and affordable housing, as does the social inclusion strategy. Several national and EU investment schemes are in place to enable municipalities to enlarge their social housing stock. However, the response from municipalities has so far been limited. After the social housing legislation was put on hold in 2018, the Ministry of Regional Development began in 2019 to work on an Affordable Housing Act.

The uneven spread of foreign workers may cause new disparities and increase pressures on housing, healthcare and education.

There is an opportunity to increase investment in smart building systems. Appropriate methods to invest in buildings, in line with the EU's Smart Finance for Smart Building Initiative, could be seen as an opportunity. The indicative milestones of the long-term renovation strategy have not yet been clearly defined. The milestones on the renovation of the national stock of residential and non-residential buildings into a highly energy-efficient and decarbonised building stock by 2050 need further details. Clearly defined milestones would enable Czechia to estimate the wider benefits that energy efficiency renovations can bring. Embedding the 'energy efficiency first principle' into the strategy would allow the country to harness energy savings.

Denmark

Housing prices have been rising relatively strongly, compared with other EU Member States, but market dynamics in Denmark have eased over recent quarters. The slowdown has affected all regions and housing categories. At the national level, annual growth of prices of one- family houses decelerated from 3.9 % in 2018 to 2.4 % in the first half of 2019.

Investment has risen strongly since 2012. Business investment has been particularly strong, and, since 2015, housing construction further added to the growth in investment, supported by rising housing prices. Investment amounted to 22.0 % of GDP in 2018, well above the euro area average. Public investment amounted to some 3.5 % of GDP, a little down from its peak in 2014.

Real GDP growth is forecast to slow down to around 1.5 %, slightly below its potential level. Consumer spending is projected to remain the main factor driving growth. Labour demand is expected to increase at a slower pace, but companies may still face some difficulties with hiring skilled workers. Considering this, wages are expected to grow faster than productivity, weighing on competitiveness. Investment is set to remain flat amidst slowing global economy and a cooling housing market.

The government budget surplus in 2019 is estimated to have reached 2.2% of GDP, largely due to a significant hike in pension yield tax revenue. The budget is forecast to remain in surplus in 2020 and to be close to balance in 2021, as the unexpectedly high pension yield tax revenue levels off and public expenditure, notably on education, research and healthcare, is set to increase. In addition, the repayment in 2020-2022 of unduly collected housing tax revenue (amounting to 0.8% of GDP) will also contribute to reducing the government surplus.

Although housing price inflation is slowing, the valuation of property prices still seems on the high side. Housing prices have been easing in all regions and housing categories. A forthcoming new property taxation system, strong residential construction activity and already introduced macroprudential[4] measures are expected to further curb housing price inflation, despite mortgage interest rates being at historical lows.

Denmark has experienced a solid upswing in recent years, expanding above potential growth. The economy was slow to recover from the global financial crisis, which coincided with the burst of a housing bubble, but economic growth accelerated from 2012 onwards. The Danish economy shifted into a higher gear from 2015, growing at an estimated average rate of 2.4 % from 2015 to 2019 period, well above the euro area average of 1.6 % during the same. Denmark has also benefited from improving terms of trade and increasing returns on its foreign assets, which has increased the wealth of Danish households over the last 10 years. As a result, Denmark has experienced a robust growth in its gross national income, above the average seen in the euro area and among peer countries.

Household consumption has been a key driver of growth. Private consumption has been expanding steadily since 2015 by around 2.2 % per year supported by a strong labour market and steadily rising disposable real incomes. Nevertheless, household consumption as a share of disposable income is lower than the pre-crisis average. After the crisis, private consumption growth lagged behind disposable income growth, as households focussed on building up savings and reducing their debt. Since 2015, household consumption to disposable income remained relatively stable, while at the same time household indebtedness continued to decrease.

Investment growth has been particularly robust since 2012. Investment fosters progress towards SDG8 (decent work and economic growth). In 2018, investment accounted for 22.0 % of GDP, which is above the euro area average of 20.8 % of GDP. Business investment has been the main driver reaching a historical high of 13.9 % of GDP in 2018, with highest contributions from manufacturing, transport and dwellings. Public investment remained relatively high at 3.5 % of GDP in 2018, a little down from the peak of 3.9 % of GDP in 2014. Household investment contracted sharply following the crisis, but has been increasing robustly since 2015, in line with the rising housing prices. Overall investment is projected to decline in 2019 partly due to the negative base effect of a large acquisition in 2018 that raised investment, but high capacity utilisation rates suggest a steady, but moderate growth in the coming years.

On the other hand, investment is expected to remain weak in the coming years. Easing housing market dynamics suggest moderate housing construction dynamics ahead. Equipment investment growth is projected to remain modest due to the uncertain global economic outlook. Both exports and imports are forecast to resume around their trend growth and net export's contribution to real GDP growth is expected to be marginal.

Housing market dynamics in Denmark have eased over recent quarters. This slowdown is broad-based across regions and housing categories. It is reflected in slowing housing prices, as well as falling housing starts and permits since 2016. Many borrowers take advantage of historically low mortgage rates by taking up new or converting existing mortgages to loans with a fixed rate and amortisation, making them more resilient vis-à-vis income and interest rate shocks. The increase in the share of these less risky mortgages also suggests that the macro-prudential and conduct requirements for banks put in place by Danish authorities over the past years have been effective.

The housing market and the financial sector were subject to CSRs in 2011 and 2012. Following the recommendations, the Danish authorities have implemented several macro- and micro-prudential measures to safeguard financial stability and limit risky loan taking. Although there was no CSR on this topic since 2013, the European Commission closely monitors the developments in this area. The Danish authorities have continued to implement measures every year since then. Recent measures include a Systemic Risk Buffer for six systemically important banks, the reduction in mortgage interest tax deductibility, limits to risky debt taking and the activation of a countercyclical capital buffer. A 2017 reform will re-align property taxes with actual property values by 2021, also better addressing regional house price divergences, although the new valuation system behind the property tax reform has been delayed.

Increasing competition and productivity has been subject to CSRs between 2011 and 2018. The Danish authorities have taken gradually several steps to address these challenges. For instance, the Parliament has adopted reforms on the services market, including the easing of retail planning and increasing competition in the taxi sector and in the mortgage market. Building regulations have been reviewed and Denmark has continued its work with implementing the utilities strategy. Denmark has made sufficient progress when examined over a longer time horizon, and as a result, the CSR in this area has been dropped in 2019.

Household indebtedness

Debt of Danish households remains high but has been declining in recent years. Denmark is among the EU Member States among the highest household debt-to-GDP ratio. Household debt progressively fell from its peak of 143 % of GDP in 2009. The reduction between 2018 and 2019 is estimated to have been particularly strong, with debt falling by 11 pps to an estimated 113.5 % of GDP. Danish household debt was 2.4 times higher than gross disposable income in 2019, down from a multiple of three at the peak in 2009. This overall reduction primarily reflects GDP (i.e. denominator) growth and not the contraction of credit. However, credit flows have slowed recently, and households have used the low interest environment to deleverage to refinance their existing debt.

Commission analyses suggest a need for further reductions in gross household debt. Estimates of prudent or fundamentals-based levels of gross household debt implied by cross-country models are significantly below Danish households' actual debt level. The model-implied gap between those benchmarks of sustainable debt levels and the actual debt has narrowed in recent years but would in principle point to a need for a further deleveraging. This is under way, as households increasingly switch to mortgages with amortisation.

There are several factors that mitigate debt sustainability risks. Households have strong balance sheets and the high level of gross debt is matched by a high level of household assets – net assets of Danish households amounted to 185 % of GDP in the second quarter of 2019 - implying a comfortable solvency position. While the high level of gross debt may thus be an imperfect indicator of debt sustainability, there are nonetheless frictions that may result from the liquidity mismatch in Danish households' balance sheets and the asymmetric reaction of assets and liabilities to certain shocks.

A large share of the assets mentioned above is illiquid. These include as housing or pension savings (which may also suffer from negative valuation effects in a downturn), while there is still a high, albeit declining, share of debt at variable rates that is susceptible to an interest rate shock. However, debt service ratios have declined from around 24 % at the end of 2008 to around 15 % at the end of 2018, suggesting that household resilience vis-à-vis such shocks has increased. Furthermore, gross household debt is highly correlated with high household income, indicating that the balance sheet risks reside predominantly at households more resilient to adverse shocks (Danmarks National bank 2018d).

Housing market

Housing prices have been rising relatively strongly, compared with other EU Member States, but market dynamics in Denmark have eased over recent quarters. The slowdown has affected all regions and housing categories. At the national level, annual growth of prices of one- family houses decelerated from 3.9 % in 2018 to 2.4 % in the first half of 2019. In the capital region, price growth slowed from 4.9 % in 2018to2.8 % in the second quarter of 2019, the lowest rate observed since the third quarter of 2012. Annual price growth of owner-occupied flats, which averaged 8 % between mid-2012 and mid- 2018, decelerated from the second quarter of 2018 onwards, with prices even contracting in the first half of 2019. This pattern is mirrored in the capital region. The number of one-family house sales at national level in 2018 stagnated compared to the previous year, while transactions of owner-occupied flats declined, driven by developments in the Copenhagen region. The slowdown in market dynamics is also reflected in a decline in housing starts and permits for new constructions since mid-2018 and a slowdown in loans for house purchases.

House prices valuation estimates are on the upside but provide no signs of significant overvaluation. Increases in the price-to-income and price-to-rent ratios above their long-term values point to a marginal worsening of housing affordability over recent years. House prices in Denmark, both at national and regional level appear broadly in line with fundamentals. This contrasts somewhat with price-to-rent or price-to-income indicators, which point to higher valuation gaps and pressures on housing affordability. However, the latter indicators do not take account of regulations affecting rental market, supply constraints and other fundamental drivers of prices such as population growth or urban migration.

Mortgage financing conditions remain favourable with mortgage rates at historical lows. While the average effective mortgage interest rate has been declining for a long time, in September 2019 it has fallen for the first time below 1 % to 0.93 %. The average rate for new loans was 0.73 % in September 2019, as some Danish banks started offering residential mortgages with negative interest rates. The decline in the average rate is mainly driven by the refinancing of existing mortgages at lower rates, which are counted as new loans.

Since 2014, the Danish authorities have put in place macro-prudential and requirements on banks to limit borrowing. These restrictions predominantly take the form of limits to the debt- to-income (DTI) and loan-to-value (LTV) ratios, and target in particular borrowers in areas that have experienced high price increases (the so- called "growth areas" around Copenhagen and Aarhus) and loans with characteristics that are considered risky, i.e. loans with adjustable interest rates or without amortisation. These measures seem to have been effective both in slowing down loan growth in the "growth areas" (Danmarks National bank, 2018c) and in steering borrowers towards loans with longer interest rate fixation and amortisation, and thus decreasing financial stability risks emanating from the residential real estate sector. In February 2019, 46 % of the outstanding mortgage loan amount was concentrated in loans with instalments, while 57 % of that amount in loans with variable interest rates (Graph 3.2.4). This compares with shares of 54 % and 64 %, respectively, four years earlier.

In June 2019, the European Systemic Risk Board (ESRB) issued a recommendation to Denmark on vulnerabilities in the residential real estate sector. The Board in particular focussed on the high share of loans with risky characteristics (deferred amortisation and variable interest rates) in combination with the high indebtedness of Danish households. It recommends Denmark to monitor these vulnerabilities and consider the tightening or activation of further capital- or borrower-based measures in the medium term, if necessary. Policy measures that are in place appear to be fairly effective in addressing the identified risks.

A new credit database will strengthen risk assessment. In addition, the Danish Systemic Risk Council and its members carry out regular assessments of both the risks emanating from the housing market and of the policies to mitigate them. In this context it is positive that as of end 2019, the Danish authorities will have access to a new credit database that will allow to further deepen their assessments. Finally, the ESRB also commends Denmark to review other policies that may support imbalances in the mortgage market, such as rental market regulation, tax deductibility of mortgages and housing taxation.

The implementation of the new, albeit delayed, housing taxation system should bring efficiency gains. Once in place, this reform will ensure that the amount of taxes paid on a property will reflect its underlying value and that of the land on which it stands. Currently, this link is weak, implying that in urban areas with high structural demand, the ratio of taxes to house prices is relatively low when compared to rural areas. As such, the current system may create feedback loops by further fuelling the demand for properties with high intrinsic value and push up their prices above levels justified by fundamentals.

Anti-money laundering

The Danske Bank money laundering case revealed end 2018 led to strengthening Denmark's anti money laundering (AML) framework. Danske Bank is currently under investigation for clearing financial transactions to telling over EUR 200 billion through its branch in Estonia between 2007 and 2015. This case has led to a loss of trust in the integrity and anti-money laundering defence capabilities of Danish financial institutions and drawn international scrutiny to cross-border fight against money laundering. Important shortcomings in the prevention and investigation of money laundering had been highlighted already by the Financial Action Task Force (FATF) report of 2017. The IMF has also stressed that Danish banks' exposure to higher-risk countries poses a more substantial money laundering threat relative to the other Nordic countries (IMF, 2019). The Danish Court of Auditors (*Rigsrevisionen*) in its January 2020 report assessed Denmark's anti-money laundering administration for the period of 2016-2018 and highlighted important deficiencies in the AML prevention framework.

In 2019, Denmark has reaffirmed its commitment to address the identified issues and undertook several significant legislative steps over a relatively short period. A broad political agreement to further reinforce anti-money laundering efforts was reached in March 2019. The initiatives can be grouped into three categories: (1) strengthening of control and intervention powers (2) significant tightening of sanctions and increased resources, and (3) clearer organisational focus. Legislative amendments to the Financial Business Act were adopted in December 2018 and June 2019 and will allow the Danish FSA to revoke financial institutions' licenses for gross violations of the AML Act and to substantially increase the fines for failure to comply with that act. The Financial Supervisory Authority (FSA) adopted a report in January 2019 on its supervision of Danske Bank with regard to its Estonian branch. The report has identified 23 initiatives that could improve anti-money laundering supervision. As of July 2019, fit and proper requirements have become applicable to anti-money laundering compliance officers employed by financial institutions.

The FATF upgraded Denmark on ten of its 40 recommendations in 2018 and on three additional recommendations in 2019. The FATF now considers Denmark "largely compliant" with its duty to assess risks and as regards the application of a risk-based approach to fighting money laundering. Despite this, Denmark remains under enhanced monitoring and an upgrade has yet to be sought and obtained in respect of FATF standards relevant for anti-money laundering supervision of financial entities. The Danish Parliament adopted the AML package in December 2019, which entered into force on 10 January 2020. The legislative package intends to transpose the 5th Anti-money laundering directive, introduce measures translating the political agreement of March 2019 into actions and the right for supervisors to issue administrative penalties. These measures allow Danish competent authorities to apply the new tools, fine-tuning procedures and keeping abreast of new trends and vulnerabilities. However, these measures are yet to be assessed and yield results.

Substantial increases in financial and human resources dedicated to AML tasks have taken place within competent authorities. The Government has boosted the budget as well as number of personnel at the Money Laundering Secretariat (Denmark's Financial Intelligence Unit) and the Danish FSA in the agreement of March 2019. The DFSA established an AML Division and increased the number of AML- dedicated staff by close to 50 % in 2019. The report by *Rigsrevisionen* might lead to additional actions to strengthen the Danish Financial Intelligence Unit.

The share of household expenditure devoted to housing stood at 28.1 % in 2018, the second highest in the EU (average of 24.0 %). This indicator - which includes consumption on housing, water, electricity, gas and other fuels – has gradually declined since 2013 from 30.0 %. Furthermore, the housing cost overburden rate

([24]) fell to 14.7 % in 2018 but remains among the highest in the EU (average of 10.4 %). The limited supply of affordable housing solutions is of particular concern in the capital area, which also has the highest number of job vacancies. This may in turn hamper labour mobility and fuel geographical labour market and social disequilibria.

In December 2018, the initiatives from the political agreement "Denmark without parallel societies – no ghettos by 2030" went into force. Consisting of 22 initiatives, the main purpose is to break up neighbourhoods that may be characterised as ghettos, such that these no longer exist by 2030. In 2018, the number of neighbourhoods defined as "ghettos" reached 30. A key element of the "ghetto plan" is the introduction of higher sanctions for committing crimes within these neighbourhoods, and an upper limit of 40% social housing has been introduced. Other elements include an obligation for children living in vulnerable housing areas to attend 25 hours of childcare per week if they are not already admitted to a childcare facility (from the age of 1 year), and Danish language test in grade 0. The impact of these measures remains to be examined. Furthermore, the new government is planning to reduce the number of elements in the agreement.

Macroeconomic perspective

Aggregate investment in Denmark is above the EU average levels as a percentage of GDP. Following a historical high of 13.9 % of GDP in 2018, business investment is forecast to contract slightly then to stabilise at high levels. Household investment picked up from low levels supported by rising housing prices. Public investment remained relatively high at an estimated 3.4 % of GDP in 2019 and set to remain robust due to increased public investment in housing, healthcare, education and transport infrastructure.

The Government has announced that a Climate Act will be presented to Parliament in February 2020. According to the National Energy and Climate Plan, the Climate Act will be followed by a new Climate Action Plan in spring 2020. The Climate Action Plan will also include new energy efficiency measures such as energy savings in public buildings. The most prominent new energy saving measure targeting private enterprises and buildings is expected to save approximately 1.2 M toe of energy consumption. In the light of the observed growth in consumption, further energy efficiency measures in industry, services, private dwellings and (road and air) transport may be needed.

Finland

There is continued and growing disparity in house prices between the bigger cities and the rest of Finland. On a country level, by third quarter prices increased in nominal terms both for new buildings and existing housing stock, but deflated prices of existing housing stock were slightly lower than in 2018.

Household debt remains high, but the banking sector is well capitalised. Household debt, including through housing corporations, remains at historically high levels, supported by persistently low interest rates. The predominance of variable rates could create risks if interest rates rise in the medium term. Consumer credit is also rising. The lack of a comprehensive (positive) credit registry prevents banks from having a clear overview of households' overall debt. However, the servicing of debt remains solid, and banks remain well capitalised. Moreover, further measures to contain the rising household debt are being considered.

Construction, a less productive investment category, remains predominant at 61% of total investment. The country still has the highest level of construction investment in the EU. Housing construction is particularly high, as people move from rural areas to dynamic urban centres. Beyond still favourable conditions provided to borrowers, public investment in social housing and public incentives to housing construction remain sizeable. The average labour productivity growth of the construction sector is close to zero (-0.1% over the 2000-2018 period). However, amidst high territorial dispersion and limited regional labour mobility, housing construction in dynamic urban centres is expected to contribute to higher allocative efficiency.

Housing market

There is continued and growing disparity in house prices between the bigger cities and the rest of Finland. On a country level, by third quarter prices increased in nominal terms both for new buildings and existing housing stock, but deflated prices of existing housing stock were slightly lower than in 2018. However, prices in Helsinki and the bigger cities (where there is a net migration) are clearly rising faster than in the rest of the country. There is likely to be little price pressure, due to the construction of a high number of new buildings in recent years, which increased the stock of unsold dwellings. As indicated by the decreasing number of building permits and building starts, it is likely that the supply of new dwellings will drop in 2020 and 2021, putting more upward pressure on prices in the medium term.

Some progress has been observed in the monitoring of the household debt. Private-sector debt remains at historically high levels, as a result of persistently low interest rates. However, the servicing of debt remains solid, and banks remain well capitalised. Moreover, in early October, the Ministry of Finance proposed to limit to 60% the loan to value ratio (selling price ratio) applicable to housing companies. In parallel, a debt-to-income ratio will be applied to households when their loan requests exceed a certain threshold, while the legislation relating to consumer credit has been tightened. Further macro-prudential measures to contain the household debt are being considered.

Finland is currently meeting its 2020 energy efficiency target, but its progress will have to be monitored in view of the 2030 target. The NECP envisages a very moderate decrease in final energy consumption as well as an increase in primary energy consumption for 2030. This would constitute a very low contribution to the EU energy efficiency target. Finland uses voluntary agreements with industry and has sector-specific energy efficiency targets for transport and building codes setting high energy performance standards for new buildings. However, improving energy efficiency in the existing building stock ([35]) consistently with the EU 2030 energy efficiency target will very likely require substantial investment, notably from households (see below under 'Low carbon and energy investment'). Addressing this challenge would contribute to further progress on the United Nations Sustainable Development Goal (SDG) 7 – Affordable and clean energy and SDG 12 – Responsible consumption and production.

Moving towards more sustainable transport and housing can bring along considerable savings. As transport alone accounts for one fifth of Finland's emissions, it will play a key role in reaching carbon neutrality. The new government has set an ambitious target of halving transport emissions by 2030, through tightening fossil fuel taxation and subsidising the electrification of transport. Further investment in railways is also planned (see below under 'Sustainable transport infrastructure investment'). Studies suggest that improving the energy efficiency of buildings could reduce total heating demand by half (MEAC, 2017).

CSR 4: Strengthen the monitoring of household debt and establish the credit registry system	Finland has made **some** progress in addressing CSR 4
Strengthen the monitoring of household debt	**Some progress has been made on monitoring the household debt.** In October 2019, the Ministry of Finance proposed to limit to 60% the loan to value ratio (selling price ratio) applicable to housing companies. In parallel, a debt-to-income ratio cap will be applied to households when their loan requests exceed a certain threshold. The Ministry of Finance is drafting further macro-prudential measures. The legislation on consumer credit has been tightened. An interest cap at 20% entered into force in September 2019.

France

Access to social housing remains a challenge. Although facing an increasing demand, the supply of new social housing continues to decline. Unmet demand for social housing is of particular concern for vulnerable groups such as single parent households that are more at risk of poverty. The 'Housing First' strategy rolled out by the government represents a positive step yet remains limited ins cope.

Housing

While real house price growth has been very contained in France since 2011, some indicators continue to suggest risks of overvaluation. This is due to the significant growth in the 2000s, which has yet to be undone. The European Systemic Risk Board has identified medium-term vulnerabilities in the housing market in France as a source of systemic risk to financial stability, which could have negative effects on the real economy (European Systemic Risk Board, 2019). However, the High Council for Financial Stability has not found evidence of possible risks associated with a potential fall in property prices (Haut Conseil de Stabilité financière, 2019a). The reason being that 94.6% of outstanding loans at the end of 2018 are set at a fixed interest rate (Autorité de contrôle prudentiel, 2018), which limits the impact of a potential rise in interest rates. Two additional sources that limit potential vulnerabilities from macroeconomic shocks are (i) the high social protection in France, and (ii) the double-selection procedure of borrowers, where these are evaluated by lenders as well as mutual guarantee societies. Despite this, the High Council for Financial Stability pointed out that credit standards have loosened across the board, with increasing maturities, loan-to-value and debt service-to-income ratios (Haut Conseil de Stabilité Financière, 2019a and 2019b). French authorities have taken several macro-prudential measures to address the growing vulnerabilities, including in the residential real estate market.

The housing tax on the main home will be abolished for all households and the financing of local authorities is reformed. In 2020, the housing tax will be entirely cut for 80% of households. The 20% richest households will cease to pay it in 2023, with a gradual decrease as of 2021. From 2021, the revenues from the immovable property tax part of the territorial authorities (*départments*) will be transferred to the local authorities (communes) and a part of VAT revenues will be allocated to the '*départments*' to compensate for the transfer.

French banks face several challenges. Like their euro area peers, an abrupt increase in interest rates or, on the contrary, a persistent low interest rate environment, represents one of the most significant challenges. French banks are also confronted with more country-specific risks, like the growing private debt of both non-financial corporation's (particularly large ones) and households and the significant exposure to the Italian private sector via the large retail subsidiaries held in Italy. Fierce competition leads to ever lower average interest rates on housing loans (1.27% for long-term fixed- rate housing loans in September 2019). If such a limited profitability from new credit flows were to persist, banks' capacity to retain earnings could be affected. Some tax distortions also persist, such as the exoneration of the Livret A. State ownership in the financial sector (namely in La Banque Postale, CNP Assurances, CDC, Dexia, etc.) remains non- negligible and could generate spill-over between the sovereign and the financial sector.

Household debt associated with deteriorating lending standards is increasing. The year-on- year growth rate of loans to households corrected for sales and securitisation reached 6% in September 2019, above nominal GDP growth. Credit standards have loosened across the board, with increasing maturities, loan- to-value and debt service-to-income ratios (Haut Conseil de Stabilité Financière, 2019a and 2019b). The European Systemic Risk Board (ESRB) issued a warning to France on 23 September 2019, inviting the national authorities to consider the need for additional pre-emptive actions such as explicit guidelines for credit standards.

Vulnerabilities in the residential real estate sector are mitigated by a number of factors. French borrowers are little exposed to interest rate risk due to the high proportion of fixed-rate loans. Real estate prices show little sign of overvaluation once financing conditions are taken into account. Even if prices were to fall, the use of a guarantee scheme for most housing loans makes the value of the collateral less crucial. The potential wealth effect of a price correction is estimated to be weaker in France than elsewhere because there is no possibility to withdraw cash or equity from house revaluations.

The national strategy to prevent and fight poverty is being implemented. Since January 2019, €20 mn have been allocated to guide and support homeless families in their social reintegration and €125 mn to emergency housing facilities, guidance for families and assistance to homeless children. Some 30,000 additional places in formal childcare will be created by 2022, in addition to 300 new childcare services to support the labour market integration of parents in most deprived areas. The Pact seeking to insert individuals through economic activity (*Pacte d'ambition pour l'insertion par l'activité économique)* was presented in September 2019. The Pact aims to increase the number of places for in work-based inclusion structures by 100,000. These initiatives contribute to the achievement of the Sustainable Development Goal 1 – No poverty.

Over the last three years, the housing cost overburden declined on average, but overcrowding increased. The share of rent in poor households' disposable income has slightly increased in 2018 (from 30.2% to 31.2%). The housing cost overburden for households at risk of poverty remained high but stable, at 20.3%, while it was only 4.3% for the overall population. The housing overcrowding rate grew from 7.5% to 8.2% for the overall population and from 24.4% to 25.9% for households at risk of poverty.

Unmet demand for social housing remains an issue. In 2018, 2.1 million households were on the social housing waiting list for renting social dwellings, of which 400,000 were already social housing tenants. Budget cuts led to lower investment and a reduced number of new units of social housing from 105,000 in 2017 to 98,000 in 2018 (Union Sociale pour l'habitat, 2019a).

The objective of the 2017 equality and citizenship law (*Egalité et Citoyenneté*), to have 25% of social housing attributed to individuals in the first income quartile is yet to be achieved. In 2017, around 50% of social housing applicants were below the poverty threshold, with an over- representation of single parent households among applicants (Union Sociale pour l'habitat, 2019b). Access to social housing for most vulnerable groups remains particularly limited (Caritas Europa, 2019). This is a concern, as social housing plays an important role in shielding tenants from poverty. Among applicants, at least 5% are in a precarious housing and 2% are homeless (Fondation Abbé Pierre, 2019a). Their situation is particularly worrying in the context of an overall increase of the number of evictions, mostly due to unpaid rent (Fondation Abbé Pierre, 2019 b). The lack of infrastructures may imply additional costs in the long run, as the emergency public support to homeless people costs significantly more than social housing (Pleace, 2015, Fondation Abbé Pierre, 2019a).

Under its housing first plan (*le lodgement d'abord)* (2018-2022), the government supports access to housing for most vulnerable groups. This plan involves a shift from emergency housing towards increased investment in favour of social housing infrastructures targeting lowest income households (*Prêt locatif Aide d'intégration*, PLAI). However, the PLAI goal of 40 000 a year set by the government remains modest, particularly if the rent level is not sufficiently capped to remain affordable for the lowest income households. (European Commission,2019g).

Substantial investment is needed to reach the ambitious climate targets. The Institute for Climate Economics (I4CE) estimates that by 2023, an additional €15 to 18 bn of investments per year in housing (energy efficiency), renewable energy and clean transports are necessary to put France on a downward trajectory towards carbon neutrality (I4CE, 2019a). Based on the national objectives set by the national low carbon strategy (SNBC) and the multiannual energy planification (PPE), investment needs in the same sectors are estimated at about €46 bn per year during the 2nd carbon budget period (2019-2023) and €64 bn per year during the 3rd period (2024-2028). These estimates mean doubling the current investments. These figures do not include needs in agriculture and industry. Investment needs may be revised upwards when taking into account adaptation to climate change and increased occurrence of extreme events. The European Environmental Agency estimates that the losses incurred in France from extreme events from 1980 to 2017 amount to €62 bn.

The residential sector counts 30 million primary residences: 8 million shared properties, 5 million social housings and 17 million individual houses. Some 7 to 8 million homes fall into the energy F and G classes ('thermal sieves'), of which 1.5 million are inhabited by households in situation of energy poverty. The government created an observatory in September 2019 to centralise data and enable reliable monitoring.

Energy renovation of buildings

Final energy consumption fell by around 3.8% between 2012 and 2018 (-1.7% in climate-corrected terms), compared with a target of a 12.6% decrease between 2012 and 2023 in the 2018-2023 Multiannual Energy Plan adopted by France in 2017. Therefore, achieving the French energy efficiency targets for 2020 (i.e. about a 7.5% decrease of final energy consumption in 2020 compared to 2012) requires to strengthen efforts. The building and tertiary sectors represent 42% of final energy consumption. The building sector is the second largest emitter of greenhouse gas emissions after transport (respectively 23% and 40% of national emissions). The objectives set in the climate plan of July 2017 (500,000 renovations per year, including 150,000 thermal sieves) were not met in 2018 (estimates vary between 300,000 and 400,000). It is therefore necessary to change scale in terms of investments to achieve the required 'massification' of renovations. According to the French Institute for Climate Economics (I4CE), an additional €2 bn to €8 bn per year are required to renovate 500,000 buildings per year up to a 'low consumption' label.

The residential sector is the main market segment where increased efforts are most needed. For the tertiary sector, regulatory measures in place for buildings above 1000 m^2 should allow achieving the ambitious energy savings targets by 2030, 2040 and 2050 (respectively -40%, -50% and -60% compared to 2010). Underpinned by a fully internalised economic logic, the renovation of commercial buildings is currently the main driver for renovation in France.

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Main pitfalls identified for deployment of investments include:
- The economic interest is not fully adopted by individuals (especially for deep renovations).
- Households who would most benefit from substantial renovations are usually those with limited resources.
- Available support schemes are scattered among various actors and hard to mobilise at once.
- Solutions are heterogeneous, suppliers numerous, and reported abuses have affected the level of trust.
- For rental property, asymmetric incentives between the landlords (who finance the investment) and the tenant (who stands to gain from the investment).

The government has focused its actions on the following:
- **Priority to low and middle-income households**, through the substitution of a tax credit by a premium, conditional to the level of income.
- **Enhanced coordination** by the constitution of a network of best practice and advisory services (Ease, accompany, inform on energy renovation, '*Faciliter, accompagner, informer pour la renovation énergétique'*, FAIRE), addressed to both customers and suppliers; financing is granted on a result- based basis for acts listed in the frame of the advisory services.
- **Budget increase and pooling of budget resources** into a single vehicle (Accompaying service for energy renovation, '*Service d'accompagnement à la rénovation énergétique'*, the *SARE* programme) endowed with €200 mn over three years, compared to €60 mn in the previous period. It is coupled with a progressive shift from State budget (value-added tax reduction, tax credit) to off-balance sheet sources such as the energy savings certificates scheme.
- **Restore confidence in energetic renovation works**, by strengthening controls and sanctions for companies that realise aggressive door-to-door selling for insulation and heat systems replacements.

Other challenges identified include:
- **Deployment of banking solutions**. Until their simplification in 2019, current zero-rate loans for energy efficiency limited to €30,000 per house unit were hardly sold in the market, in a context of low interest rates. The instrument is not compatible with broader renovation investments needs (like extension and aesthetic works), nor it can be blended with standard mortgages into a single product, guaranteed by a material underlying asset (the property). Nevertheless, those loans are often joined with a loan for broader renovation investments and a guarantee fund was set up in 2019 for lower income households.
-
- **Support to alternative financing solutions**. Energy service companies offer long-term financing for energy efficiency investments and are remunerated by energy savings from the beneficiaries. Their business model is particularly adapted to clients with strong balance-sheet records such as public authorities and corporates. However, current accounting rules applicable to investments in public buildings' renovation limits the access to and deployment of this market segment.

- **Delayed restrictions** for the rental of classes F and G homes, from 2023 for the less performing buildings (more than 500 or 600 kWh final energy/m^{2}year), and energetic renovation obligation for all F and G buildings as of 2028. However, the implementation of increased constraints from 2021 by the Energy and Climate Law is to be noted.

France is rolling out an investment plan to address its environmental sustainability challenges. The Great plan for investment supports moves towards a greener economy focusing on energy efficiency of buildings and incentives to switch to less polluting vehicles. However, based on current policies, France would miss its 2030 GHG reduction target for the non-ETS sectors by a significant margin, according to national projections. Simulations show that a budgetary-neutral public investment stimulus in France would increase domestic GPD and result in positive spillovers in the rest of the euro area.

The Commission's proposal for a **Just Transition Mechanism** under the next multi- annual financial framework for 2021-2027 includes a Just Transition Fund, a dedicated scheme under Invest EU, and a new government loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions in France to address the social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report.

The evaluation of existing policy measures should be systematised and strengthened. For instance, in the building sector, the main policy instruments for energy efficiency (the tax credit in favour of energy transition, CITE, which has been turned into a bonus scheme in 2020, and the energy savings certificates, CEE) lack rigorous assessment of their impact on the effective reduction of energy demand.

The Great plan for investment (*Grand plan d'investissement*) sets down the public investments strategy for 2018-2022, focussing on energy transition, skills, innovation, and digitalisation. The plan, with an allocation of €57 bn, aims at addressing contemporary challenges divided into four main areas: (i) the ecological transition (€20 bn, of which €9 bn for energy renovation of buildings), (ii) skills (€15 bn), (iii) competitiveness through innovation (€1 bn), and (iv) the digitalisation of public services (€9 bn). Financing sources are the historical Investment for the Future Programme (*Programme d'Investissement d'Avenir*) (€10bn), budget credits(€39bn),and financial instruments managed by the Deposit Bank (*Caisse des Dépôts*) and the Investment Public Bank (*Banque Publique d'Investissement,* BPI France) (€9 bn). After two years of implementation, actions targeting the green transition (bonus to buy clean cars and incentive for the energy renovation of buildings) have exceeded initial expectations and required additional funding (see Section 4.5). The plan also fuels actions that could boost productivity such as the Investment Plan in Skills (*Plan d'Investissement dans les compétences*) and the France Ultrafast Broadband plan (*France Très Haut Débit*) (see Digital economy section). Digital infrastructure and R&D investment would contribute in achieving Sustainable Development Goal 9 - Industry, Innovation and Infrastructure.

Without additional measures, France risks missing its 2030 emission targets, mainly due to transport, building and agriculture sectors. Greenhouse gas emissions have decreased by 103 Mte CO2 between 1990 and 2018, but France is still above the trajectory set by the SNBC to reach -40% by 2030. It was revised in February 2018 confirming that emissions have not sufficiently decreased between 2015 and 2018 to comply with the 1st carbon budget (i.e. the upper limit of the total greenhouse gases emissions in a given period) that was exceeded by 62 Mte CO2 according to the Atmospheric Pollution Centre (*Centre Interprofessionnel Technique d'Etudes de la Pollution Atmosphérique)*. The annual decrease of emissions by 1.1% on average was below the trajectory of 1.9%. Additional measures (Graph 4.5.1) are referring to the 2nd and 3rd periods (2019-2023 and 2024-2028). The projected underperformance mainly comes from sectors not covered by the EU Emissions Trading System (ETS) such as transport, buildings, and agriculture (see Graph 4.5.2). In France, these sectors weigh more heavily on national emissions (64%) than the EU average (47%) and depend mainly on private investors decisions, and households in particular.

Germany

House prices rose by half this decade, catching up after years of stagnation. Most of the available residential real estate price indicators point to an over valuation in the bigger cities. Following a period of mainly nominal increases since 2000, real house price growth has accelerated in recent years, slightly outpacing the growth in household income. Today house prices considerably exceed their long-term average, compared to both rents and incomes, suggesting increasing risks of a housing bubble.

Sustained structural reforms and long-term investment can ensure the sustainability and inclusiveness of Germany's growth. In its tenth year of expansion, the German economy grew significantly below potential, affected by an interplay of transformations in industry and adverse external factors. At the same time, progress on reforms has been only moderate. On the positive side, the labour market remains very strong, with wages increasing despite the economic slowdown, and measures have been taken to improve incentives to work. However, significant challenges remain, including investment in education, sustainable transport, affordable housing, energy and digital infrastructure. In addition, regulatory and other incentive structures, including taxation, do not appear sufficient to boost inclusive and sustainable growth. While Germany's income inequality is average, its wealth inequality is high. Improving equality of opportunity, by reinforcing education and training, and addressing inter- and intra- generational fairness issues also through social security systems can contribute to more inclusive growth.

Private investment remains solid despite the economic slowdown, but still lags behind infrastructure and housing needs. In 2018 and 2019, private investment increased by 3% in real terms (i.e. adjusted for inflation). Altogether, the private investment share of GDP increased from 18% in 2011-2017 to 19% in 2018-2019. The fastest growing components in recent years have been housing and investment in intellectual property. However, investment is still lagging behind infrastructure (e.g. energy and digital) and housing needs, and the need to adapt to tighter environmental requirements.

The lack of affordable housing has become a major challenge. The housing cost overburden rate is one of the highest in the EU. House prices rose by half over the last decade, suggesting overvaluation in the bigger cities and an increasing risk of a housing bubble. Policy measures mitigate rental price increases, but do not keep pace with the demand for affordable housing. The annual target for new housing agreed on by the country's governing coalition was not met.

Private investment remains solid despite slowing economic growth. Private investment increased strongly in real terms in total (3%) and across most asset types in 2018 (housing 3%, equipment 3.9%, other investments 4.7%). Only non-residential construction investment growth remained subdued. In 2019, real investment continued increasing somewhat more slowly (2.4%). Non-residential investment picked up speed, while equipment investment growth weakened. Altogether, private investment's share of GDP increased to 19.2% in 2019. The fastest growing components in recent years have been housing and other investment (comprising essentially research and development and other intellectual property). Equipment and non-residential construction have seen their shares of investment change little.

HOUSING MARKET

House prices rose by half this decade, catching up after years of stagnation. Most of the available residential real estate price indicators point to an over valuation in the bigger cities. Following a period of mainly nominal increases since 2000, real house price growth has accelerated in recent years, slightly outpacing the growth in household income. Today house prices considerably exceed their long-term average, compared to both rents and incomes, suggesting increasing risks of a housing bubble. House price increases in urban areas reflect a shortage of housing supply relative to demand. The federal government has introduced a number of measures aimed at alleviating this shortage. Future price movements are therefore likely to depend on these measures' effectiveness.

New mortgage attribution is still accelerating, outweighing redemptions quite significantly. In September 2019 the mortgage stock was 5.0% higher than 12 months earlier. Rising housing prices have led to a higher number of mortgages. Over 2018, average annuities increased by 5.5% to €7,041. The loan to value at origination increased by 170 basis points (bp) to 86.5% reflecting easing credit standards. Riskier loans also led to higher interest rates. Over 2018, interest rates increased from 1.76% to 1.84% whereas in the euro area they generally fell by 10bp to 1.62%. Yet over 2019, mortgage rates fell faster in Germany, and in September they stood 17bp below the euro area average of 1.29%. In Germany, most homebuyers choose fixed interest rates insulating them from interest rate changes. The home ownership rate is the lowest in the EU, yet a quarter of the German population has a mortgage, which is close to the EU average. Despite stark mortgage growth, household indebtedness has remained around 36% of GDP over the past decade and can be considered moderate by comparison with the rest of the EU. Households' non- performing loan ratio is less than half the European average.

The macro-prudential tools are only partially appropriate. Adding debt-based limits to the toolkit would enhance its effectiveness as currently only loan-to-value and maturity limits could be activated. In its warning, the European Systemic Risk Board identifies loosening lending standards, accelerating mortgage growth and urban overvaluation as systemic risk sources (ESRB 2019). Even though Germany will introduce a 0.25% Counter Cyclical Capital buffer from July 2020 onwards, the Board argues for further measures.

Housing investment

Housing investment is still lagging behind housing needs in metropolitan areas. Fuelled by strong demand, investments in dwellings increased considerably (by 30.4% in real terms) between 2010 and 2019, but access to affordable housing remains a challenge. Net migration is an important driver of the strong demand for housing. In parallel, supply has not kept up with demand for a prolonged period (European Commission, 2019h). Despite rising needs, the ratio of housing investments to GDP is currently just above the long-term average, although it has improved significantly since the mid 2000s. Low interest rates coupled with rising incomes have contributed to increased property prices, in particular in big cities that a real so foreign investment targets.

House price inflation accelerated from 2-3% after the financial crisis to 10% per year in 2019, making it difficult for low and middle-income households to afford adequate housing. Estimates by authorities and NGO's still point to a significant shortage of housing in metropolitan areas despite booming construction activity (ibid.). The Prognos Institute, for example, estimates that in 2017 alone supply was lower than demand by 90,000 units (or around 25%) ([41]). The largest discrepancy was in social housing, where only one-third of the demand could be accommodated (Koch et al., 2019). The annual housing target of building 375,000 new flats between 2017 and 2021, which the federal government stipulated in the coalition agreement, has thus not been met and strong increases in purchase and rental prices are creating further challenges for affordability.

Recent policy measures are not keeping pace with the demand for affordable housing, and in some cases may even increase housing shortages in the future. Lack of affordable housing has become a major challenge, particularly in core cities of the metropolitan regions, necessitating policy attention. A constitutional amendment, which came into force in April 2019, allows the federal level to continue providing financial assistance for social housing to the *Länder*. However, insufficient funding for social housing is only one obstacle. Ineffective regional supply strategies and poor framework conditions at the local level (lack of building land, lengthy planning procedures, lack of qualified staff, etc.) hamper the expansion of housing construction. In addition, some part of construction activities takes place in less demanded areas, risking future oversupply in several shrinking regions (Henger and Voigtländer, 2019). Local policies might rather increase the allocation problem and create disincentives for further investment, thus exacerbating the housing shortage (Sagner and Voigtländer, 2019; Bültmann-Hinz, 2019). One example is the currently discussed rent price ceiling (*Mietpreisdeckel*) in Berlin. Similarly, the fine-tuning of the national rent price break, to which the federal government agreed on 9 October 2019, is likely to aggravate the current lack of supply of rental housing (Kholodilin and Kohl, 2019).

The housing shortage has put upward pressure on housing rents. In recent years, Germany has experienced strong increases in housing rental costs as recorded by the HICP. In 2017-2018, the inflation differential for this item of the consumer basket vis-à-vis the rest of the euro area averaged 0.8 pps. In the second half of 2019, rental inflation was also above overall inflation, as it also was in the rest of the euro area.

The construction sector is operating at high capacity, which is driving price inflation in construction services higher and boosting profit margins but in many cases also affecting the quality of works. Price and cost developments in the construction sector and with regard to the acquisition of real estate can be traced through various indicators, none of which is directly reflected in the Harmonised Index of Consumer Prices. Price inflation in construction investment (measured by the respective deflator in the national accounts) eased somewhat in the third quarter of 2019 to 4% against a year earlier but remains high. The deflator of the value added of the construction sector has tended to be significantly stronger (8%), suggesting that the prices of construction output rise faster than input prices. Meanwhile, real unit labour costs (i.e. the labour share) have continued to fall, implying that building firms are maintaining some degree of wage moderation and boosting profitability. At the same time, the cases of structural damage in new construction were found to have increased by 90% compared to 2009 (Institut für Bauforschung, 2018).

The German housing market is characterised by a low rate of home ownership. In 2018, 51.5% of the population were living in a building stock they owned, while 48.6% lived as tenants. The likelihood of being a homeowner or tenant depends to a considerable extent on income. Only 25.2% of people earning below 60% of the median equivalised income (i.e. made equivalent for the differences in a household's size and composition) own their home, while this figure reaches 56.5% for people earning above 60% of the median equivalised income. Low home-ownership rates are reflected in the higher share of income spent on housing rentals (5.5% in 2018) compared to the rest of the euro area (3.4%) and peers (3.9% in France). To alleviate some of the pressure in the housing market, the government has introduced the so-called Housing Construction Campaign, which comprises a number of measures to tackle housing shortages and rising house prices.

Germany did Limited Progress in: Several housing measures have been adopted, however the impact on housing investment may not necessarily be positive. A mechanism to control the increase in rents is planned to be extended until 2025, while some Länder are considering further accelerating rent controls. A new regulation regarding commission fees of real estate agents is intended to lead to a fairer distribution of the costs between the selling and buying parties. An act to strengthen housing benefits will enter into force in 2020 and will increase the reach and level of housing benefits including regular updates, with the next update scheduled in 2022. Taken together, it is not clear that these measures will improve housing investment. While they may have a temporary mitigating effect on rental price dynamics, in the longer run, prices and investment are also shaped by supply-side policies, and longer term outcomes are intimately linked to incentives to invest in housing.

The reform did not aim to raise additional tax revenues from property owners, and thus missed the opportunity to shape the tax system in a way that is more conducive to inclusive growth. Recurrent taxes on immovable property are generally considered a relatively efficient tax, given the immobility of the tax base (European Commission, 2020). In addition, taking account of the relatively low rate of home ownership in Germany and its unequal distribution, recurrent property taxes may also contribute to a fairer distribution of the tax burden. However, even after the reform, tax revenue from immovable property is expected to remain relatively low as the government envisaged a revenue-neutral reform. Furthermore, the reform did not restrict the possibility for the owner to include the taxes due in the utilities to be paid by the tenant. This makes the tenant the de facto entity on whom the tax is imposed.

As part of the recently agreed Climate Package, Germany will introduce a CO_2 price with a proposed price path which can help the attainment of its medium-term climate targets, but which might also have a regressive effect. The Climate Package is expected to increase the cost of pollution, lower costs for less-polluting transport modes and give more incentives to promote the use of building insulation and less polluting types of heating (Projektgruppe Gemeinschaftsdiagnose, 2019). While initially set at a low entry price for 2021 (10 €/tCO_2), the CO_2 price was raised to €25, gradually increasing in stages to €55 by 2025. Evaluations by economic research institutes found that the moderate CO_2 price initially proposed by the government for transport and buildings would not be sufficient to reach the 2030 target for reducing emissions not covered by the EU emission trading system (DIW, 2019). Evaluations also pointed out a regressive effect of the proposed CO_2 pricing mechanism (DIW, 2019). The regressive effect is expected to be partially reduced through a substantial reduction in the renewable electricity surcharge.

In addition, the Climate Package includes a long list of sectoral policies aimed at reducing sectoral emissions. For example, in the **buildings sector**, Germany plans to increase tax support for refitting heating systems. To facilitate the exchange of old heating oil burners, new heating systems will get a subsidy of 40% of the cost. At the same time, after 2026 it will not be allowed to fit a new oil heating system (as long as an alternative exists). In the **transport sector**, electro-mobility will be supported across the board. The goal is to have 1 million electric vehicle (EV) charging points available across Germany by 2030. The creation of EV charging infrastructure at commonly used private properties will be supported. The premium scheme for electric, hybrid and fuel cell vehicles will be extended to cover the purchase of vehicles costing less than €40,000. Public transport investment, creation of new cycling routes, modernisation of ports and inland waterways, support to rail transport (Deutsche Bahn), digitalisation and development of new motor fuels (e.g. based on hydrogen) are among the initiatives listed. From 2021, the motor vehicle tax for newly registered vehicles will be related to their CO_2 emissions per km. To make train journeys cheaper and flying more expensive, VAT on train tickets are reduced from 19% to 7% from 2020 on and it will not be possible to sell air tickets below a minimum price (to prevent the price falling below the levels of charges and taxes). The transformation of German **industry** will be supported by, among other things, investment programmes, higher minimum standards in eco-labelling and the national decarbonisation program, which targets in particular high-emitting sectors. Battery cell production will be supported. With regard to **energy**, Germany will phase out coal in power stations by 2038. By 2030, Germany should get 65% of its energy from renewable energy sources. The Climate Package includes also initiatives in **other sectors**, such as (more climate-friendly) agriculture, waste management, an increased role for R&D and hydrogen, CO_2storage and implementation of the sustainable finance strategy.

The 2030 Climate Package has been welcomed as a step into the right direction but criticised for its distributional impact, showing that low-income households would be more affected than those with high incomes. Germany's Council of Economic Experts has advocated carbon pricing for some time as the most cost-effective measure to reduce greenhouse gas emissions but warned against a too-low CO_2 price strategy (German Council of Economic Experts, 2019a). Germany's leading economic institutes called for CO_2 prices in line with those of the EU's emissions trading scheme (EU ETS) for economic efficiency reasons. According to the German Institute for Economic Research, the low price of $CO_2$and low price cap initially proposed would not have reduced emissions in line with the proposed climate objectives for 2030 (DIW, 2019) ([2]). The study also analysed the distributional impact of the programme and revealed that despite compensatory measures such as the reduction in the surcharge on renewable electricity or the increase in the commuting allowance, low-income households would be more impacted than high-income households. Although this study assessed a government proposal with a considerably lower level of ambition, concerns about the distributional effects remain. This is mainly due to the further increased *Pendlerpauschale* which benefits richer households proportionally more than those on lower incomes. An assessment made by the Berlin climate research institute MCC and the Potsdam Institute for Climate Impact Research (PIK) came to a similar conclusion that the climate protection programme initially proposed by the federal government is unlikely to be sufficient to achieve the 2030 climate targets. Policymakers were advised to make four specific adjustments: (i) raise the level of ambition for the carbon price; (ii) improve the social balance; (iii) integrate the programme more closely with EU-level action; and (iv) introduce an effective monitoring process (MCC and PIK,2019).

Investment bottlenecks such as capacity constraints hinder public infrastructure investment projects at municipal level, while lengthy planning and legal proceedings act as an additional major impediment to investment projects in transport, energy and digital infrastructure. While public investment has increased noticeably, in particular at federal level, investment at municipal level has been much less dynamic and continued to fall short of depreciation. A lack of planning capacities and skilled staff (e.g. engineers) remains a major bottleneck at municipal level. As a consequence, the available budget for infrastructure investment is often not fully used. Measures to mitigate these obstacles, such as consulting provided by 'Partnerschaft Deutschland', have yet to show results. Hiring engineers at municipal level, also by providing competitive salaries and rebuilding in-house planning capacities, could help to overcome existing constraints. To provide municipalities with the incentives and planning certainty necessary to undertake such a step, a long-term public investment plan would be needed that creates continuous demand for public construction projects. Furthermore, planning procedures in Germany usually involve extensive consultation of the public and stakeholders, and opposition by individuals or interest groups often results in lengthy court cases. The number of court cases initiated by environmental protection associations increased by about 23% between 2013 and 2016 (Sachverständigenrat für Umweltfragen, 2018). A general increase in the complexity of planning procedures may also be deduced from Germany's deteriorating performance in the World Bank's Doing Business Report with respect to dealing with construction permits ([1]). Based on the example of a private sector construction project measured by the World Bank, Germany's performance has declined from 8th place in the rankings in 2015 to 30th place (World Bank, 2019). In addition, German municipalities on average have fewer inhabitants than those in other OECD countries, which may have implications for their capacity to manage investment (OECD, 2019f).

Digitalisation of the planning and construction process and faster court proceedings could help speed up the implementation of public infrastructure projects. The use and uptake of the software solution Building Information Management (BIM) for the whole supply chain of planning, construction and operations could help speed up the implementation of public infrastructure projects. Besides sponsoring pilot projects, a national plan presented in 2015 provides that BIM should be systematically introduced by 2020 as the new standard for federal transport infrastructure projects. This would be a welcome step, even though not binding for infrastructure projects at regional and municipal level. Similar plans are also scheduled for other public works. The German National Regulatory Control Council has also issued a number of recommendations to speed up court proceedings in Germany, such as the introduction of a compulsory start date for a first hearing and measures to allow for faster legal certainty.

Hungary

House prices continued to grow rapidly, causing concerns of overvaluation in Budapest. The national house price index for existing dwellings rose by 7.7% year-on-year in the third quarter of 2019, driven by rising incomes, low interest rates, expanding government subsidies and the anticipated increase in the value-added tax rate for new housing as of 1 January 2020.

Macroeconomic policies have created some risks of overheating. Labour costs, boosted by administrative wage increases, continue to outpace productivity growth. Rising production costs have increased inflation and worsened exporters' cost competitiveness. Very low real interest rates and home-buying subsidies have contributed to the rapid increase in house prices. Homebuilding has not kept pace with housing demand because of capacity constraints and Budapest's property market shows signs of overheating. Easy financing conditions, including several government-supported lending schemes, have created opportunities for businesses to invest. However, there is a risk of these resources not being used to support long-term economic growth benefiting society as a whole.

The overall poverty situation has improved markedly in recent years, but challenges remain. Income inequality has been increasing, inequalities in access to public services persist and the proportion of people experiencing difficult living conditions is among the highest in the EU and is particularly high among families with several children and the Roma. Poverty and social exclusion are concentrated in certain areas. Key elements of the social safety net have weakened over the past years. The low and shrinking supply of social housing is becoming a challenge against a backdrop of rapidly rising residential property prices.

Environmental sustainability is a challenge. Hungary is targeting a modest reduction in greenhouse gas emissions from current levels by 2030, mainly through the phasing out of coal-fired power plants. The latest National Energy Strategy aims to increase electricity generation from low-carbon sources to 90% of the total by 2030. In addition to nuclear, Hungary intends to rely more on renewable energy sources, mainly solar energy; by contrast, wind energy does not have any role in the government's current plans. The low energy efficiency of housing and polluting residential heating methods make air quality worse and both point to large potential environmental and health gains to be achieved by stepping up renovation rates. Greenhouse gas emissions from transport have increased strongly over the last five years and emissions are projected to continue increasing under current policies. The government intends to address transport emissions by promoting electro mobility. However, questions remain concerning plans for building charging infrastructure and for promoting other alternative fuels. Identifying investment needs in green technologies and sustainable solutions and securing adequate funding will be key to delivering on the climate and energy objectives and shaping a new growth model. Water quality and supply remain concerns. Hungary is only at an early stage of moving towards a circular economy and waste management needs to be improved to meet 2020 recycling targets. Institutional issues impede more effective implementation of environmental laws and policies. These environmental challenges require investment and institutional capacity building. The Commission's proposal for a Just Transition Mechanism under the next multi- annual financial framework for the period 2021-2027, includes a Just Transition Fund, a dedicated Just Transition scheme under Invest EU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions in Hungary to address the social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report.

Housing market

House prices continued to grow rapidly, causing concerns of overvaluation in Budapest. The national house price index for existing dwellings rose by 7.7% year-on-year in the third quarter of 2019, driven by rising incomes, low interest rates, expanding government subsidies and the anticipated increase in the value-added tax rate for new housing as of 1 January 2020. The central bank's index shows even higher price increase of 14.7%. The house-price-to-income ratio is at the pre-crisis average for the total economy, while it has reached very high levels for the capital city. Speculative demand and foreign investors have contributed to the rapid price increases. In 2018, buyers from outside the European Union accounted for 7.4% of transactions in Budapest, a significant jump from a 0.3% share in 2013. While overvaluation appears geographically contained, it may spill over to the rest of the country (Pellényi,2019).

Low household indebtedness and moderating buy-to-let demand mitigate the associated risks. Rising house prices do not seem to be fuelled by loose credit conditions. Household debt relative to income is still low and the number of new mortgages even fell in the first half of 2019. In parallel with the launch of the new high-yield retail government bond in mid-2019, the price level of existing dwellings has ceased to grow since the first quarter of the year.

Housing construction responds only gradually to robust demand due to capacity constraints. The number of newly built houses has more than doubled in recent years, amounting to around 18,000 units by 2019, but this level is still just half of the pre-crisis average. Capacity shortages in the construction sector have led to cost increases and delays for most residential projects. The expiry of the preferential value-added tax rate for new housing from 2020 and tighter environmental standards from 2021 has also held back the launch of new projects. Industry representatives foresee decreasing building activity from 2021 onwards, once projects currently under way are finalised (MNB, 2019c).

A significant share of the population lives in inadequate housing. In 2018, 7.5% of the population lived in flats that were both overcrowded and suffered from lack of natural light, lack of indoor toilet and bathroom or a leaking roof. This share was among the highest in the EU, well above the EU average (3.9%). It was particularly high among families with three or more children (22.9%, against the EU average of 8.4%) and Roma (European Commission,2019c).

The shortage of affordable rental housing hinders mobility. In the past five years, residential property prices grew fastest in the EU. Property prices grew much faster than incomes (see Graph 1.10 and MNB, 2019c). While there is generous state support for buying a flat, which is accessible mainly for middle-income households, there is no scheme for improving the affordability of renting for the poor and lower-middle income households. The private rental of apartments is weakly regulated and remains largely in the field of the informal economy, which creates risks for both owners and tenants, discourages longer term contracts and deters professional real estate developers (Habitat, 2017; MNB, 2019c). The municipal flats for social rental constituted only 1.1% of the housing stock in 2018. While the above trends restrict the possibility of editing homelessness the main policy response was to introduce penalties for homeless people staying in public areas.

More action is needed as regards the provision of long-term social housing and other inclusion measures. In Hungary, rough sleeping is criminalised without addressing its root causes and without providing policy solutions in line with the Pillar principle on housing and assistance for the homeless.

There is room to improve energy efficiency in the residential sector. Hungary is at risk of failing to meet its 2020 energy saving target. This is largely due to the high household energy consumption per capita, which remains 12% higher than the EU average despite considerably lower income levels. Stricter energy efficiency standards for new buildings will come into force from 2021. However, there remains a large potential for refurbishing the existing housing stock, public buildings and district heating networks as well as in increasing energy efficiency of small firms. In addition, the regulated price of energy – for gas, among the lowest in the EU – can decrease the incentive to improve energy efficiency.

There is room to improve energy efficiency in the residential sector. Hungary is at risk of failing to meet its 2020 energy saving target. This is largely due to the high household energy consumption per capita, which remains 12% higher than the EU average despite considerably lower income levels. Stricter energy efficiency standards for new buildings will come into force from 2021. However, there remains a large potential for refurbishing the existing housing stock, public buildings and district heating networks as well as in increasing energy efficiency of small firms. In addition, the regulated price of energy – for gas, among the lowest in the EU – can decrease the incentive to improve energy efficiency.

Ireland

Shortages in housing supply and social housing have created a challenging situation. The rapid increase in the population of Ireland, along with increases in rental and residential property prices since 2013, have created affordability challenges, especially for households at the bottom of the income distribution.

Focusing investment policy on the low carbon and energy transition and the reduction of greenhouse gas emissions. Investing in water management, sustainable transport, digital infrastructure, affordable and social housing.

The indicators of the Social Scoreboard supporting the European Pillar of Social Rights point to a relatively good performance, but challenges remain. While employment continues to grow strongly, some population groups have yet to reap the benefits of the economic upturn. Households' real disposable income per head continues to grow but remains slightly below pre- crisis levels. A still relative low percentage of the population has basic digital skills, which might hinder their active participation in a society increasingly reliant on digital tools. While the Irish tax and benefit system continues to be effective in reducing inequalities, a high share of jobless households, especially with children, still face challenges. Although increasing, the employment rate for people with disabilities remains below the EU average. The rising number of homeless people as a result of rent increases and insufficient social and affordable housing is still a concern.

House price growth has slowed but affordability remains a concern. The fall in house prices at the top end of the market has brought annual residential price inflation down to levels not seen since 2013. Prices in the rental sector are still growing fast, due to insufficient, though increasing, housing supply.

Macro-prudential mortgage measures (designed to mitigate risks to the financial system as a whole) are helping to strengthen the resilience of both households and banks. Combined with measures supporting housing supply, they might also improve affordability for buyers and tenants, which remains a challenge.

Domestic economic activity has been driven by private consumption and investment in construction. Modified domestic demand, a measure of domestic activity that strips out some of the effects of multinationals, grew by 2.3% y-o-y in the first half of 2019, after growing by 4.7% in 2018. It is expected to expand above 3% on average between 2019 and 2021. Private consumption, sustained by increasing disposable income amid strongly rising employment, and investment in housing have been the main drivers of domestic demand. Household savings meanwhile remain high, likely reflecting caution on the part of consumers.

Housing rental inflation is still high. Rents for new or renewed tenancies increased by 6.6% in Dublin and 9.2% outside Dublin in the third quarter of 2019. This represents a change in growth of respectively -3 pps and +2.3 pps compared with the same period last year. The evolution of rental inflation seems to reflect changes in the stock of houses available for rent with supply in Dublin increasing by 10% to 1,500 units in the year to August while availability was falling nationwide.

Housing scarcity remains a pressing issue, including rising homelessness due to shortages of social housing. In November 2019, over 10,000 people were counted as homeless, including 3,752 children.

Ireland has made some progress in addressing the 2019 country-specific recommendation on investment and productivity. Some progress has been made in facilitating investment related to climate change, energy transition, sustainable transport, water, digital infrastructure and affordable and social housing.

Annual assessment of the 2019 CSRs:

CSR 3: *Focus investment-related economic policy on low carbon and energy transition, the reduction of greenhouse gas emissions, sustainable transport, water, digital infrastructure and affordable and social housing, taking into account regional disparities. Implement measures, including those in the Future Jobs strategy, to diversify the economy and improve the productivity of Irish firms – small and medium enterprises in particular - by using more direct funding instruments to stimulate research and innovation and by reducing regulatory barriers to entrepreneurship.*	**Some progress** • Some progress focused on facilitating investments related to climate change, energy transition, sustainable transport, water, digital infrastructure, affordable and social housing. • Some progress in implementing measures aiming to diversify the economy and improve the productivity of Irish firms. • Some progress in improving the business environment by reducing regulatory barriers to entrepreneurship.

While annual house price inflation has moderated, affordability is still a concern. From 13.3% in April 2018, annual house price inflation has moderated to 1.1% in September 2019, a level well below the 6% prudential threshold of the MIP scoreboard. Increasing housing supply, coupled with more binding macro-prudential rules, seem to have supported this sharp slowdown. Although overall prices do not seem overvalued, affordability is still a concern: the price-to-income ratio, although slightly declining in the first half of 2019, is still above its fundamental value.

Policies implemented in recent years seem to have been effective in curbing house price growth, but some challenges remain. The government has implemented various measures to support housing supply, which have contributed to increasing annual housing completions by almost 40% in the two years to September 2019. Combined with effective macroprudential tools, this seems to have helped curb house price inflation. However, there is a risk that any slowdown in housing completions could reignite inflationary pressures in the house and rental sector. Housing affordability is a problem for many households and inflation in the rental sector is persistently high (see Section 1). Further addressing capacity constraints in the construction sector and solving administrative deficiencies in the vacant site levy might ultimately help improve housing affordability in the medium-term. Better targeting the Help-to-Buy incentive to lower-income first time buyers might increase its effectiveness while reducing inflationary pressures in the housing sector.

Drivers of house and rental prices

House price growth has moderated sharply, despite persistent housing shortages. Annual housing completions in September 2019 (20,249 units) were still 16% below the lower demand estimates. While year-on-year growth in annual completions (19%) was still high, it moderated significantly compared with the same period in 2018 (33%). House price inflation also fell sharply from 13.3% in April 2018 to 1.4% in November 2019, which has improved affordability for house buyers. The slowdown was driven by the decline in house prices at the high end of the market, where macroprudential rules have become more binding.

Designed to ensure financial stability, macroprudential rules may also have contributed to the slowdown in overall house price growth. Simulations with the European Commission's QUEST model, calibrated for Ireland, show that setting a 10% tightening of the loan-to-value (LTV) ratio on mortgages granted to credit-constrained households (CCH) could help curb land and house price inflation. Not taking into account potential second round effects from increased financial stability, such as lower mortgage rates, the simulations suggest that stricter LTV limits could also reduce aggregate housing investment and thus the housing stock. These results are consistent with findings of other reports (Duffy et al., 2016).

Increasing housing construction might help ease inflation in the rental sector. Contrary to the trend of deceleration in overall house prices (see above), rental price inflation for new and renewed tenancies is still high (8.2% in the third quarter of 2019) and seems to be largely driven by the number of properties available for rent. A supply of 12,000 units per quarter, i.e. four times the supply reported in the first quarter of 2019, would be consistent with constant rental prices. If the downward trend in house completion growth persisted, it might lead to an increase in rental inflation.

The combination of macroprudential rules with policies boosting land availability could curb both house and rental price inflation. QUEST simulations of jointly applying a 10% tightening of the LTV ratio and a vacant site levy of 10% show that the levy could lead to higher land availability and lower land prices, thereby reducing the costs of housing supply and thus compensating for the potentially contractionary effects of stricter macroprudential measures (see Table 3.2).

The vacant site levy, due in Ireland since January 2019, might require some refinement to increase its effectiveness. Sites registered as vacant in 2018, were subject to a 3% levy on their market value in January 2019, unless works had been activated in the interim. This levy is set to increase to 7% as of January 2020. In April 2019, 360 vacant sites were registered, 162 of them in Dublin. A number of local authorities reported difficulties in interpreting the law and identifying vacant sites, which might have left out of the register vacant sites with potential for housing development. Around 10% of the sites identified have already come off the register and started construction, which might indicate that the levy has the potential to incentivise housing supply, as suggested by the results of our QUEST model.

Shortages in housing supply and social housing have created a challenging situation. The rapid increase in the population of Ireland, along with increases in rental and residential property prices since 2013, have created affordability challenges, especially for households at the bottom of the income distribution. While the population of Ireland increased by around 150,000 people from 2011 to 2016, the housing stock increased only by 8,800 units. Residential construction has been strong in recent years, but housing completions still fall short of demand. Social housing as a share of the total housing stock has increased from 8.7% in 2011 to 9% in 2018 (Irish Council for Social Housing, 2019). However, this share is still 3.5 pps lower than the one in 1981 (Hearne and Murphy, 2017). In 2018, the share of under-occupied social homes was still relatively high.

Concerns over homelessness remain. In November 2019, the Department of Housing, Planning and Local Government counted 6,696 homeless adults and 3,752 homeless children. This represents an 8.7% increase in the overall number since November 2018 and a 50% increase since November 2016. The high number of homeless children implies that family homelessness remains a problem. Of the 1,685 homeless families in November 2019, 56% were single parents with children. There are still substantial regional and urban differences, with 67% of all homeless adults concentrated in Dublin.

Policy measures are being taken to tackle homelessness, but their effectiveness is still limited. The government strategy for homelessness since 2016 has three main pillars: 1) housing and rehousing programme; 2) rent supplementation; and 3) supportive services in the form of emergency housing for individuals and especially families. Regarding the first pillar, investment is currently envisaged to facilitate the delivery of 54,000 new social homes by 2021. However, this might not be enough to cover all social housing needs (currently 68,000 households on social housing waiting lists). Construction of social housing gained momentum in 2019 with 8,172 units already completed and additional 14,549 homes under development in the third quarter of 2019. However, attaining the desirable level of social housing completions will take time. While construction of social housing is progressing, a big part of the actual social housing needs is covered by the second pillar. A challenge posed by the rent supplementation schemes is that they might have an inflationary effect on the rental market.

Regarding the third pillar, the government's response to the housing crisis has included the introduction of Family Hubs – emergency accommodation for children and families who are homeless. In his critical evaluation of the Family Hubs, the Ombudsman for Children calls on the Irish government to provide long-term social housing for children instead of emergency accommodation (Ombudsman for Children's Office, 2019).

Social housing policy and provision in Ireland

Residential property and rental prices continued to increase, making it more difficult for low-income households to buy a property or access affordable rental. Nationwide residential property prices have increased by 85.7% since early 2013, and by 94.9% from their February 2012 low in Dublin alone. Rental prices continued to increase both nationally and in Dublin in 2018. In the third quarter of 2019 (Q3 2019), the national standardised average rent stood at €1,243 a month, up 8.2% from a year earlier, while the average rent for Dublin was €1,762, an increase of €110 since Q3 2018 (RTB Rent Index).

Shortages in social housing have created a challenging situation. Social housing as a share of the total housing stock has decreased from 12.5% in 1981 to between 8% and 9% in recent years (Hearne and Murphy, 2017; Irish Council for Social Housing, 2019). Even though social home delivery has accelerated since 2015, there were still 68,000 households on social housing waiting lists and over 10,000 homeless people in Ireland in November 2019.

Policy measures to increase the supply of social housing are in place but their effectiveness is still limited. Rebuilding Ireland, the Government's 6-year action plan seeks to deliver over 50,000 new social housing units by 2021, through build, acquisition and leasing programmes thus meeting the housing needs of an additional 88,000 households through a housing assistance payment and a rental accommodation scheme. As of Q3 2019, the delivery of social homes has slightly exceeded its targets for each year since the launch of the action plan. If implementation continues according to plans, Rebuilding Ireland will provide social housing to over

73% of households on the current waiting list. For the timely delivery of homes to continue, all potential structural barriers need to be addressed. Further efforts are needed to cover the needs of remaining households on the current list and of potential new applicants.

A more systematic re-assessment of individuals' rights for social housing might increase efficiency in allocating social homes. With a relatively high share of under-occupied social homes and increasing homelessness in Ireland, a regular re-assessment of needs, including in terms of home size, might make the market more efficient. It is important that strategic planning regarding the size of newly built social homes reflects on changes in family composition and builds on a lifecycle perspective. Furthermore, the geographical allocation of new social housing units might benefit from more coordination at national level.

The regulatory environment in the social housing market may become more stable with the enactment of the Housing (Regulation of Approved Housing Bodies) Act 2019. The Act provides for the establishment of a Regulator to oversee the effective governance, financial management and performance of Approved Housing Bodies. The legislation aims to safeguard public and private investment in the sector by providing further assurances to investors, tenants, and the Government that social housing providers operate in a well-regulated and stable environment.

The effective implementation of the plan and addition of further specific measures will determine its success in mitigating emissions. While concrete measures have already been identified, additional action might be required to meet the number of broad objectives identified in the plan. The objectives on electric vehicles and housing stock retrofitting will be particularly challenging, also because they relate to investment decisions by individual households and will depend both on financing constraints and willingness to invest in energy efficient renovation or new types of vehicles. In addition, the path towards a climate-neutral agriculture and land sector (an objective defined separately from the Climate Action Plan), including the means to enhance the natural carbon sink in an environmentally sustainable manner, remains to be adequately defined. The authorities recognise that additional policies and regulations will be necessary to channel and promote such types of investments

The transition also requires Ireland to further exploit its potential for energy efficiency, in particular in the residential construction and transport sectors. Ireland's energy consumption remains on an increasing path since 2016, in particular in the building and transport sector. The need to accelerate retrofitting of existing buildings is well reflected in measures proposed in the Climate Action Plan. In 2019, €25 million were allocated to a social housing retrofitting programme. Ireland could now expand its efforts to include long-term renovation strategies required under the Energy Performance of Buildings Directive and include their key elements in the final National Energy and Climate Plan.

2019 country-specific recommendations (CSRs):

Ireland has made **Some Progress** in addressing **CSR 3**., also in **affordable and social housing, taking into account regional disparities**.	**Some Progress** Even though social home delivery has accelerated since 2015, there were still 68,000 households on social housing waiting lists and more than 10,000 homeless people in Ireland in July 2019. Policy measures to increase the supply of social housing are in place but their effectiveness is still limited. Rebuilding Ireland, the Government's 6-year action plan seeks to meet the housing needs of 138,000 households. This will be delivered through the provision of 50,000 new social housing units by 2021, through build, acquisition and leasing programmes, and supporting 88,000 households through a housing assistance payment and a rental accommodation scheme. As of Q2 2019, the delivery has slightly exceeded its targets in each year of Rebuilding Ireland. If implementation continues according to plans, Rebuilding Ireland will provide social housing to over 73% of households on the current waiting list.

Italy

Access to affordable and adequate housing remains challenging due to the limited public investment in the housing sector. As a result, the stock of social and public housing is one of the lowest in Europe.

Social policies remain poorly integrated with other policies, including active labour market policies. While declining, the risk of poverty remains above the EU average, including for children and people with a migrant background. In-work poverty is also a challenge, especially for temporary workers. The southern regions and urban areas are the most affected. Limited access to quality social services increases the risk of poverty. Access to affordable and adequate housing remains a challenge, while the quality of the health services varies greatly across regions. In 2019, the citizenship income replaced the previous income support scheme to fight poverty, but more needs to be done to bring people to work. More efforts are needed to provide childcare and long- term care and promote equal opportunities and work-life balance. The lack of these affects women's participation in the labour market and the broad demographic trends, in a context of low birth rates and a reduced net migration rate.

EUROMOD-QUEST simulation - Shifting taxes from labour to property in Italy

Reintroducing property taxes on owner-occupied properties could raise substantial revenues in Italy, even if low-value properties and low-income pensioners were exempted. The reintroduction of the property tax (IMU) has been simulated in three different scenarios using EUROMOD. All scenarios apply the rates currently used for non-exempted owner-occupied properties (luxurious properties). In scenario 1 (SC1), IMU is reintroduced on all residential properties; in scenario 2 (SC2), properties with annual cadastral income below €600([2]) are exempted; in scenario 3 (SC3), the exemption also applies to pensioners with a yearly taxable income below €24,600([3]). The additional revenues would amount to €8.6 billion (0.5% of GDP), 5.2 billion (0.3% of GDP) and 4.1 billion (0.2% of GDP) respectively.

Using the additional revenues for reducing taxes on labour would improve distributional outcomes and increase incentives to work, supporting economic growth. The share of house-owners and the average cadastral values are relatively high at the bottom of the income distribution and increase only mildly with income (Graph 1a). Therefore, although reintroducing taxes on all residences (SC1) would imply a bigger tax increase for high-income households in absolute terms, low-income households would lose a higher share of their disposable income, causing a small increase in income inequality. Exempting low-value properties (SC2) and eventually low-income pensioners (SC3) would almost neutralise this effect. Furthermore, using the additional fiscal space to reduce the tax burden on labour could produce positive results. As an example, the additional revenue from scenario 2 is used to reduce social security contributions paid by employees with yearly income below €24,600 (SC2.1). Such a tax shift would have a slightly positive distributional effect, with a marginal decrease in the Gini index by 0.05%. Furthermore, the labour force participation rate would rise by 1.6% and total hours worked by 2.3% for women and 0.8% for men on average, with stronger increases for low-income workers (Graph 1b). Based on a QUEST analysis (see Box 3.1 on the model), 5 years after the tax shift real GDP would be higher by almost 0.1% compared to the baseline, thanks to higher employment and private consumption. Despite a decline in housing investment due to the property tax increase, the effect on investment would be overall positive after 7 years (Graph 1c). Thanks to higher revenues, the government debt-to-GDP ratio would be 0.3 percentage points lower compared to the baseline after 10 years. After 10 years, the positive impact on GDP would be double without considering the statistical impact from lower imputed rents, which are recorded as part of GDP.

Access to affordable and adequate housing remains challenging due to the limited public investment in the housing sector. As a result, the stock of social and public housing is one of the lowest in Europe. The proportion of people living in overcrowded households is estimated at 27.8%, well above the EU average (15.3%). Moreover, the share of the population unable to keep their home adequately warm is very high (14.1% vs EU 7.3%). A policy strategy to promote affordable housing is missing, and in practice, third sector organisations often replace the public administration in providing housing services. The new minimum income scheme includes a rent contribution, up to €3,360 per year. However, the strict eligibility criteria of the minimum income scheme often exclude the homeless and particularly foreigners, who represent the majority of homeless people in Italy, from receiving housing benefits.

Improving energy efficiency in the building sector, promoting sustainable transport, circular economy in lagging regions and climate risk prevention is key for Italy's green transition. Investments in energy efficiency in (residential) real estate are needed to achieve climate change targets. Investment in sustainable transport can contribute to reduce GHG emissions and improve air quality. The development of the circular economy varies widely across regions, with some paying fines for infringements of EU regulations. Finally, Italy could reduce emergency expenditure for natural disasters by strengthening risk prevention.

The building sector has a central role in fulling the 2030 energy efficiency target. While the share of SMEs adopting energy efficiency measures in 2017 is slightly higher in Italy than in the EU as a whole (91% versus 89%) (European Commission, 2019y), the residential sector is responsible for more than one third of total energy consumption. Indeed, most of the 14.5 million Italian buildings (ISTAT, 2015) were built before criteria for energy savings and corresponding legislation were adopted. However, existing and planned measures do not seem sufficient to achieve the objectives proposed in the draft Italian draft NECP. For instance, the new tax incentive to renovate facades is not linked to energy efficiency.

Private, public and EU funds can all help to support the investment needed to achieve the 2030 EU energy and climate targets. For 2014- 2020, more than €230 million in cohesion funds for Italy have been planned for renewables projects (45% of which in solar), more than €1.37 billion for energy efficiency projects (including almost €1 billion to renovate public buildings) and almost €400 million to finance smart electricity and gas distribution, storage and transmission systems projects (including smart grids and ICT systems). The Italian government estimates that an additional €186 billion investment in the national energy system is needed between 2017 and 2030 ([94]). New investment needs can be partly covered by EU funds such as the European Energy Efficiency Fund. Private investment will contribute considerably to this effort. In this respect, measures to support sustainable finance will be important. The EIB is providing financial support to firms. The central government is supporting municipalities in promoting energy efficiency.

Latvia

Investment in housing is hindered by a lengthy and costly construction process, poor protection of landlords' interests in the rental law and the reluctance of banks to lend for projects outside of Riga.

Measures to address the high risk of poverty or social exclusion are limited. Poverty is prevalent among the elderly, people with disabilities, and the unemployed. Tax and benefit policy changes over the period 2008-2018 have had made little difference. The minimum income level, minimum pensions and support for persons with disabilities have increased from 2020, but less than initially expected. Meanwhile, unemployment benefits have been reduced. Moreover, there are gaps in social protection for self-employed and non-standard workers. Low-income groups have poor housing conditions and access to social housing is limited.

Reducing energy consumption in transport and housing are Latvia's key climate policy challenges. Latvia's greenhouse gas emissions per capita are among the lowest in the EU. This is because its energy consumption per capita is lower than the EU average and the share of renewable energy is among the highest in the EU. However, in order to meet its 2030 target for greenhouse gas emissions it will need to break the current trend of increasing energy consumption in transport and housing. Moreover, it will need to continue increasing the share of renewables, which it has successfully done in heating and power generation sectors but has struggled to do in transport. In addition, it will need to boost its circular economy performance and improve the sustainability of its agricultural and forestry practices. The Commission's proposal for a Just Transition Mechanism under the next multi-annual financial framework for the period 2021-2027, includes a Just Transition Fund, a dedicated just transition scheme under InvestEU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping the most affected regions in Latvia to address the social and economic consequences.

Despite low national financing, 'some progress' has been achieved in investing in innovation, transport and digital infrastructure, while housing and environmentally minded policies have not yet been established. Since 2012, Latvia has been recommended to expand its investments in R&D, but funding plans have not materialised. Nevertheless, consolidation of the research institutions has been achieved and establishing a unified governance body planned. Transport and digital infrastructure have been developed with the EU's support, but broadband coverage in rural areas remains low. Plans to develop an environmentally sustainable energy and transportation network have not yet been devised. However, the development of Rail Baltica should support the shift to transport that is less carbon intensive. Investments in housing are hampered by lengthy and cumbersome planning processes, as well as outdated rental laws, with no progress on proposed changes since 2018.

The main risks to financial stability are associated with housing market developments in the Nordic countries and anti-money laundering in Latvia. Although, the significance of Nordic parent bank funding for their subsidiaries in Latvia has shrunk considerably, risks related to the housing market in Sweden could impact Latvia via trade and confidence channels. Moreover, following the transformation of Luminor Bank from a subsidiary into a branch of the Estonian entity, the transmission of shocks coming from other Baltic states to Latvia could be accelerated. While measures have already been put in place to mitigate the risks of money laundering and terrorist financing, potential ramifications in the financial sector could be wide and uncertain in case of adverse events.

Housing market

The growth in residential real estate prices does not pose systemic risks to financial stability. Nominal house prices have grown on average by 8-9% annually in recent years. The increase in house prices has been supported by the steady wage growth of recent years and the state support programme for house purchase that was introduced at the beginning of 2015 and expanded in 2018. Since the burst of the housing bubble in 2009 when house prices fell by 45%, their recovery has not exceeded wage growth. In fact, since 2010 when house prices were at their most depressed level, wage growth has exceeded house price growth by some 10 percentage points, as evidenced in the continuously declining house price wage ratio (see Graph 3.2.1). A housing affordability index compiled by one of the Baltics' leading commercial banks shows that, of the three Baltic capitals, house prices remain most affordable in Riga (Swedbank, 2019). The volatility of construction demand has fuelled rapidly rising labour costs. Moreover, lengthy and cumbersome processes for obtaining planning and building permits have also contributed to the high cost of construction. As a result, the market for new dwellings is concentrated mainly in Riga and the surrounding area, because lower purchasing power in places further away makes new housing commercially unviable (European Commission, 2019a). Streamlining building regulations is essential to remove a range of supply-side factors that impede the ability of the construction sector to respond to a growing demand for affordable housing.

Shortages of skilled workers are a major bottleneck in the construction sector. There is a particular need for construction managers, water and wastewater engineers and roofers. Latvia adopted a construction industry development strategy for 2017-2024 to address industry issues, which include ensuring a qualified workforce; increasing productivity; reducing administrative barriers; and improving the quality of construction services. In addition, the volatility of investment demand exacerbates the capacity constraints and price pressures in the construction sector (European Construction Observatory 2019).

Employment conditions differ across regions and internal mobility remains a challenge. The unemployment rate, youth unemployment rate and share of long-term unemployed vary considerably across regions. While densely populated Riga and the surrounding Pieriga region exhibits the lowest levels of unemployment (6.7% and 4.7% in 2018 respectively), Latgale has both the highest unemployment rate (11.8% in 2018) and lowest activity rate among Latvia's NUTS-3 regions (CSB, 2019). A regional mobility support scheme reimbursing transport or housing costs for 4 months (capped at EUR 600) is having a positive effect on job uptake and has the potential to be scaled up in a targeted way (OECD, 2019b). However, rental costs relative to incomes are high in Riga and the surrounding region of Pieriga, thus discouraging regional mobility. The absence of a national housing policy also limits the provision of housing to more vulnerable groups.

Access to adequate housing, particularly for low-income groups, is a challenge, and homelessness is not addressed at national level. In 2018, 14.9% of the population and every fifth person at risk of poverty experienced severe housing deprivation, significantly above the EU average of 3.9% and 9.4% respectively. The proportion of people who found it difficult to adequately warm their homes decreased to 7.5% (2018), while the proportion of those with arrears in utility bills remains high (11.6%, 2018). The lack of a common approach for providing housing benefits in municipalities creates unequal access to the service. The social housing stock is low and often not fit for living, while the waiting period can reach up to 25 years (BISS, 2019). Between 2009 and 2017, the number of homeless people using shelter/night shelter services in Latvia increased almost fourfold reaching 6 877 persons, of whom 80% are men. The service provision for the homeless remains underdeveloped and differs across various municipalities (Lāce T., 2019). Moreover, there is no national strategy in Latvia to address homelessness and housing exclusion specifically nor has any social housing policy been developed in general.

Main barriers to investment and priority actions underway

Investment in housing is hindered by a lengthy and costly construction process, poor protection of landlords' interests in the rental law and the reluctance of banks to lend for projects outside of Riga. However, housing investment outside Riga is important to regional development, as it facilitates better employment opportunities through higher labour mobility within the country. Regional development is also an important ingredient in reducing emigration and thus slowing the rate of population decline.

Energy poverty in Latvia has decreased overall, but remains a challenge for vulnerable groups. The overall share of people who found it difficult to keep their homes warm decreased to 7.5% (2018), below the EU average. However, as recently as 2016, 22.7% of households at risk of poverty could not afford to keep their homes warm. Moreover, 11.6% of the population in Latvia had outstanding debts and delayed payments for their utility bills, which are typically paid as monthly instalments. Targeted measures such as introduction of lower electricity tariffs for most vulnerable groups have had a positive impact on increasing indirect income for these groups (Baltic Institute of Social Sciences (BISS), 2019). Still, other measures could be considered to alleviate the financial burden for vulnerable groups. While the state has defined the income level for granting a poor family status (€128 per person per month), the income level for granting a low-income status varies among municipalities. These differences create an unequal access to the support measures, such as lower tariffs for electricity and housing benefits. Furthermore, housing conditions for low-income households are poor. Measures targeting renovation of multi-apartment buildings can also help alleviating energy poverty.

Commitments	Summary assessment
2019 country-specific recommendations (CSRs)	
CSR 3: Focus investment-related economic policy on innovation, the provision of affordable housing, transport, in particular on its sustainability, resource efficiency and energy efficiency, energy interconnections and digital infrastructure, taking into account regional disparities.	Latvia has made **some progress** in addressing CSR 3:
In the provision of affordable housing.	**Limited progress:** Affordable housing in the centres of economic activity is a bottleneck for labour mobility and economic growth. Lengthy and cumbersome processes for obtaining planning and building permits are hampering new housing construction. The weak protection of landlords discourages more investment into rental housing. The draft rental law has not made any progress in the Parliament since 2018. The plans for energy-

	efficiency renovation of apartment buildings are unambitious.

Latvia is on track to achieve its 2020 energy efficiency target however, its energy consumption is on the rise, driven by the transport and residential sectors. Latvia has put in place a number of energy efficiency measures, but they have mainly focused on the residential sector, while there have been few initiatives to reduce energy consumption in the transport sector. As a result, energy consumption is on the rise, driven by the transport sector Currently, the investment in energy efficiency measures mainly comes from European Structural and Investment fund-financed programmes, with private investment opportunities being underdeveloped. The government plans to renovate 2000 apartment buildings by 2030, which is too low to achieve the ambitious energy saving objective. Additional financial instruments would be needed to attract private investments in addition to public funding. Latvia' Long Term Renovation Strategy, which is due by March 2020, will set out the strategy to improve the energy performance of its building stock.

The green transition in Latvia would require investments in transport, buildings, renewable energy, and related education and skills. Latvia's has high potential for wind energy deployment, especially off-shore wind energy, providing a cost-efficient path to further increase its share of renewable energy. In order to curb the rapid growth of fossil energy consumption in the transport sector, investments in public transit systems and infrastructure for electric vehicles would be required. Further efforts to increase the energy efficiency of buildings and district heating systems are needed to address the growing energy consumption in heating. Finally, investments in research and innovation would be important to support the clean transition in Latvia. In its National Energy and Climate Plan Latvia estimates that the total investment needs up to 2030 amount to EUR 550 million for energy efficiency and renewable energy measures in heating, around EUR 1.7 billion for renovation of buildings, EUR 1 billion to decarbonise the transport sector, and EUR 130 million to bio methane (Ministry of Economy, 2019). Overall, investments needed to reach the emission reduction targets in Latvia correspond to about 2% of GDP (European Commission, 2019d).

Lithuania

The housing market has recovered from the 2009 downturn but no signs of overheating. After the boom and bust around the financial crisis, the housing market is back to normal, with investment in dwellings relative to income even below the EU average.

The housing market has recovered from the 2009 downturn but no signs of overheating. After the boom and bust around the financial crisis, the housing market is back to normal, with investment in dwellings relative to income even below the EU average. House prices are growing moderately as reflected in the stability of the house price-to-income ratio but are still well below historical levels. Loans for house purchases have recovered but the volume is still growing less than 10% per year and residential building permits remain stable.

Mortgage loan uptake increased in 2019 but activity in the housing market is moderate. The housing market has recovered from the 2009 collapse after some years of depression. Activity as measured by mortgage loans, price-to-income ratios and construction permits is within normal ranges. The housing market is therefore not seen as posing a risk for the banking sector.

The risk of social exclusion is amplified by limited access to public services. Access to long- term care is a challenge and the availability of social housing remains scarce (European Commission, 2019a) There are around 10,000 people waiting for social housing with the waiting time ranging from 3 to 12 years depending on the municipality. Relatively high out-of-pocket payments prevent access to quality healthcare for vulnerable groups. The lack of public transport further from the major urban centres is a significant barrier for access to the labour market.

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Lithuania's transition towards a low-carbon economy requires adaptations in the education system and in labour market, including upskilling and reskilling of the workforce. This is to ensure that the Lithuanian work force comes equipped with the right skills to enable the energy transition, e.g. in the areas of installation of green technologies, the upgrading of building standards to ensure higher rates of energy savings as well as the installation of renewable energy infrastructure. This also includes targeted support for economic diversification as part of Lithuania's smart specialisation strategy (to focus on economic activities in which the country is best placed to succeed), and the creation of new job opportunities to limit the impact of the energy transition in communities where unemployment is higher and where fewer job opportunities exist.

Luxembourg

Soaring housing prices amplify inequalities, increase household indebtedness and may undermine Luxembourg's attractiveness. Housing prices have been growing strongly, with affordability deteriorating, in particular for low- income households.

Investment remains relatively weak in sustainable housing and transport infrastructure, research and innovation, and digitalisation, especially in the business sector. This might slow down the development of activities that add higher value to the economy. Greater private investment in research, technological innovation and digitalisation may ease the transition to a data-driven economy. Investment in sustainable housing is insufficient for the level of demand, and housing prices have increased further. Growth that benefits all of society might largely depend on education and lifelong learning.

Increasing the housing supply, including by increasing incentives and lifting barriers to build.

Housing prices continue to increase, driven by the large gap between demand and supply. Housing demand is influenced by dynamic population growth, benign financing conditions and a large cross-border workforce. Housing supply and investment are insufficient, largely due to a lack of incentives for landowners to build new housing and to an insufficient supply of social housing.

Despite challenges on climate, energy and mobility, the green transition offers growth opportunities. The country is the EU's highest greenhouse gas emitter per capita. With existing measures, it would fall short of its 2030 target for reducing greenhouse gas emissions. This highlights the considerable efforts needed to deliver on Luxembourg's climate and energy objectives, in particular in the transport and housing sectors. The National Energy and Climate Plan (still to be delivered by Luxembourg's authorities at the time of writing) will outline the scope of the envisaged policy response and will play a key role to assess investment needs. The impact of the transition on some economic sectors and households is likely to require mitigating policies, the costs of which still need to be quantified. Road traffic congestion weighs on the economy and environmental sustainability, and Luxembourg is investing in a more sustainable mobility. Its financial sector has taken innovative steps in the sustainable finance market, while eco-innovation and circular economy policies can support job creation and the diversification of the economy.

Housing

Soaring housing prices amplify inequalities, increase household indebtedness and may undermine Luxembourg's attractiveness. Housing prices have been growing strongly, with affordability deteriorating, in particular for low- income households. This can be explained by insufficient land availability, high population and employment growth, a large number of cross- border workers with challenging transport conditions. There is a broad consensus that the shortage of affordable housing presents a structural challenge in the economy.

Luxembourg has made some progress in addressing bottlenecks that hamper housing investment. Numerous measures have been adopted or are planned, especially on the supply side, trying to increase the market offer. The "*Fonds de Logement",* a land management agency, was empowered by law to support the supply of housing. While significant investment appears necessary to alleviate tensions in the housing market, measures to stimulate housing supply are under preparation. These include more initiative planning regulations, development of affordable and social housing, land purchase by the government for social renting, stronger tax incentives and support to municipalities. Nevertheless, supply remains limited and the challenge ahead for Luxembourg's authorities continues to be sizeable. House prices have continued rising in 2018 and in the first half of 2019.

Recurrent taxes are low and based on outdated property values. Revenues from recurrent property taxes on immovable property were among the lowest in the EU in 2017. This owes mainly to the definition of the tax base, which is based on a scale that dates back to 1941 and is no longer aligned with current market values. This may impact on the price of housing and on housing supply, in particular regarding unoccupied property. Luxembourg is reflecting on ways to address the housing challenge, including through taxation.

Households' indebtedness is high compared to income, although the aggregate net wealth position is favourable. Household debt remains moderate as a share of GDP (66 % in 2018) and accounts for a modest share of households' financial assets (40 % in 2018). This results in a largely positive aggregate net asset position of households of about 100 % of GDP. However, Luxembourg's GDP per capita ratio is biased due to the large number of cross-border workers, and therefore debt sustainability is better measured when compared to income levels. Household debt accounted for 174 % of gross disposable income in 2018, one of the highest levels in the EU, as housing prices, and mortgages, continue to rise faster than income. A majority of household debt stock is composed of variable-rate contracts (BCL, 2019), although new loans now incorporate a majority of fixed-rate contracts. This increases households' exposure to a potential significant rise in interest rates.

HOUSING

The growth of housing prices has accelerated. Real residential property prices increased by 8.7 % on an annual basis in June 2019, a clear acceleration compared to recent years. The recent acceleration might have been influenced by the sale of a series of high-end housing projects. At the same time housing loans have continued to progress at a relatively stable annualised rate of 8.3 % in June 2019, while real gross disposable income rose at a more moderate pace of 1.6 % in 2018. However, no short-term macro-financial stability concerns emanate from housing loans. Recent sensitivity analyses signal that banks could withstand a substantial rise of loan defaults and dramatic house price corrections without their capital ratios falling below regulatory minima given their large capital cushions (see European Commission, 2019). Nonetheless, the ESRB recommendation aims to prevent the build-up of unsustainable exposure to credit risk stemming from the residential housing sector.

Valuation gap estimates point to a risk of price overvaluation in Luxembourg. Prices appear markedly above their long-term average when compared to the level of rents and income, with a gap of 51 % and 44 % respectively in 2018. This rather large overvaluation estimate contrasts with a negative model-based valuation gap estimate taking into account other fundamental variables. The overall house price gap calculated by the Commission, an average of the above indicators, shows signs of an overvaluation ofpricesof28%. Other institutions have estimated overvaluation of 10 % (Banque Centrale du Luxembourg,

2019) and 7.5 % (International Monetary Fund, 2019). Although the range of estimates is wide, there seems to be a consensus pointing towards some overvaluation of housing prices.

The growth in housing prices is driven by dynamic demand, largely exceeding supply. Housing demand is notably stimulated by demographic growth, which reached 19.9 % in total from 2010 to 2018, mostly due to the high workforce needs of Luxembourg's dynamic economy. This also results in a large share of commuting cross-border workers. Benign financing conditions have also supported housing price increases (Banque Centrale du Luxembourg, 2018). In parallel, housing supply remains insufficient, as pointed out in previous country reports (European Commission, 2019). Investment in dwellings remains low, as the pace of construction of new dwellings remains only slightly above the annual average observed since 2000 (2,700 new housing units per year). As a result, the built-up areas in Luxembourg increased marginally in the past two decades (Luxembourg’s built up area only moved from 8.1 % of the territory in 2000 to 9.8 % in2017).

Housing supply is limited by insufficient incentives to extend built-up areas. Landowners have little incentive to sell or develop land as the latter represents a virtually risk-free and low-taxed asset. Given the fundamental supply/demand mismatch, prices are expected to increase further; therefore, ensuring real estate remains a very attractive asset class in the current low yield environment. Although higher recurrent land taxes could put a dent on expected returns, this would not fundamentally alter the incentive to hoard land. The European Systemic Risk Board advised Luxembourg to review its mortgage interest tax deductibility which may incentivise households to over-borrow, thus worsening the fundamental supply/demand mismatch further.

Some initiatives are planned to raise housing supply. The Luxembourg government plans to review the legislative framework regarding social and affordable housing to make it easier for municipalities and social housing bodies to use public land to build new units. The focus is expected to shift away from selling affordable housing towards increasing the supply of affordable rental housing. Regulations are also expected to be adapted so as to make local planning contracts more binding on landowners. The government also intends to review land and property taxes in order to increase the opportunity costs of holding vacant land (see also section 3.1.4).

The housing sector is an amplifier of inequalities. In 2018, the income inequalities rose by 2 percentage points compared to 2018 (the Gini coefficient reaches 0.33) ([62]). Housing costs represent an important burden for the most disadvantaged. In 2017, the share of housing expenditures in disposable income of the 20 % most disadvantaged households (first income quintile) was 42 %, three times greater than that of the 20 % of the wealthiest households (14.5 %, last income quintile) ([63]). For low-income households (first and second quintile), housing costs represent a very important burden, having increased faster than their disposable income, which may intensify households’ potential financial vulnerabilities and represent one of the main sources of inequality in the medium term. On homelessness, Luxembourg lacks data. Luxembourg’s definition of homelessness is based on the European Typology of homelessness and housing exclusion ([64]). An evaluation of the strategy against homelessness will take place in2020/2021.

Trans-border interdependencies related to labour force flows can have many impacts throughout the Greater Region, including in such areas as infrastructure, spatial planning, and housing. One remarkable finding of the UniGR study is that in two sectors employment leans predominantly towards non-Luxembourg nationals residing in Luxembourg and not commuting (more than 50%). These sectors are accommodationandfoodserviceactivities(hotelsandrestaurants)andservicesto households, which are also among the ones reporting higher skills shortages. In other sectors reporting shortages, the share of foreign employees residing in Luxembourg is mainly above one quarter.

Selected barriers to investment and priority actions underway:

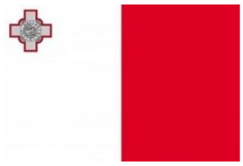
Insufficient housing supply and inadequate transport infrastructure remain major barriers to investment. Investment in dwellings is constrained by the lack of available land, among other due to insufficient incentives for landowners to build. A set of reforms planned by the authorities could improve the outlook for the provision of housing if implemented. Nevertheless, the gap in dwellings investment is expected to remain significant in view of the expected increase in population. This should continue to push the already high prices up, which might weigh negatively on the attractiveness of working in Luxembourg and exert upwards pressure on wages and commercial real estate.

Renovations in the building sector can support economic activity while reducing emissions, energy consumption and energy poverty. Luxembourg faces the challenges of having to address the issue of insufficient housing supply and maintaining housing affordable, and at the same time achieving its energy and climate targets – in 2016, private houses accounted for 12.6% of the country's final energy demand and 11.1% of its total greenhouse gas emissions. Luxembourg's strategy includes the renovation of existing buildings focusing on high efficiency and the construction of efficient new buildings. From 2012 to 2016, building renovations employed 7,000 persons on average.

Massive and increasing numbers of cross- border commuters, strongly relying on private cars, contribute to road traffic congestion. The demographic development in Luxembourg and its pressure on an insufficient and expensive housing market result in increased distances to work for cross-border workers, who represent 41 % of Luxembourg's labour force (see section 3.3). The car remains the dominant means of transport, and the country has the highest number of passenger vehicles per inhabitant in the EU (Eurostat, 2019b). Over 70 % of commuters use cars, compared to 19 % who use public transport ([102]), contributing to road traffic congestion in the *Grande Région* at peak hours. Car taxes are particularly low in Luxembourg compared to other EU countries (Eunomia et al., 2016). In addition, the low taxation on transport fuels in Luxembourg encourages the use of personal cars. The taxation of diesel in Luxembourg remains amongst the lowest in the European Union. As a result, in 2015, non-residents contributed € 745 million out of € 871 million (around 86 %) of total fuel excise revenues (Eunomia et al.,2016).

Commitments	Summary assessment
2019 country-specific recommendations (CSRs)	
CSR 3: Focus economic policy related to investment on fostering digitalisation and innovation, stimulating skills development, improving sustainable transport, and increasing housing supply, including by increasing incentives and lifting barriers to build.	Luxembourg has made Some Progress in addressing CSR3
Increasing housing supply, including by increasing incentives and lifting barriers to build.	Limited Progress Housing prices continued to increase and they have accelerated in 2019, compared to previous years. Given the fundamental supply/demand mismatch, prices are expected to increase further. Investment in dwellings remains low, as the pace of construction of new dwellings remains only slightly above the annual average observed since 2000. Housing supply is limited by insufficient incentives to extend built-up areas. Regulations are being adapted so as to make local planning contracts more binding on landowners. The recent territorial management reforms have improved coherence between the different layers of government, yet without achieving the degree of vertical integration that would be needed to significantly improve the effectiveness of national policies aiming at fostering investment in dwellings in the country.

Luxembourg is less affected by energy poverty than other EU Member States ([99]). 2.1% of households were unable to keep the home adequately warm in 2018, compared to 7.3% at the EU level. Energy poverty appears more prevalent in households that rent their dwellings. Energy poverty is primarily addressed through social policy and multiple programmes, including public information, to stimulate energy efficiency and renewable energy in households.



Malta

Steps have been taken to increase the social housing stock, but an overarching strategy to address housing exclusion is lacking. To address the increasing demand for housing resulting from socio-demographic trends, authorities announced in 2019 that they would deliver 1,700 new social housing units in the coming years.

Malta's transition to greener and more sustainable growth requires a long-term, comprehensive strategy. To deliver on its climate and energy objectives, Malta will need to: (i) identify investment needs in green technologies and sustainable solutions and (ii) secure adequate funding. Malta is the most urbanised and most densely populated country in the EU and remains particularly vulnerable to climate risks. Sectors such as water management; infrastructure and land use; natural ecosystems; agriculture and fisheries; health and tourism would benefit from targeted investments to further climate neutrality. These sectors would also benefit from measures in disaster risk management and disaster risk response. Malta´s level of resource productivity is below the EU average. Economic growth and the increasing population and economic activity are expected to further exacerbate environmental concerns and put pressure on scarce natural resources. Malta has not yet capitalised on turning waste into a resource or on turning low recycling rates into business opportunities. The booming housing and construction sector is generating social and environmental concerns as new projects exert further pressure on the already-high levels of land use. Actions to address infrastructure bottlenecks emphasise road construction. The Commission's proposal for a Just Transition Mechanism under the next multi-annual financial framework for the period 2021-2017, includes a Just Transition Fund, a dedicated just transition scheme under InvestEU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair by helping Member States to address the social and economic consequences.

HOUSING MARKET

There has been a sustained increase in residential house prices with some signs of overvaluation. Following the peaks reached between 2005 and 2008, property price growth was sluggish until 2014. Since then, house prices — as measured by the official transactions-based index published by the National Statistical Office — gained momentum, growing by 5.8% per year between 2014 and 2018. The property price index published by the Central Bank of Malta, which is based on advertised prices, suggests even faster annual average growth of 9.3%. Neither of these two indices reflects the floor area of sold properties. The price per square metre may therefore have surged by even more. Housing demand has been supported by: (i) the low- interest-rate environment; and (ii) budgetary measures incentivising property purchases for first-time buyers (and, more recently, also for second-time buyers). The job-rich economic growth, coupled with higher female participation, has also contributed to an increase in household incomes, supporting borrowers' ability to apply for a mortgage. Higher demand for properties was also driven by inward migration and booming tourism (tourists are increasingly renting private accommodation for their stays). Ratios of house price to income and to rent point to a positive deviation from their long-term averages, suggesting some degree of overheating. This evidence is muted by the model overvaluation gap, based on econometric analysis, which suggests instead some undervaluation. Combining all indicators, the overall valuation gap points to an overvaluation of about 6% (Philiponnet and Turrini, 2017).

Supply responded strongly to the swelling demand for residential property. Between 2014 and 2018, residential investment almost tripled in real terms, reaching 5.2% of GDP. In 2018, real investment in dwellings surpassed even the peak reached in 2007 (Graph 3.2.2) and accounted for more than half of total construction investment. The Planning Authority issued the highest-ever number of building permits (for 12,885 dwelling units) in 2018, an increase of 338% compared to 2014. The construction spree is thus likely to continue. Building permits are also increasingly issued for construction on virgin land.

The government is seeking to tame high rental prices amid affordability concerns. The rapid growth of house prices appears to have made it more difficult for middle-income households to enter the property market (MDA, 2019). More importantly, rental prices have surged, driven by growing demand, mainly from foreign employees and tourists looking for temporary and short-term stays. High levels of rent inflation may crowd out vulnerable groups from what used to be affordable property. To address this issue, the government approved a reform to regulate the rental housing market starting in 2020 without imposing upper limits on rent levels in new rental contracts. The main elements of the reform include: (i) annual rental increase capped at 5%; residential leases of a minimum of 1 year; (iii) tax credits for landlords for long-term contracts; and (iv) an obligation for all rental contracts to be registered online using block chain technology.

Steps have been taken to increase the social housing stock, but an overarching strategy to address housing exclusion is lacking. To address the increasing demand for housing resulting from socio-demographic trends, authorities announced in 2019 that they would deliver 1,700 new social housing units in the coming years. Homelessness in the sense of 'living rough' is rare in Malta, but tensions on the housing market have exacerbated problems around access to housing. In addition, Malta lacks: (i) a formal definition of homelessness and of housing exclusion; and (ii) an overarching strategy to combat homelessness and housing exclusion.

The impact of a growing population and economy on energy consumption highlights the need for greater energy efficiency. Reaching Malta's 2020 and 2030 energy and carbon targets requires additional efforts to be made beyond those that are currently planned. Reducing primary and final energy consumption is essential to ensure that energy-efficiency and carbon emission reduction targets are met and support progress on SDGs 7, 12 and 13. In a context of strong demographic and economic growth, final energy consumption continued to increase in recent years. In 2016, the transport sector was responsible for over half of Malta's energy consumption, followed by the buildings and services sectors. The Maltese National Energy and Climate Plan, submitted in December 2019, estimates that the government would spend some €1.66 billion between 2018 and 2030 on energy-related projects and measures. Expenditure is expected to peak in 2021 at 1.7% of real GDP. The transport sector is expected to maintain the largest share in terms of estimated investments, followed by the services and residential sectors.

The energy consumption of buildings has been increasing. The residential construction sector is a major source of greenhouse gas emissions, which come from energy consumption, fluorinated gases for cooling, and waste disposal (including construction waste). Apart from grant schemes for heat pumps, Malta has no policy in place to target the growing energy demand and greenhouse gas emissions from air conditioning systems. Measures seem to focus on increasing the energy efficiency of air conditioning systems, rather than on a more holistic approach also targeting a building's structure.

Renovating the building stock may help to substantially boost energy efficiency. Although residential buildings account for 84% of Malta's building stock, only around 0.6% of them are renovated per year. In turn, around 2.1% of non- residential buildings are renovated. Energy-related 'deep' renovations are carried out on 0.1% of residential buildings and 0.4% of non-residential buildings each year, while medium and light renovations are predominant (European Commission, 2019o). As a result, renovations result in only 10% energy savings for the residential sector on average and 15% energy savings for the non-residential sector. The uptake of energy renovation could benefit from: (i) increased public awareness of support schemes; (ii) better use of energy performance certificates; and (iii) a comprehensive long-term renovation strategy to address both social housing infrastructure and the worst-performing buildings in the building stock. A project to assess and measure the energy efficiency of social housing will be launched in 2020.

Social and environmental sustainability implications of Malta's housing sector

Malta is experiencing strong growth in housing demand and supply. The Maltese population grew exceptionally quickly (17%), in the last decade. This increase was coupled with an even larger rise in the number of households (36.6%), which fuelled housing demand. Changes in family structures, reduced the average size of households (from 2.9 people to 2.5 people in 10 years), while the number of single-person households more than doubled. The surge in demand for housing was backed by a rapid expansion in supply of dwellings, particularly from 2015 onwards, with an average 50% annual increase in dwelling units' approvals between 2015 and 2018.

Demographic and social changes create pressure on the rental market. Although Malta continues to be a country of homeowners (81.2% of the population own their own home), the share of the population renting at market price in Malta has risen significantly in recent years (from 2.1% in 2011 to 6.8% in 2018). This increase has come on the back of population growth and large inflows of migrants primarily looking for temporary accommodation. Tenants have an increasingly diverse range of incomes, and the current rental supply does not satisfy the demand for lower priced and smaller units. This is partly because current construction standards impose a relatively large minimum size for new dwellings. Rental properties priced under €1,000 per month are noted as being in short supply and properties for under €600 a month being very limited. On the other hand, mid-range properties priced between €1,000 and €2,000, were in excess supply (MDA,2019).

The growing rental demand and increasing rent levels raise concerns over access and affordability for vulnerable families. Young couples and single people, including single parents, are among the households most likely to rent and face the surge in rental prices. 18.5% of single parents now rent at market price, against 6.8% for the total population. The share of rent in the disposable income of tenant households has been constantly growing for the past decade, from 4.6% in 2008 to 7.7% in 2018, although it remains well below the EU average (24.7%). Acquiring affordable properties is becoming increasingly difficult, particularly for first-time buyers, a problem that can further increase demand in the private rental sector.

Malta has taken a series of measures to address these challenges. A rent reform law adopted in 2019 aims to address the lack of a regular tenancy system and appropriate legal framework. Malta also introduced an affordable housing benefit to support tenants and offers financial aid to buyers over the age of 40 through a 'shared equity' scheme. A shared equity scheme for young people is also in the pipeline. The government also announced the building of 1,700 new social housing units in 2019. Malta envisages to draft a National

Housing Strategy, which will include a sustainability dimension, and consider adopting a more comprehensive national housing policy.

Addressing environmental concerns remains crucial to ensure a sustainable housing market. Although it represents an important source of economic growth, the housing sector also presents a number of negative externalities (land use, greenhouse-gas emissions, energy consumption and waste generation, among others) that may severely impact environmental sustainability. The number of dwelling unit approvals on virgin land (around 33% of the total in 2018) has increased in parallel with total dwelling unit approvals, and in 2018 was four times higher than in 2014. Construction projects also regularly take place in areas that have not been zoned for development, creating a cumulative effect over time. However, the high growth in new construction projects (around 5% in the residential sector and 7% in the non-residential sector), creates significant opportunities to improve the sector's energy performance. For example, energy performance could be improved by updating cost-optimal minimum requirements and adopting a more ambitious near-zero-emissions standard for new buildings.

Renovation of the existing building stock and targeted training schemes may help to improve the energy performance of buildings. Malta's low renovation rates result in insufficient energy savings. Skills shortages in the construction sector lead to limited expertise in energy efficiency. The ZEROCO2 project, funded through the European Regional Development Fund by Interreg Europe, set up training programmes of Energy Performance Assessors for architects and engineers and increased grant schemes for solar water heaters. Further European Regional Development Fund funding could: (i) provide fiscal incentives for contractors that build to high efficiency standards with a special focus on summer thermal insulation;(ii) extend solar farm projects to the residential sector; and (iii) use R&I funds to develop energy performance contracting.

Steps have been taken to ensure effective oversight of the construction sector. During times of a strong building activity, the enforcement of codes and consideration of sustainability factors is crucial. This is because the new building stock will remain largely unchanged for a generation. Similarly, regular maintenance is key for existing buildings and heating-and-cooling systems. The budget for 2020 has proposed stronger regulatory oversight in the construction sector. The Malta Construction and Building Authority is currently being set up to ensure consistent management and regulation of the construction sector, which was previously subject to fragmented legislation.

The unabated growth of residential house prices needs close monitoring. Demand pressures have led to a surge in residential investments. These demand pressures have, in turn, been driven by job-rich growth, low interest rates, inward migration and booming tourism. There are now signs of overheating in the residential real estate market and surging house prices have also raised concerns about affordability, especially in the rental sector. Moreover, although the capital bases of banks are solid, the continued concentration of their portfolios in real estate deserves attention. This is an especially pressing issue given lengthy insolvencies procedures and the relatively high ratio of household debt to gross disposable income.

Tax compliance has improved, and further measures have been implemented. In 2017, the VAT gap declined by an additional 0.7 pps to 2%. This is well below the EU average of 10.9% (CASE, 2019) and suggests there have been improvements in compliance. Nevertheless, due to VAT exemptions and the application of lower VAT rates to selected products, Malta is one of the EU countries with the highest rate gap suggesting revenue losses due to the existence (and level) of reduced rates. To tackle tax evasion, cash transactions exceeding €10,000 were banned for purchases such as properties, vehicles, art, precious stones and yachts. Given a sharp increase in tourist demand for private accommodation, in 2019 the authorities made an agreement with major providers of online booking portals to promote properties licensed by the Malta Tourist Authority. This will improve the monitoring of private rental income and improve collection of the 15% tax that is due on this type of income.

Real-estate related tax revenue comes exclusively from transaction taxes. Real estate taxes, which exclusively come from transaction taxes, totalled 1.3% of GDP in 2018, compared to an EU average of 2.5%. They represented 4.2% of total tax revenues in Malta compared with 6.4% in the EU, since Malta does not apply recurrent taxation on immovable property. Shifting from transaction to recurrent property taxes could foster a more efficient use of building space, which is particularly relevant for Malta. However, as Malta does not have a property register, this would entail certain set-up costs. Recurrent property taxes could also help in dampen potential boom-and-bust cycles, especially given the considerable recent increases in Malta's property prices (see Section 3.2).

Netherlands:

While the government has taken policy measures to improve the housing supply and to reduce high household debt, significant incentives to incur debt remain.

Subsidies to owner-occupied housing and social housing lead to an underdeveloped private rental market. The (rent-controlled) social housing sector is large compared to other Member States. The private rental market is the only non-subsidised housing sector and remains underdeveloped. The lack of a well- functioning middle segment on the rental market encourages households to enter the owner-occupancy market early, leading to high debt-to-income ratios and potential financial vulnerability issues.

While the Dutch economy remains resilient overall, subdued medium-term growth prospects underscore the importance of sustaining the reform momentum. There are long-term challenges in the housing market, labour market and pension system that still need to be addressed in full. While the government has taken policy measures to improve the housing supply and to reduce high household debt, significant incentives to incur debt remain. Expansionary fiscal policy and nominal (non-inflation adjusted) wage and employment growth support household disposable income growth and contribute to external rebalancing. Tackling labour market segmentation remains a challenge despite recent measures. The government and social partners have reached agreement on a major pension reform. In addition, further investments in R&D, human capital and climate and energy measures are needed to boost long-run productivity growth and address the transition to a low-carbon economy. Tackling these challenges would further support the resilience of the Dutch economy and reduce risks from imbalances.

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The second pillar pension system plays a key role in generating a high savings rate, especially in combination with high mortgage debt. While the pension system performs well on pension adequacy and fiscal sustainability, it has drawbacks in terms of intergenerational fairness, transparency and flexibility. Moreover, second pillar pension contributions are an important driver of compulsory savings for households and can affect household consumption in a pro-cyclical way. Households combine substantial housing and pension wealth with high mortgage debt. However, the former are highly illiquid and unevenly distributed across generations. This makes households vulnerable to economic shocks and reinforces the pro-cyclical dynamics of household finances. Effective implementation of the planned pension reform could address key challenges in the second- pillar system.

Nitrogen Ruling Implications

The Dutch Programmatic Approach to Nitrogen (‘*Programmatische Aanpak Stikstof*’, PAS) is a policy framework from 2015, which aimed to reduce the deposition of reactive compounds of nitrogen ([1]) in Natura 2000 protected areas to prevent soil acidification and loss of biodiversity. PAS was used as the basis for granting construction and infrastructure permits in case of such emissions in anticipation of future reductions of nitrogen depositions. However, the Council of State (‘*Raad van State’*) annulled PAS as the basis for granting such permits on 29/5/2019 because of its incompatibility with Art 6 of Habitats Directive 92/43/EEC, as it failed to secure such future reductions ex ante. This subsequently led to a stop of new permits for projects around these protected areas, causing significant policy uncertainty for housing and infrastructure investment over the course of 2019. In part as a result of the nitrogen ruling, the number of granted building permits has dropped substantially, and some infrastructure projects are expected to experience substantial delays (Ministry of Infrastructure and Water Management, 2019). If unaddressed, the ruling could lead to an estimated cumulative reduction of 36 000 dwellings being realized up to 2024. Annual housing production in 2024 could drop to 65 000, as compared to baseline predictions of around 75 000 new dwellings a year (Ministry of the Interior, 2019; Koops and Manshanden, 2019). The government has therefore announced short-term measures that reduce emissions with the objective of improving the quality of the nature and re-enabling permit grants and the continuation of infrastructure and housing projects, although uncertainties remain (Ministry of Agriculture, Nature and Food Quality, 2019). As of yet, these measures concern: (i) a reduction of the day-time maximum speed on highways to 100 km/h; (ii) a voluntary buyout scheme for pig farmers; and (iii) a different composition of cattle feed. The government is considering structural measures for both permit grants as well as nature preservation.

Household savings remain in surplus as they continue to experience deleveraging pressures. While household (mortgage) debt has continued to increase in nominal terms in recent years, the increase was limited to around 1% per year on average in 2015-2018 despite strong house price increases. On the back of robust real GDP growth, this has resulted in passive deleveraging, with household debt declining from 111% of GDP in 2015 to a still substantial 102% of GDP in 2018. The high stock of household debt, which mainly consists of mortgage debt, is largely driven by policy distortions in the housing market as well as prevailing tax incentives. Although a series of incremental measures have been taken in recent years to rein in mortgage debt growth, household (mortgage) debt is likely to remain elevated as substantial policy distortions remain in place.

The government has taken steps to address high household debt and distortions in the housing market, but challenges remain. Dutch households have high mortgage debt levels, driven by tax incentives as well as housing market distortions. Since 2012, recommendations have been issued on the need for reforms in this area, in particular to adjust the favourable tax treatment of home ownership, refocus social housing and provide a more market-oriented price mechanism in the rental market. The government has acted upon those recommendations, in particular by tightening mortgage interest deductibility rules (including a requirement to repay mortgages within 30 years to qualify for mortgage interest deductibility) and by gradually reducing the applicable rate for the deduction. Policy measures have also been taken to make rent setting more flexible and to support the private rental housing supply. However, tax incentives for (mortgage-financed) home ownership remain generous, and the private rental sector is still underdeveloped.

The Netherlands	Overall assessment of progress with 2019 CSRs: some progress
CSR 1: Reduce the debt bias for households and the distortions in the housing market, including by supporting the development of the private rental sector. Ensure that the second pillar of the pension system is more transparent, inter-generationally fairer and more resilient to shocks. Implement policies to increase household disposable income, including by strengthening the conditions that support wage growth, while respecting the role of social partners. Address features of the tax system that may facilitate aggressive tax planning, in particular by means of outbound payments, notably by implementing the announced measures. (MIP relevant)	The Netherlands has made **some progress** in addressing CSR 1: • **Some progress** has been made on the housing market, although mortgage interest deductibility will remain generous even after being reduced to a maximum applicable rate of 37% by 2023, and the rental sector remains underdeveloped. • **Some progress** has been made on reforming the second pillar of the pension system. A framework agreement addressing key challenges in the system was reached between social partners and government, and preparatory work for implementation is currently ongoing. • **Some progress** has been made on policies to increase household disposable income. The government has introduced tax measures that support higher disposable real incomes of households. Moreover, ongoing favourable labour market conditions are translating into an acceleration of nominal wage growth. • **Some progress** has been made on addressing aggressive tax planning. The Netherlands introduced a conditional withholding tax on royalty and interest payments, which will enter into force from 2021. However, its effectiveness in addressing aggressive tax planning remains to be seen.

All domestic sectors are in surplus, with the corporate sector making the largest contribution to net lending. Both financial corporations and non-financial corporations are in surplus, with the latter being the main driver. Net lending by non-financial corporations amounted to 6.7% of GDP in 2018. Compared to the rest of the euro area, profitability and net property income are relatively high for Dutch firms, whereas domestic investments are lower. This is linked in part to the large presence of multinationals in the Netherlands, but small and medium-sized enterprises are also a significant contributor (see section 4.2.6). Households have been recording surpluses since the crisis, amounting to 1.5% of GDP in 2018. The dip in the housing market following the crisis led to a decrease in residential investment, while at the same time boosting personal savings via deleveraging pressure linked to high household debt. Pension funds are also an important driver of household net lending due to relatively high second-pillar pension contributions (see subsection 4.2.5) which are largely invested abroad. The government sector recorded a headline surplus of 1.5% of GDP, driven by past consolidation measures and increasing tax revenues.

Private debt is expected to remain high. Overall, still relatively robust nominal GDP growth combined with ongoing deleveraging pressures are projected to support the trend of passive deleveraging. However, in nominal terms household debt growth appears likely to pick up somewhat as a result of sharp house price rises in recent years (see subsection 4.2.3). The maximum applicable rate of mortgage interest deductibility is being reduced by 3 percentage points per year, from 49% in 2019 to 37% in 2023. While this lowers the debt bias for households, a substantial subsidy for mortgage borrowing remains. The government has also launched initiatives to boost new housing supply, including in the private rental sector, which would provide households with an alternative to taking on mortgage debt. However, with a share of 13% of the total housing stock in 2018 the private rental sector remains underdeveloped.

The Netherlands has recorded persistently large current account surpluses. The net lending position is largely driven by non-financial corporations, with relatively high savings and low domestic investments. Both large corporations, including multinationals, and small and medium- sized enterprises have substantial surpluses. Households also make a positive contribution, among other things due to high mandatory pension contributions. Household debt as a share of GDP is around 50 percentage points higher than the euro area average and well above the relevant benchmarks, as tax incentives encourage households to take on mortgage debt. While household debt is coupled with substantial housing and pension assets, these assets are often illiquid, leaving households vulnerable to shocks.

Household debt continues to decline as a share of GDP, although it is still increasing in nominal terms. Following the post-crisis housing market correction, nominal household debt declined over the course of 2013-2014 as households actively deleveraged. As house prices started to recover, debt growth started rising again. However, at a pace of around 1-1.5% year-on-year, it has remained subdued, both compared with pre-crisis household debt developments and relative to nominal annual GDP growth of 2% to 5%. This is in part attributable to policy measures to rein in mortgage debt growth, including restrictions on interest-only loans (see below) as well as tighter rules for loan-to-value and loan-to-income ratios. Voluntary mortgage repayments, which became financially attractive due to low interest rates on deposits, also played a significant role (DNB, 2018a). Going forward, household debt growth appears likely to pick up somewhat, as the sharp house price rises seen in recent years (see subsection 4.2.4) feed through into higher mortgage amounts for new borrowers.

Mortgage interest tax deductibility is being reduced but remains generous. High household indebtedness is largely due to mortgage debt, which is fuelled by the fact that mortgage interest on owner-occupied homes is treated as a fully deductible expense in income taxation. Dutch authorities have taken some steps to limit this, both by disqualifying new interest-only mortgages from tax deductibility (in force since 2013) and by reducing the maximum applicable rate at which mortgage interest is deductible. This reduction was very gradual at first (0.5 percentage points per year from 2014), but from 2020 it will proceed at an accelerated pace, with the maximum rate lowered in three steps from 49% at present to 37% in 2023. However, this reduction only affects households in the top tax bracket (some 10% of the labour force), and a rate of 37% still signifies a strong implicit subsidy on mortgage borrowing, currently amounting to around €10 billion (1.4% of GDP). It also contrasts with policies in other EU countries, where mortgage interest deductibility has mostly been phased out or capped at a relatively low nominal amount, or where the applicable rate is substantially lower.

HOUSING MARKET

The housing market upswing continues, albeit at a slower pace and with significant regional differences. At national level, nominal house price growth slowed from 9% in 2018 to around 6% in 2019. In major cities, where the recovery in prices had been particularly steep, the market cooled more notably. This was especially the case in Amsterdam, where prices rose by about 3% over the course of 2019 – just slightly above inflation – following price rises of 10-15% per year since 2016. Nationwide house prices are now around 12% above their pre-crisis peak although they remain somewhat lower in real terms, whereas in the largest cities, prices are substantially above previous highs.

While valuation indicators do not show clear signs of overheating at present, the risk that house prices exceed fundamentals appears to be rising. At national level, the price-to-income ratio (a valuation indicator linked to housing affordability) rose to about 9% above its long-term average in Q3 2019. A model-based estimate still points to undervaluation based on 2018 data (although this is partly a reflection of relatively weak residential investment in the post- crisis period combined with low interest rates). Overall, with continued above-income price rises, it appears increasingly likely that the housing market will re-enter overvalued territory. This is particularly the case for regions where price growth has outstripped the national average and key indicators, notably the price-to-income ratio, appear more stretched. For Amsterdam, for example, econometric models do indeed suggest that price developments have already decoupled from fundamentals for several years (Houben et al., 2017). Risks related to the Dutch housing market are also highlighted in the European Systemic Risk Board recommendation to the Netherlands issued in June 2019 (ESRB,2019).

On the demand-side, house prices are supported by the favourable tax treatment of owner-occupied housing. Under the Dutch tax system, most investment assets are subject to income taxation based on a deemed rate of return under the '*box 3*' approach, implying annual tax payments of about 0.9-1.6% of their net financial value under current rules([30]).Owner-occupied housing is exempted from this approach, and is instead subject to a (generally lower) recurrent property tax([31]). Moreover, when financed with a mortgage, it benefits from a substantial additional tax advantage linked to mortgage interest tax deductibility (see subsection 4.2.3). Overall, these tax benefits represent a significant subsidy that favours owner-occupied housing over other investment opportunities as well as over rental housing. Möhlmann et al. (2019) estimate that their impact on house prices (relative to a fully neutral taxation scenario) amounts to around 10%, and on the share of rental homes in the overall housing market to around 5 percentage points.

Demand for owner-occupied housing is also driven by the lack of a viable alternative on the rental market. The Dutch housing market is characterised by large owner-occupied and social housing sectors, each of which are subsidised through different channels. The private rental market is the only sector not receiving any subsidy, and with a share of about 13% of the overall number of homes it remains relatively underdeveloped. This leads to poor availability of rental housing and high rent levels. As a result, middle-income households – whose earnings are above the social-housing ceiling yet often insufficient to comfortably afford private-sector rents – can be pushed into (largely mortgage- financed) home ownership. This particularly concerns younger families, leading to a relatively young average first-time buyer age accompanied by high debt-to-income and loan-to-value ratios. This, in turn, creates potential financial vulnerability issues for this age group (DNB, 2019b; European Commission,2017b).

The housing supply continues to fall short of estimated needs, particularly in major cities. Following the financial crisis, the Netherlands experienced a prolonged period of weak residential construction (European Commission, 2019a). This resulted in a significant housing shortage, estimated by the Dutch authorities to be around 294 000 homes in 2019, equivalent to 3.8% of the overall housing stock (BZK, 2019a). Shortages in large metropolitan areas are especially severe, amounting to 5-7% of the local housing stock (ABF Research, 2019). To address the existing shortage as well as expected demographic developments, the government set a target for net new housing of 75 000 homes per year until 2025 (BZK, 2018a). Thanks to a gradual recovery in construction output, this target was just about met in 2018 and 2019, but a sharp fall in building permits in 2019 (partly linked to the 'nitrogen problems' ('*stikstof problematiek*') suggests this is unlikely to be the case in the coming years. Moreover, the 75 000 targets possibly under states actual building needs going forward, so even if it is achieved shortages may well persist.

Cyclical and structural bottlenecks are constraining housing supply and raising construction costs. As a result of a sharp fall in building activity after the financial crisis, both the construction sector and municipal planning departments declined in size. Following the subsequent recovery, developers now face increasingly tight capacity constraints. From a more structural perspective, a key impediment for more construction is a lack of buildable land: the amount of land allocated to housing has risen at a far slower pace than new residential construction, and remains scarce both by international comparison and relative to land designated for other purposes, such as industrial use. This is in part linked to the role of local governments: decisions on zoning plans are generally made by municipalities and are thus not necessarily conducive to addressing overall housing needs (Michielsen et al., 2019). This can translate into cumbersome and unpredictable requirements being imposed on projects, raising costs and reducing scope for exploiting economies of scale. Another, partly related, issue are long throughput times in the planning and development process, particularly for inner-city construction, which creates further uncertainty for developers. As a result, the responsiveness of housing supply to house price rises in the Netherlands is one of the lowest among OECD countries (Caldera et al., 2013).

The 'nitrogen problems' (*'stikstofproblematiek'*) create additional near-term downside risks to new housing construction. As a result of a judgment of the Council of State in June 2019, construction projects leading to the incremental deposition of a number of harmful nitrogen compounds near to 118 *Natura 2000* nature protection areas across the Netherlands are generally no longer permitted without compensatory measures (see Box 1.1 in Section 1). Estimates indicate this would reduce housing completions by about 36 000 dwellings cumulatively over 2020-2024 in a scenario with no mitigating policy steps (Manshanden et al., 2019). Although the government has announced a package of measures to alleviate the judgment's impact on new construction (LNV, 2019), it remains a significant source of uncertainty.

Policy developments

The Netherlands has taken some steps to improve rental market functioning in recent years, albeit with a limited impact so far (European Commission, 2019a and 2018a). These include measures to allow higher rent increases for '*scheefhuurders*' (middle and high income earners in social housing), a regulatory change facilitating more short-term rental contracts since 2016, and the possibility for municipalities to designate a portion of dwellings as intended for the private rental sector in their zoning plans since 2017. While positive steps, so far these measures have not translated into a meaningful expansion of the private rental sector relative to the overall housing market.

In September 2019, a package of further housing market measures was announced, aimed primarily at boosting construction. Investment subsidies of up to €1 billion, distributed over a period of 4 years, will be made available to municipalities where shortages are most acute. A further €1 billion, spread evenly over 10 years, will be allocated to targeted tax reductions for social housing corporations building new homes. These measures could, over time, contribute to raising new housing construction, but significant implementation uncertainty remains. In particular, it may be challenging to determine that new homes built under the schemes genuinely represent a net addition to the housing stock, rather than projects that would have happened anyway or that simply shift resources away from other potential developments.

Other recent policy steps risk having a limited or even negative impact on the supply of private rental housing. In May 2019, legislation was adopted to simplify the market criterion ('*markttoets*') for social housing corporations. This should allow them to engage in construction of mid-priced (non-regulated) rental housing more easily. However, against the current backdrop of strong private-sector development activity and capacity constraints in the construction sector, this appears unlikely to create significant incremental rental housing supply in the near-term, while – if successful in the longer run – it risks crowding out the role of the private sector in the non-regulated rental market. In addition, adjustments to the rent- setting system for social housing, announced as part of the September 2019 housing market package mentioned above, imply that more homes remain in the regulated sector rather than transitioning to the private rental market. Moreover, measures to discourage 'buy-to-let' purchases (also proposed as part of the same package) may favour expansion of the owner- occupier market at the expense of rental housing availability.

Housing market dynamics and institutional features of the pension system drive household net saving. Following the financial crisis, the household sector turned from a savings deficit to a significant surplus, peaking at about 4% of GDP in 2014. This was mainly driven by housing market developments: the crisis weighed heavily on new housing investment, while at the same time boosting personal savings via deleveraging pressure linked to high household debt. In recent years, residential investment has picked up again as the housing market has recovered, resulting in a gradual decline of the household surplus. On a more structural level, household savings are fuelled by the pension system via relatively high second-pillar pension contributions that are largely invested abroad.

Commitments	Summary assessment
2019 country-specific recommendations (CSRs)	
CSR 1: Reduce the debt bias for households and the distortions in the housing market, including by supporting the development of the private rental sector. Ensure that the second pillar of the pension system is more transparent, inter-generationally fairer and more resilient to shocks. Implement policies to increase household disposable income, including by strengthening the conditions that support wage growth, while respecting the role of social partners. Address features of the tax system that may facilitate aggressive tax planning, in particular by means of outbound payments, notably by implementing the announced measures.	The Netherlands has made **some progress** in addressing CSR 1
Reduce the debt bias for households and the distortions in the housing market, including by supporting the development of the private rental sector.	**Some progress.** The accelerated reduction of the applicable rate for mortgage interest tax deductibility is being implemented from 2020, with the rate being reduced by 3 pps per year to 37% in 2023. While this helps to address the debt bias for households, a substantial subsidy on debt-financed home- ownership remains. The Dutch authorities announced a package of housing market measures in September 2019, aimed primarily at boosting construction, including in the private rental sector. However, their impact remains uncertain.

Some progress has been made in each of the policy areas covered by CSR 1. To address high household debt, the applicable rate for mortgage interest tax deductibility is being reduced by 3 percentage points per year from 2020, to 37% in 2023. While this helps to address the debt bias for households, a substantial subsidy on debt-financed homeownership remains. The Dutch authorities announced a package of housing market measures in September 2019, aimed primarily at boosting construction, including in the private rental sector; however, its impact remains uncertain. On reforming the second pillar of the pension system, a framework agreement was reached between social partners and government, and its further finalisation is currently ongoing. The government has introduced tax measures that support higher real disposable incomes of households and ongoing favourable labour market conditions are translating into an acceleration of nominal wage growth. On aggressive tax planning, the Netherlands introduced a conditional withholding tax on royalty and interest payments from 2021. However, its effectiveness in addressing aggressive tax planning remains to be seen.

The city of Amsterdam has introduced tight restrictions for short-term accommodation rentals. These severely limit the possibilities for residents to rent out their homes on an occasional basis via collaborative economy platforms. Without measures to manage large numbers of tourists using other forms of accommodation, the restrictions on the collaborative economy are unlikely to be suitable to address challenges stemming from the rapid growth of the tourism sector (Barron et al., 2019; Garcia-López et al., 2019; Bivens et al., 2019; Cocola-Gant et al.,. 2019).

The government aims to increase the share of renewable energy consumption in electricity, heating and transport. The share of renewable energy for heating is expected to double from 6% in 2017 to 13% in 2030, partly thanks to an increase of renewable energy in district heating systems. Natural gas currently heats 95% of all buildings. The climate agreement plans to make at least 1.5 million buildings gas-free by 2030 by banning natural gas in all new buildings. Renewable electricity's share is expected to increase from 15% in 2018 to more than 67% in 2030. The Netherlands is one of the frontrunners in the EU in decarbonizing its transport sector (see Section 4.4.2). It significantly increased its share of renewable energy in the transport sector from 6% in 2017 to 9.6% in 2018, above the European average of 8%. The growth is accomplished by increasing the national blending obligation to 8.5%, by increasing the scope of the obligation to agricultural and forestry vehicles, and by a sub- target for advanced biofuels. The Dutch government has not set a sectoral target for renewable energy in transport yet, but its national mission-oriented innovation programme has set a target of 33% of renewables by 2030.

However, further substantial investments are needed in energy infrastructure, which were not clearly specified in the climate agreement. In some instances, infrastructure gaps are already causing implementation delays for renewable energy projects, as some projects could not be connected to the grid due to capacity constraints in 2019. Capacity constraints are also holding back further investment in data centres with a number of cities deciding not to grant further licences for the time being. Proposals for district heating and gas- free buildings likewise require new infrastructure. The network operators are conducting work (Gasunie and Tenet, 2019) in order to design a network optimised for energy carriers and able to respond to the needs of a decarbonised economy. In this context, the Netherlands is looking to build a dedicated hydrogen network to connect industrial clusters. However, how such plans translate into specific infrastructure investments in heat, electricity, hydrogen or CO2 networks which still need clarification.

Poland:

House prices continued to rise fast in 2019, but risks of overheating are limited. According to Statistics Poland data, prices of residential premises in the third quarter 2019, compared to the corresponding quarter of 2018, increased by 9.0% (of which on the primary market by 6.7% and on the secondary market by 10.9%).

The housing loan market is expanding, but currently it does not pose a significant systemic risk. The outstanding stock of housing loans in relation to GDP remains one of the lowest in the EU. A large share of real estate transactions continues to be paid outright rather than financed by mortgage loans, and such purchases may often be treated as investment given low deposit interest rates. The growth in the value of housing loans strengthened during 2019, to around 6.6%, mainly reflecting a weakening of the zloty exchange rate relative to the Swiss franc, a currency in which some 23% of outstanding loans are denominated. Mortgage loans in zloty have been rising at the steady pace of some 10-13% since 2015. Nearly all mortgages issued in Poland are subject to variable interest rates, which could place substantial financial pressure to households in the event of interest rate increases. Nevertheless, risks are limited so far, as the share of new loans with high loan-to-value has been reduced and the share of non-performing loans is limited.

House prices continued to rise fast in 2019, but risks of overheating are limited. According to Statistics Poland data, prices of residential premises in the third quarter 2019, compared to the corresponding quarter of 2018, increased by 9.0% (of which on the primary market by 6.7% and on the secondary market by 10.9%). House prices increased by around 6.5% annually (National Bank of Poland data) in the secondary market in the largest cities and by around 12% if the index is corrected for real estate quality changes. Despite dynamic price growth in recent years, there is no evidence of house price overvaluation. In 2019, deflated house prices grew faster than real wages. However, the opposite was observed for several years before and, hence, real estate remains affordable in historical and EU-wide comparison. In 2018, the average price of a 100 m^2 dwelling was equivalent to 9.8 years of average disposable income per capita, close to the EU average.

Preventive policies applied to residential property financing contribute to low risks. Households' mortgage-related debt is predominantly denominated in Polish złoty. Virtually all mortgage loans are based on variable interest rates implying risks if interest rates increase. According to the central bank's stress tests, these risks are nevertheless manageable (NBP, 2019a). The ratio of non-performing loans in the housing loan segment is low, at 2.4% and 3% on average, in the case of discontinued legacy mortgages denominated in foreign currencies. These loans represent about 5.5% of the sector's balance sheet and amortise at 8% each year. With an overall non-performing loans ratio of 6.2% in mid-2019 credit risks remain contained.

Bank lending segments developed in line with underlying fundamentals, with sound fundamentals indicating further growth. Mortgages, representing some 70% of households' debt, grew by 7.5% per year in June 2019. The lucrative consumer-lending segment remained dynamic with annual growth of

9.1%, exceeding GDP growth. Small and medium enterprises remain cash rich and reluctant to borrow from the banking system. This loan segment grew by 3.9% per year (June 2019), whereas bigger corporates increased their loans by 11%. Low private indebtedness and a housing market without major imbalances (see Section 1) combined with banks' own funds levels and ample liquidity well beyond the required regulatory minimum allow for future loan growth.

The new employee' capital plans might support the development of the capital market. So far, the capital market lacks traction in both equity and fixed income segments. These plans are private long-term saving plans aimed at increasing current households' savings, supporting incomes at retirement, and boosting the capital markets, by increasing invested capital by planned 0.7% of GDP each year. The implementation started mid- 2019 with the biggest employers and will gradually involve smaller firms. Once fully implemented in 2021, authorities expect the scheme to cover around 8.6 million employees (with an assumption of a participation rate of 75%; however, at the end of 2019 it reached only around 44% in large companies). These plans are to be funded by employees, employers and the state budget in the form of a subsidy. Each participant may withdraw its funds at any time or opt out from making further contributions.

Certain factors hinder the functioning of the labour market. In 2018, part-time employment was only used by 6.2% of employed persons in Poland, compared with the EU average of 18.5%. The underdeveloped rental housing market and public transport, particularly in the rural areas, also have a negative impact on the functioning of the labour market. The social insurance implications of a transition from the farmers' special pension regime to the general social security regime can discourage to leave the agricultural sector.

Bank lending segments developed in line with underlying fundamentals, with sound fundamentals indicating further growth. Mortgages, representing some 70% of households' debt, grew by 7.5% per year in June 2019. The lucrative consumer-lending segment remained dynamic with annual growth of 9.1%, exceeding GDP growth. Small and medium enterprises remain cash rich and reluctant to borrow from the banking system. This loan segment grew by 3.9% per year (June 2019), whereas bigger corporates increased their loans by 11%. Low private indebtedness and a housing market without major imbalances combined with banks' own funds levels and ample liquidity well beyond the required regulatory minimum allow for future loan growth.

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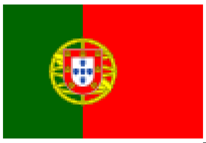
Curbing greenhouse gas emissions through decarbonising power generation and reducing energy intensity are key challenges for Poland. Developing a coherent long-term vision for improving the environmental sustainability of Poland's development model is of crucial importance given the difficult starting point. Greenhouse gas emissions have increased slightly in recent years, especially in the transport sector. This puts Poland in the group of EU Member States with the highest emissions per capita. Energy supply and use are jointly responsible for the highest share of national greenhouse gas emissions. Around 90% of electricity is still generated in conventional power plants, mainly using domestic hard coal and lignite. Solid fossil fuels also play a large role in household energy consumption, especially in heating, while the energy efficiency of buildings remains poor. Due to a surge in passenger and freight road traffic in recent years, emissions from the transport sector have been growing continuously.

The reliance on solid fossil fuels for domestic heating weighs on air quality, translating into health problems and costs. The energy consumption increasing since 2014, and the highest share of solid fossil fuels in residential energy consumption in the EU not only make reaching the 2020 energy efficiency targets challenging, but also further exacerbate the problem. In 2016, approximately 45 thousand premature deaths were attributable to air pollution exposure, among highest values in the EU (EEAa, 2019). Emissions of air pollutants can be curbed by switching to cleaner energy sources. Several local governments have already taken action to ban the use of most polluting fuels for heating, the measure with the largest potential to improve the situation in the short term (Ministry of Environment, 2019). In the longer term, thermal modernisation of buildings as well as investments in district heating play a key role. Public support schemes for this face the challenge of ensuring that substantial investments done by households in single- or multifamily buildings and by heat distribution sector do not put them at a disadvantage in the future, when the heating of buildings will have to be fully decarbonised. The volume of investments required, including the public support, and associated social implications call for a careful policy design in this area. Launched in 2018, a 10-year Clean Air Programme is still strongly underused.

 **Portugal:**

Rising housing prices increase the financial pressure on households and create issues of affordability, especially for the most vulnerable. Housing prices increased by 10% in 2018 and by 9% in 2017, although in 2019 (Q1 data) there was a deceleration of the price increases on a year- on-year basis

Poverty and inequality continue to decrease, despite weak social protection and rising house prices. The proportion of people at risk of poverty and social exclusion fell in 2018 to 21.6%, and income inequality is now around the EU average. However, social transfers have limited impact on poverty, and rising housing prices are increasing financial pressures on the most vulnerable. In 2018, social transfers excluding pensions reduced the proportion of people at risk of poverty by 23.8%, significantly below the EU average of 34%. Portugal is taking action to address housing affordability, which is fast becoming a new social challenge.

House prices exceed the long-term average, but risks are contained. House prices retained a strong growth pace in 2018 and the first half of 2019. The calculations for 2018 show that prices were already above the long-term average and the valuation gap widened to 13.9%. However, the price to income gap was only slightly positive at 1.9%. Additional risks stem from housing affordability problems in some regions though they are partly mitigated by the country's large share of property ownership. The risks from overvaluation are also offset by the non-debt nature of financing, as the stock of mortgage loans relative to GDP is still on a downward trend. In addition, authorities have introduced borrower-based macro-prudential measures aimed at improving credit standards. Overall, the increase in house prices is seen as a correction from previously low levels of valuation. It is currently not considered an imbalance but warrants close monitoring.

As interest rates continue to fall, mortgage rates test the 1% threshold. In September, the weighted average interest rate on new mortgages was 1.00%, a new historical low, whereas non- financial corporations were charged on average an interest rate of 2.18%. The average housing loan rates in Portugal were 47 basis points below the euro area average and 87 basis points below the Spanish average. The average interest rates on loans for consumption and other purposes were 6.97% and 3.24%, respectively. The average deposit rate stood at 0.12% in September 2019. Total bank deposits increased by 4.1% on a year- on-year basis with corporate deposits growing faster at 5.5%. As Portuguese law prohibits banks from charging negative interest rates, this has resulted in deposit inflows for arbitrage purposes by foreign large corporates that face negative rates in their home jurisdictions.

House prices growth remains strong. The growth in house prices declined only slightly from an annual average of 10.3% (y-o-y) in 2018 to 9.2% in Q1-2019 and 10.1% in Q2-2019. In deflated terms, the growth rate also remains high at 7.7% in Q1-2019 and 9.0% in Q2-2019, relative to an annual average of 8.8% in 2018. House price growth thus exceeds the indicative threshold of 6% for a fourth year in a row but this follows a long period of undervaluation. This has led to housing affordability problems in some regions, even though they are partly mitigated by the large share of property ownership in Portugal. The BdP has introduced a set of macro-prudential measures for loans granted to consumers.

Property valuations are rising above long-term rates. The estimated price-to-income and price-to-rent ratios moved to a positive territory in 2018 at 1.9% and 5.2% respectively (see Graph 4.2.5). The valuation gap linked to the deviation from equilibrium prices based on supply and demand fundamentals, suggests an overvaluation of 13.9% in 2018, up from 7.5% in 2017. The overall house price gap is estimated at 7.0% in 2018. However, a significant part of the price dynamics reflects structural changes on the market, as the strong growth in tourism, including structural shifts towards commercial use of housing properties, has increased demand for residential real estate. External investment demand, in combination with low interest rates, is also playing a role as less than half is financed through domestic mortgages. The stock of domestic mortgage loans is still on a downward trend relative to GDP.

Rising housing prices increase the financial pressure on households and create issues of affordability, especially for the most vulnerable. Housing prices increased by 10% in 2018 and by 9% in 2017, although in 2019 (Q1 data) there was a deceleration of the price increases on a year- on-year basis. Portugal is among the countries where the burden of housing costs fell for the population as a whole between 2007 and 2018 but increased for poor households (+25.4%). In 2018, the rate of poor households overburdened by housing costs stood at 22.3%, nearly ten times higher than other households (2.3%). Between 2007 and 2018, the average mortgage/rent arrears rate fell from 3.1% to 2.8%. However, among poor households the rate in 2018 (6.8%) was still higher than in 2007(6.6%).

The state's investment in social housing has traditionally been weak. The major metropolitan rehousing programmes focusing on the eradication of shanty town enabled the construction of over 30,000 social dwellings between 1994 and 2005 and reduced the need of the metropolitan areas for social housing to 39% of the 1990s level (IHRU, 2018). The public housing supply in Portugal now accounts for 2% of the total housing supply, against 5% in the EU as a whole. The government's target is to reach the EU average. According to the national statistics office, severe housing deprivation affects 26,000 families, with a high concentration of families in the Lisbon and Porto metropolitan areas.

Portugal is taking action to address housing affordability. The various policy measures include tax incentives for urban leases, increasing the public housing supply by financing municipalities and re-allocating public buildings to residential purposes, and financing and tax benefits for the corporate sector (real estate developers and construction companies offering affordable housing and regeneration services). In addition to the 'new generation of housing policies', launched by the Portuguese government in May 2018, a basic law on housing came into force in Portugal for the first time in October 2019. The law establishes the state as the guarantor of the right to housing and responsible for establishing a system of access that is compatible with household income. The law emphasises the 'social function of housing' rather than social housing as such.

The building sector has a central role to play in the fulfilment of the energy and climate targets and alleviating energy poverty. The building sector accounts for 17% of energy consumption and Portugal still has a wide scope to improve energy efficiency in buildings, and unlock economic and social benefits on top of environmental ones. Measures in this area, and in particular in the residential segment, can help alleviate energy poverty, which remains an important concern in Portugal. Despite a significant decrease in recent years, the percentage of households unable to keep homes adequately warm still stood at 20% in 2017. Implementation of instruments in line with the EU Smart Finance for

Smart Buildings Initiative and with other similar mechanisms that are already in place, at European, national or regional level could unlock investments and attract private financing for Energy efficiency.

Romania:

Residential construction saw strong growth while house prices were quite stable. In the third quarter of 2019 residential construction activity recorded a 33.1% expansion in annual terms, in stark contrast to the loss of steam that characterised the sector in 2018.

Over the last 10 years, the distribution of household credit between housing and consumer loans has inverted. In 2009, just 23% of such loans were for housing purposes. Since 2016, credit to households for housing loans has outweighed consumer loans. In 2019, this trend continued, fuelled by increases in disposable income and public support measures for mortgage lending such as the Prima casa (First Home) programme.

Housing market

Residential construction saw strong growth while house prices were quite stable. In the third quarter of 2019 residential construction activity recorded a 33.1% expansion in annual terms, in stark contrast to the loss of steam that characterised the sector in 2018. The development was supported by the rise in household income and by a cut in the VAT rate to 5% for second-home purchases. Growth in the sector is forecast also to continue in 2020, as indicated by positive consumers' intention. Following healthy growth rates in the first half of 2018, house prices stagnated in the second part of the year. Prices started picking up again in the first half of 2019.

The banking sector's exposure to the real estate market and government debt is still significant. Supported by the increase in disposable income and government measures, mortgage credit has expanded significantly in the post-crisis period, while consumer lending as a percentage of total lending to households has declined. At the end of March 2019, almost 70% of all loans to households constituted exposure to residential real estate. The mortgage loans granted under the government sponsored First Home (Prima Casa) programme continued to be significant, representing one third of the new housing loans in Q1 2019. However, the intended gradual reduction in the total guaranteed amounts coupled with a lower maximum level of indebtedness eligible in the new programme are expected to create a downward trend in new mortgages granted under this programme. Meanwhile, the attractiveness of mortgage products offered by banks outside the First Home programme is likely to increase. With government bond holdings of almost 18% of total banking sector assets in H1 2019 and a pronounced home bias, the government-bank nexus continues to remain strong. Given the current situation of public finances, the banking sector is exposed to potential negative spill-overs stemming from increases in sovereign spreads and interest rates.

The integration of the Roma community remains a challenge. Roma people are much more affected by poor housing conditions (World Bank, 2014), while discrimination in accessing social housing and forced evictions are still present. The Roma also continue to face obstacles in accessing health services due to lack of identification documents, low coverage of social security, stigma and discrimination.

Enrolment of Roma children in education is still below the country's average. Despite some progress, early school leaving is high and educational segregation remains a challenge. The implementation of the National Roma Integration Strategy is lagging behind due to, among other factors, lack of coordination between stakeholders. Several Roma inclusion projects, co- financed by the European Social Fund, are being implemented, but results are not yet visible.

Homelessness and housing exclusion have increased. The determinants of homelessness in Romania have been shifting from individual reasons to structural weaknesses such as mass evictions, lack of housing support policies and insufficient social housing stock. Nine in ten affected people reside in large urban settlements. A quarter of the estimated homeless are children and young people. People living in marginalised communities as well as informal temporary houses or barracks represent a new form of housing exclusion. The number of people living in these settlements is higher than the number of people living on the streets. Approximately 200 000 people live in informal settlements. A new definition of homelessness and intervention approach would facilitate the development of services for such marginalized communities.

The building sector has a central role to play in achieving the energy efficiency and climate targets for 2030. The energy consumption in the household sector and the tertiary sector (offices, business premises and other non-residential buildings) represents 45% of the total final energy consumption in Romania (European Commission, 2017). About 53% of residential buildings were built before 1970 and over 90% before 1989, all with poor energy performance. However, an ambitious long-term renovation strategy and by strengthening the implementation of the existing provisions, would support the building sector. The National Programme on Increasing Energy Efficiency in Residential Blocks, which already resulted in over 70000 apartments for which the thermic rehabilitation has been finalised throughout the country, has been extended for the period 2019-2020 with a total allocated budget of €10.4 million for a three-year period. Further measures are still needed in order to address the low energy performance of buildings and stimulate old-building renovation.

Slovakia:

House prices continue to grow. Real house prices have been growing steadily on the back of supply constraints and strong demand, thus reducing affordability, although they are still below the pre-crisis peak. Construction activity has increased markedly but is unlikely to fully meet demand in the near future. Meanwhile, the rental market is too small, limiting the mobility of especially temporary workers and students.

Households are increasingly indebted, which constitutes a potential risk to financial stability. Household debt reached a record high of 42.8% of GDP in Q2-2019, due to rising property prices and the resulting higher mortgages. House prices are expected to continue to grow faster than disposable income, reducing affordability. Despite an increase in construction activity, supply constraints, in part due to lengthy permit processes, continue to fuel price growth. Further measures to increase housing supply and develop the rental market and public housing may reduce further house price inflation. Better public transport connections could reduce the demand for housing in the bigger cities.

Overall, the banking sector remains sound and well capitalised, but rising housing prices and household debt pose challenges. Banks continue to be profitable, but lower interest rates have reduced their profit margins, and the recent doubling of the bank levy will further weigh on their profitability. House prices continue to grow, translating into a low but rising overvaluation, decreasing affordability, as well as rising household debt. Macro-prudential measures have contributed to reduce debt growth. Other measures in various areas can help balance housing supply and demand, lower household indebtedness and reduce financial risks.

The persisting cycle of poverty is difficult to break and people's access to social and essential services is uneven. A large part of the Roma population lives in poverty or in poor housing conditions and their access to social and essential services is hampered by missing infrastructure. Child poverty, in particular among Roma communities, is a major reason for children being placed in the state foster care system. Formal long-term care continues to be dominated by residential facilities, and the process of deinstitutionalising care for persons with disabilities is proceeding slowly. There is a lack of financial resources and of a clear and integrated approach addressing the increasing demand for healthcare and social services in long-term care. Access to quality healthcare, in particular primary care, remains relatively poor and uneven.

Credit growth

Household debt continues to grow and could pose a systemic risk in the future. It reached a record-high 42.8% of GDP in the first half of 2019, above the fundamental benchmark of 28%, but still below the prudential benchmark of 55%. After substantial expansion throughout 2016 and 2017, in part driven by rising housing prices, its growth has slowed significantly in the first half of 2019. However, it remains one of the highest in the EU. The deceleration was mainly due to a tightening of the macroprudential measures, a gradual saturation of the credit market and a stabilisation of the average interest rate, which nevertheless remain slow.

Housing market

House prices continue to grow. Real house prices have been growing steadily on the back of supply constraints and strong demand, thus reducing affordability, although they are still below the pre-crisis peak. Construction activity has increased markedly but is unlikely to fully meet demand in the near future. Meanwhile, the rental market is too small, limiting the mobility of especially temporary workers and students.

Macroprudential measures have contributed to attenuate mortgage growth. The central bank also introduced borrower-based limits in 2014 and has since tightened them repeatedly. Consequently, the loan-to-value ratio at origination has fallen significantly and indebtedness has decelerated. Most mortgagees opt for rather longer fixed interest rate periods to limit their vulnerability in case of rising interest rates. These macroprudential measures have decelerated aggregated mortgage attribution (see Section on housing below). Further gains in effectiveness of tackling overheating and the attractiveness of debt- financing house purchases could come from increasing property taxation.

Housing

House prices continue to grow. In real terms, house prices grew by 8.6% year-on-year in the third quarter of 2019, the second highest growth rate since the crisis. House prices are set to grow by 5.7% in real terms in 2019, slightly faster than in 2018 (+5.0%) and 2017 (+4.4%). This growth has been present in most regions and types of dwellings, placing price levels around pre-crisis peaks. Growth rates have been rather homogenous across the different regions, except in Košice, where prices have decreased year-on-year by 3.3% on average since 2018. Bratislava has a much higher price level compared to the rest of the country at €2,148 / m^2 in 2018, i.e. €1,100 / m^2 above the national average.

Slovakia has a low but increasing and positive valuation gap. According to internal calculations made by the Commission, the Slovak housing market was overvalued by 4.8% in 2018, which represents an increase of 3.8 percentage points compared to 2017. Despite the increase, the valuation gap is still around the long-run average, and the increase mainly stems from the price-to- rent ratio, which increased by 7.8 percentage points in 2018. This entails that house prices have increased at a faster rate than rents, although this indicator should be treated with caution as the rental market is small and mostly limited to the Bratislava region. Meanwhile, estimates from the central bank point to an overvaluation of around 12.5% in the second half of 2019 (NBS,2019).

The sustained price increase has had an impact on affordability, even in a context of decreasing interest rates. Year-on-year growth in deflated house prices has outpaced real wage growth by five percentage points on average since 2014, worsening affordability despite low financing costs. On average, it takes 8.1 years to buy a 100m^2 apartment at the current income level, which is low compared to the EU average. Affordability problems are most acute in the Bratislava region, where it takes 39% more years of income to buy a house considering the regional income level compared to the country average.

Despite an increase in construction, supply constraints continue to fuel price growth. In 2018, the number of completed dwellings grew markedly by 10.6% year-on-year, reaching more than 22,000 dwellings, the highest level since the crisis. The number of started dwellings has outpaced that of completed dwellings since 2015, thus increasing the number of dwellings under construction. Yet, a substantial proportion of dwellings under construction have already been sold, suggesting that construction levels might still not be enough to match the strong demand (NBS, 2019b).

The lengthy construction permit process slows down supply side responses. The number of building permits issued fell during 2019, after a moderate increase between 2017 and 2018. In the second quarter of 2019, some 4,335 building permits were issued, which is substantially lower compared to pre-crisis peaks (7,143 in Q3-2018). Slovakia continues to rank highest in the OECD in terms of the number of days it takes to acquire a building permit: 300 days on average, i.e. almost twice the EU average (174.6 days) (World Bank, 2019). This limits the ability of supply to quickly adapt to shifts in demand. The building permit process is expected to become more efficient with the implementation of the three packages of measures to reduce the administrative and regulatory burden, but the impact will take time to unfold.

An underdeveloped rental market fuels demand in the real estate sector and hampers labour mobility. About 90.1% of people in Slovakia live in an owned house, more than 24 percentage points higher than the EU average (Eurostat data). This is the combined result of: a) a lack of public rental housing; b) a legal framework that favours ownership over renting; and c) the large sell-off of apartments into private ownership after the fall of the communist regime. Such a thin rental market reduces the mobility of students and temporary workers. For instance, 84.2% of people between 18 and 29 years old live with their parents, compared to 68.2% in the EU (Eurostat data). Moreover, as homeowners are more attached to their homes and regions due to high transaction costs, the high rate of homeownership can also make job matching across regions more inefficient, and lead to larger regional disparities in unemployment in the event of adverse economic shocks (see Section 3.3). The lack of alternative housing options has also shifted demand to the real-estate sector, putting an upward pressure on prices.

Investing in public housing and adjusting the legal framework could help develop the rental market. According to the Slovak Statistical Office the number of public housing dwellings built has been decreasing steadily, from 1,545 completed dwellings in 2012 to just 195 in 2018. Investing in public housing could ease supply shortages and help serve temporary workers, as well as those with lower incomes insofar as it provides housing at a lower cost than on a pure market basis. Simplifying administrative procedures for municipalities and regions to obtain dedicated funding may also help. Measures taken to address these challenges relate to the procurement of boarding houses for employee sand tax exemptions of non-monetary income to partially compensate the employer for the cost of accommodation. Effective as of January 2020, loan conditions to procure rental apartments were improved for both businesses and local governments, including by raising the thresholds for credits and costs. A better public transport infrastructure (see Section 3.4.2) that can support suburban commuting could reduce the demand and price pressures in the main cities and reduce private indebtedness, by effectively increasing land supply. Both landlord and tenant rights could be strengthened by protecting landlords' property rights while ensuring stability and predictability for tenants (European Commission,2015).

Private indebtedness

Household credit continues to grow, but at a more moderate pace. Household credit has been increasing steadily since Slovakia's accession to the EU in 2004, particularly compared to peer countries. In the third quarter of 2019, household debt reached its highest level on record at 43.4% of GDP, still below the Commission's prudential benchmark of 55% but above the fundamental-based one (28%). This growth has been the result of a low interest rate environment, strong labour market performance and rising incomes, which encouraged households to take on credit. Low credit margins in the banking sector also created incentives to increase banks' lending activity. However, growth has slowed in 2019, with year-on-year growth of household debt-to-GDP growing at an average rate of 2.7%, much lower than the long-term average of 11.3%.

Macroprudential rules have contributed to the slower growth in household debt. The deceleration of household debt is mainly attributable to a moderation in the growth of loans for house purchase, which saw its growth drop to 10% in 2019, compared to 12% in 2018. The macroprudential measures put forward by the central bank contributed to this deceleration, particularly by raising the bar for lending to the riskiest borrowers through the debt service to income ceiling (NBS, 2019b). The loan-to-value ratio limits also helped mitigate the increase in the loan value at origination and the risk of defaults in the event of a deterioration in economic activity (NBS, 2019). Beyond these measures, a more stable average interest rate, coupled with a gradual saturation of the credit market – as loan penetration increased markedly and housing loans are concentrated in younger age cohorts – have contributed the growth moderation in housing loans, too. In addition, consumer credit growth decreased to 1.2% in 2019 (vs. 13.4% in 2018), as a result of quick loaner payment.

Although growth in household debt has decelerated, a number of risks to financial stability remain. Firstly, a low interest rate environment continues to contribute to the elevated demand for loans. Rising property prices, which have surged in the second half of 2019, will likely continue to increase the value of loans taken by households. This should be particularly monitored, since households that take loans with high debt-to- income (DTI) and loan-to-value (LTV) ratios also feature other risky characteristics, such as relatively low income and longer maturities (NBS, 2019b). Moreover, a non-negligible proportion of loans with simultaneously high DTI and LTV ratio limits also points to underlying risks in the market. The rising average age of borrowers at the loan maturity date could also represent a challenge, as it reduces the scope for extending the loan term as a means of reducing the instalments of a distressed borrower. All these factors, coupled with a low net financial assets to GDP ratio, could lead to financial instability if there are negative economic shocks. The NBS thus reduced the limit on the debt-service-to-income ratio from 80% to 60% in January 2020.

A large proportion of the Roma population lives in poverty and/or in poor housing conditions. The updated Atlas of Roma communities published in 2019 estimates that 416,000 Roma people live in 1043 concentrated communities (Ministry of Interior, 2019b). Of these, 46,500 live in rough conditions, more than when the previous data were collected in 2013. Among 230,000 of marginalized Roma, 84.7% live below the poverty threshold (corresponding to EUR 3.80 per day) and 56% are subject to severe material deprivation (compared to 7% for overall population in Slovakia; Ministry of Interior 2020). While microfinance schemes for own construction through financial instruments show some very good practices, these have not reached a large enough scale. Land ownership is often fragmented or unknown, impeding construction works and necessary building approval processes.

A national strategy for preventing and ending homelessness is still pending, despite growing evidence of policy action being necessary. Research demonstrates the economic plausibility of addressing homelessness through public budgets (Institute for Environmental Policy, 2019), and provides strategic guidance on prevention and ending homelessness (Institute for Labour and Family Research, 2018). The proportion of flats owned by municipalities is low (only 2.6% in 2016) and, in any case the system of social housing is in principle not accessible to homeless persons. Access of the most deprived persons is limited as many municipalities that rent out flats examine the potential tenant's ability to pay rent or set a minimum income level. Many also require proof of permanent residence and/or an absence of debts in order for a person to be eligible.

The capital region performs above EU average regarding higher education, labour market efficiency and innovation. The Bratislava region is Slovakia's most competitive region (Graph 3.4.4). It has the lowest long-term unemployment rates, but also receives the highest numbers of inter-regional migration (Hudakova, J., 2018). This will pose additional challenges in terms of affordable social housing, access to pre-primary education and social and health care services (Bleha, B. et al., 2017), and the transition to a greener local economy, including sustainable public transport and waste management. The Bratislava region performs better than the other regions on all R&I-related aspects, including innovation performance and tertiary education. This might have an adverse effect on R&I development in non-capital regions, making efforts to attract talent to these regions more difficult.

Commitments	**Summary assessment**
2019 country-specific recommendations (CSRs)	
CSR 3: Focus investment-related economic policy on healthcare, research and innovation, transport, notably on its sustainability, digital infrastructure, energy efficiency, competitiveness of small and medium-sized enterprises, and social housing, taking into account regional disparities. Increase the use of quality-related and lifecycle cost criteria in public procurement operations.	**Slovakia has made Limited Progress in addressing CSR3**
- social housing, taking into account regional disparities.	**Limited Progress** Measures on supporting social housing through social entrepreneurship are being prepared under the OP Human Resources. It remains to be seen whether and how will these materialise.

- energy efficiency,	**Some Progress** Investments in renovating multi-family apartment buildings are producing good results, Slovakia being on track on reaching its ambitious national goals for 2020. However, renovation of public buildings and single-family dwellings seem to lag behind. Additional measures are also needed in other areas of energy efficiency (e.g. improving energy efficiency of productive SMEs). In these areas, available funding instruments seem very low compared to available financial assets (of e.g. insurance companies or pension funds).

Environmental pressures and challenges weigh on Slovakia's sustainable development. The climate transition requires scaled up efforts and targeted investment, implying important economic and social choices. Currently planned investment and funding for mitigation and adaptation may not be sufficient, with private finance and capital markets particularly underdeveloped. Investing into more energy efficient buildings remains a priority. A better enabling environment could help reverse the declining trend of renewable energy sources in the energy supply. Air pollution from solid fuel burning and rising emissions from transport pose a serious health concern. Moreover, Slovakia needs to adapt to a changing climate by addressing and planning for increased risks. Moving to a more circular economy would also help to make natural resource use more sustainable.

Climate and energy transition

Overall greenhouse gas (GHG) emissions are already below Slovakia's 2020 target, but energy intensity is higher than the EU average. GHG emissions have been falling over time and are below the EU per head average. For 2030, Slovakia has announced a more ambitious reduction of 20% in the non-ETS sectors (additional 8 percentage points, (Greener Slovakia Strategy, 2019). This reduction should come mostly from measures related to transport and buildings improvements (Greener Slovakia Strategy, 2019). Currently, energy intensity remains rather high at 0.21 kgoe/€ in 2017, compared to the EU average of 0.12 (Eurostat, 2017b). The underlying increases in energy consumption and the fact that regulatory changes were taken only recently make it likely that Slovakia will fall short of its energy efficiency target on final energy consumption and possibly its renewable energy target of 14% for 2020. According to its National Energy and Climate Plan[57], Slovakia has decided to bring the share of renewable energy to 19.2% by 2030. Final energy consumption was at 11.1Mtoe in2018, i.e.24% above the 2020 target ([58]). This trend coincides with an increase in the country's energy dependence on imports to 65% (Eurostat, 2017b) and a deterioration of relative energy prices.

Slovakia prioritises investing into a more energy efficient building sector. The country has been pursuing an ambitious renovation programme for multi-apartment and public buildings, and additional measures focusing on single-family houses and public buildings could help it meet higher ambition. In addition, following Eurostat's new rules, Slovakia has embraced the energy performance contracts and prepared enabling legislation and model contract to be followed by all public bodies. However, building owners’ low income, low awareness about energy renovation and a lack of advisory services are among Slovakia’s barriers to change. The NECP estimates that by 2030, €3 billion are needed to renovate non-residential buildings, out of which €1.2 billion are needed for public buildings.

Slovenia:

The strong increase in house prices since 2016 has been mainly driven by the lack of supply of residential buildings.

In 2018, house prices recorded the highest pace of real growth since the financial crisis (7.4%, which is faster than wage growth), making Slovenia one of the euro-area Member States that registered the highest annual growth in house prices.

In the coming years, annual GDP growth is expected to remain at 2.7%. As in 2019, domestic demand is expected to drive economic development, with net exports making a negative contribution (Graph 1.1). Growing disposable income and employment will continue to support private consumption, which is expected to continue to increase at a relatively strong pace. Investment is expected to be driven by demand for new housing, which had been sluggish in previous years. At the same time, the uncertainty prevailing in global markets limits firms' willingness to invest, despite the tight labour market and high rate of capacity utilisation. In particular, investment in machinery and equipment is expected to continue growing at the relatively muted rate it recorded in 2019. In 2020 and 2021, the risks the country faces are mainly related to the external environment. However, the Slovenian economy may be relatively resilient as its export structure is diversified and not particularly strongly affected by sector-specific shocks.

Housing market

The strong increase in house prices since 2016 has been mainly driven by the lack of supply of residential buildings. Since the summer of 2016, prices for residential buildings in Slovenia have been increasing strongly. In 2018, house prices recorded the highest pace of real growth since the financial crisis (7.4%, which is faster than wage growth), making Slovenia one of the euro-area Member States that registered the highest annual growth in house prices. The favourable economic situation and buoyant labour market have played a role, but the low level of investment in residential buildings was the major factor in pushing up house prices. Despite the favourable interest rates, credit growth has been less buoyant than in the run-up to the crisis. The banking system is less exposed and more resilient to potential shocks in the real estate market than during the last financial crisis. Banks' exposure is further limited by the recent macro- prudential measures taken by the Bank of Slovenia.

House prices are still growing, but first signs of a slowdown were observed in 2019. A gradual slowdown in the demand for residential buildings (due to diminishing affordability) and an increase in construction have started to mitigate house price growth in 2019. It is expected that, with a further recovery in construction activity, house prices will continue to moderate in the near future.

On 1 November 2019, the Bank of Slovenia activated binding borrower-based measures to mitigate risks related to household lending. To prevent the relaxation of credit standards and to improve banks' resilience, the Bank of Slovenia had already decided on 22 October 2018 to expand the existing macroprudential recommendation for housing loans to all consumer loans (European Commission, 2019 a). Despite these measures, the risks associated with consumer lending remained elevated and banks continued to deviate significantly from the recommendations. Therefore, as of November 2019, the Bank of Slovenia changed the recommendation into a binding instrument, placing caps on the maturity of consumer loans (7 years) and on the debt service- to-income ratio for all household loans.

New tax measures adopted in October 2019 lower the tax burden on labour, while revenues from the recurrent taxation of immovable property and capital remain below the EU average. In addition to exempting the annual holiday allowance from income tax and social security contributions, the Parliament has adopted changes to the tax code to reduce labour taxes by lowering tax rates, increasing tax brackets and increasing the general allowance. The tax changes, which became effective at the beginning of 2020, mostly benefit middle-income and high-income earners, while low-income and secondary earners (spouses with lower labour income) keep facing a high labour tax wedge (European Commission, forthcoming). To compensate partially for the revenue loss, taxes on capital gains, rental income and corporate income have been slightly increased, and there are plans to improve tax collection. The government has withdrawn the new reform proposal on real estate taxation planned for 2020, although recurrent taxes on immovable property are considered to be less detrimental to growth than corporate taxes, and its revenues are currently low (0.5% of GDP compared to an EU average of 1.5% in 2018). Slovenia is also significantly below the EU average in its tax revenues from both capital stock and the various types of capital income (these tax revenues amount to 4.9% of GDP in Slovenia, ranking 21st among Member States, compared to an EU average of 8.5% in 2018), which should be part of a balanced and inclusive tax system.

Spain

While the housing market and construction sector have continued to recover from the sharp adjustment that followed the crisis, several indicators of housing activity, such as the number of housing transactions and new mortgages, slowed down in 2019. This is probably due, to some extent, to changes in the mortgage legislation enacted in the first months of the year. The supply of new housing has been increasing over the last three years (by about 9% year-on-year on average between 2015 and 2018) but started to slowdown in mid-2018.

The housing market keeps recovering, both in terms of activity and of prices, but it is slowing down. Activity in the housing market, both in terms of transactions and new construction, has picked up strongly in recent years, but remains far from its pre-crisis levels, and has started to slow down in 2019. Growth in house prices has also started to moderate, but it varies greatly across regions, with larger increases in the major cities and the coastal areas. On aggregate for the whole country, the valuation gap is closing. In big cities, the increased propensity to rent after the crisis created upward pressure on rental prices.

The housing market keeps recovering, but activity slowed down in 2019. House prices, after rising for the last six years, are starting to decelerate. Still, they increased by about 5% in the year up to Q2-2019. The valuation gap is closing for the country as a whole, but there is considerable heterogeneity across regions, partly reflecting a still large stock of unsold houses in some areas and a buoyant rental housing market in others. The recovery of house prices does not seem to imply potentially harmful dynamics, but price developments in some regions deserve attention, raising concerns about affordability. Investment in residential construction has been increasing since the last quarter of 2015 but remains below pre- crisis levels (5% of GDP in 2018, compared to about 12% of GDP in 2006).

The new coalition government programme has announced increases in expenditure on health, education and housing, amongst others. The programme also announces measures to increase revenues, such as a higher effective corporate tax rate (although the tax rate for SMEs is set to be lowered from 25% to 23% for firms with less than €1 million turnover) and higher top rates in personal income taxation, as well as the introduction of new taxes (on certain digital activities and on financial transactions). However, the impact of the announced measures still has to be assessed. Meanwhile, there remains scope to increase revenue from other taxes like consumption taxes, recurrent property taxes and environment-related taxes, with relatively limited impact on economic growth.

THE HOUSING MARKET

The Spanish housing market continues to recover, though activity slowed down in 2019. While the housing market and construction sector have continued to recover from the sharp adjustment that followed the crisis, several indicators of housing activity, such as the number of housing transactions and new mortgages, slowed down in 2019. This is probably due, to some extent, to changes in the mortgage legislation enacted in the first months of the year. The supply of new housing has been increasing over the last three years (by about 9% year-on-year on average between 2015 and 2018) but started to slowdown in mid-2018.

Average house prices in Spain stopped accelerating in 2019, but there were large differences across regions. Unsubsidised house prices increased by 4.7% year-on-year in the third quarter of 2019. Prices of new dwellings went up by 6.6% and those of used dwellings by 4.4%, indicating a deceleration in both cases relative to their previous accelerating path. Despite this increase, house prices remain below the pre-crisis peaks, in both nominal and real terms (by around 18% and 30%, respectively). According to some price valuation indicators, house prices are still undervalued in Spain, but other indicators suggest the gap has closed. House price developments vary greatly across regions, with larger increases in the major cities and the coastal areas, which have made housing less affordable, especially in the rental market and for younger households.

The number of homeless people spending the night in shelters continues to rise. In 2018, 18,000 people were hosted in a shelter daily on average, 9.5% more than in 2016 (INE, 2019). The implementation of the 2015-2020 National Strategy against Homelessness, including the development of the 'housing first' approach, has been limited and lacks synergies with an overarching housing strategy. A legislative change in March 2019 strengthened the protection for vulnerable households at risk of eviction.

The collaborative economy is creating new opportunities for consumers and workers, but it can have undesired effects on markets and workers. While the collaborative economy has been developing strongly in sectors such as tourism (short-term rentals) or private transport, its potential extends to other areas. By exerting competitive pressure on established business, it may enhance consumers' welfare and overall productivity in the economy. In the absence of a coordinated national approach to the collaborative economy, local authorities in some areas have introduced restrictions on short-term rentals of accommodation and private-hire vehicles. These restrictions have been motivated by concerns about the availability of affordable housing and the protection of local communities and the environment. The collaborative economy also generates new employment opportunities, often enabling people to work according to flexible arrangements. However, the working conditions of platform workers should be monitored carefully, as their jobs are often precarious or of low quality.

Housing affordability in the recovery

After the sharp correction during the crisis, house prices increased again, driven by the recovery in housing demand amid strong job creation and low interest rates. Since the trough in 2013 up to 2018, cumulative house price growth in Spain was 23% (4.3% per year), higher than the growth of nominal GDP per head, at 17%. The deterioration in the price-to-income ratio – which can be considered a measure of housing affordability - at national level masks, nevertheless, sharp differences across regions. In most of them, GDP growth per head during the recovery has been higher than the increase in house prices, thus putting households in better conditions to buy a house (Graph 4.2.9.a). However, house prices went up much faster than GDP per head in some touristic areas such as Balear and Canary Islands, and in regions or cities with dynamic labour markets and high population density, like in Madrid and Catalonia.

The growing demand for accommodation in some areas has also affected the rental market. According to the house rent component of the harmonised Consumer Price Index, during the recovery rents in Spain increased more slowly than in most other EU Member States. However, in the areas and cities mentioned above, where the housing market is more dynamic, new unsubsidised rents have increased faster, and more sharply than sale prices, despite some moderation in 2018. As shown by data on supply prices from web portals, in the period 2013 – May 2019, rental prices increased by 45% in Madrid and 50% in Barcelona, while in other big costal cities they also grew by more than 40% (Bank of Spain, 2019c). In general, these are cities where there is also high demand for tourist accomodation, including in peer-to-peer vacation rentals in the historical city centers. Growth of rental prices was lower in less populated cities or inland Spain, though the increase was, in general, still higher than the growth of sale prices (Bank of Spain, 2019b). As a consequence, while sale prices have not reached their pre-crisis level in Madrid and Barcelona, rental prices have exceed edit.

Since the crisis, Spanish households have increased their propensity to rent. The share of households living in a rented accommodation at market price increased by nearly 4 pps between 2008 and 2018 (see Graph 4.2.9.b), up to about 15%, ranging from 5.7% to 24.3% across regions. This increasing trend is also observed in other EU countries, where the share of tenants in the population (at 22% on average in the EU) is higher than in Spain. However, reflecting the pattern of house price and rent increases described above, the region of Madrid and Catalonia saw much higher increases in the share of people living in rented accommodation. By age groups, the increase is especially noticeable for young people: among households whoseheadis16-29 years old([1]),the share of tenants at market price was about 45% in 2018,while it was only one third in 2008 (INE, 2019). The share of people living in rented accomodation at market price also increased among households with children, especially those with low income (below 60% of median income). The scar left by the burst of the housing bubble during the crisis is likely to be a key driving factor of the increased demand for rented accommodation, whereas the other drivers will differ across population groups. As to the role of policies, the abolition of the tax deduction for interest paid on mortgages for first- time house buyers in 2013 may have had the effect of encouraging demand for rentals.

Spanish people living in rented accommodation experience housing cost overburden more often than on average in the EU. According to the EU-SILC survey, the share of population overburdened by housing costs – those paying more than40%of their equivalised disposable income on housing–who are living in owner-occupied accommodation with an outstanding mortgage or loan has declined since 2008 (see Graph 4.2.10), especially in the period 2015-2018, thanks to the decrease in interest rates and the increase in disposable incomes. At 3.5% in 2018, this share stands just below the EU average. By contrast, for tenants renting at market price, this share has barely diminished in Spain, except in 2018, and at 38.1% in 2018, it is well above the EU average (27.4%).

Ensuring the availability of affordable and quality housing is a fundamental need and forms part of the UN Sustainable Development Goals. Several policy measures try to address this challenge across Europe, ranging from the supply of social housing, to housing subsidies and regulatory measures, including rent controls. The choice of policy instruments should be taken on the basis of the specific context in which they are applied and their implementation challenges and after careful evaluation of their expected impact and possible unwanted consequences – also based on past experience or international evidence. For example, while recent experiences with rent controls have improved affordability for tenants in the short term in the areas where they are applied, they have also increased prices in other areas. In addition, rent controls can reduce the supply of rental housing in the medium and long term and have undesired spill-over effects on housing market demand and prices (see Bank of Spain,2020).

2019 country-specific recommendations (CSRs)	Summary assessment
CSR 3: Focus investment-related economic policy on fostering innovation, resource and energy efficiency, upgrading rail freight infrastructure and extending electricity interconnections with the rest of the Union, taking into account regional disparities. Enhance the effectiveness of policies supporting research and innovation.	Spain has made Limited Progress in addressing CSR 3
Energy efficiency	**Some progress:** Meeting the 2030 energy efficiency and consumption targets requires continued investments in energy efficiency, notably in buildings. Initiatives such as the National Plan for Energy Efficiency 2017-2020 and the National Fund for Energy Efficiency 2014-2020 can contribute to giving greater focus on investment in this area. In the building renovation sector, the State Plan for the Housing Sector 2018-2021 includes the improvement of energy efficiency in buildings through assistance and aid programs.

Further action would accelerate the transition towards clean and sustainable mobility, as well as the decarbonisation of energy and the increase in energy efficiency, in particular at building and district scale. Spain is bound to miss its 2030 CO_2emissions targets, if it does not implement the ambitious policies outlined in the draft National Energy and Climate Plan. Transport is the sector where greenhouse gas emissions keep growing most. To reduce the current reliance on carbon- intensive road freight, investments need to focus on making better use of the rail system.

Spain is not on track to meet its 2020 energy efficiency targets. Spain also needs to increase investments into energy efficiency in order to contribute to the EU target of 32.5% by 2030. Spain's draft NECP sets the target for primary energy consumption at 92.8 Mtoe, while the target for final energy consumption is 74.4 Mtoe. The targets were set at a sufficiently ambitious level to take account of the need to increase collective efforts to achieve the 2030 energy consumption targets. Meeting them will require continued investments in energy efficiency, notably in buildings. This would also contribute importantly to reducing emissions.

Sweden

The demand for affordable housing is growing. In 2019, 240 municipalities (of 290) had a housing shortage, particularly for low-income households in the rental sector. 221 municipalities also reported a shortage of housing for newly arrived migrants (particularly refugees). While Sweden does not have social housing as such, in special cases the social services may be obliged to provide housing as social assistance (emergency and more long-term housing solutions).

The lack of affordable housing is a driver behind the increase in homelessness and housing exclusion.

Sweden's economy has performed well in recent years, but its subdued medium-term growth prospects call for further structural reforms. A persistent housing shortage is the result of demographic developments, insufficient new housing construction and inefficient use of the existing housing stock. Reforming the rental market and supporting construction, in particular in urban areas, could help address this shortage and support mobility and flexibility in the labour market. Tax incentives favouring property ownership and mortgage debt are contributing to high household debt and elevated house prices. In the labour market, the integration of non-EU migrants remains a major challenge, while shortages have emerged for high-skilled workers and productivity growth has recently stalled. Reviving reform momentum, e.g. by advancing the announced comprehensive tax reform, would address these issues and make the Swedish economy more resilient, while reducing risks from imbalances.

There has been limited progress in: Stimulating housing construction, most notably through an investment subsidy for construction

While house prices declined in late 2017, they have started to rise again, and valuations remain stretched. Key issues include tax incentives favouring home ownership and mortgage debt, and accommodative credit conditions coupled with still relatively low mortgage repayment rates. New construction does not meet housing needs, particularly of affordable homes around major cities, where demand is growing. This shortage is linked to structural inefficiencies, such as a limited level of competition in the construction sector. The housing stock is not being used efficiently. In the rental market, below-market rents create lock-in and 'insider/outsider' effects while the vacancy rate has fallen to virtually zero. In the owner-occupancy market, capital gains taxes reduce homeowner mobility. The housing shortage makes it harder for people to move location for a new job, thus contributing to labour shortages, and can add to intergenerational inequality.

The high level of household debt and banks' exposure to real estate are a risk to macroeconomic stability. Despite gradual policy action, mortgage debt continues to grow. With the housing market still appearing somewhat overvalued, high levels of indebtedness create a risk of a disorderly correction. This could have an adverse impact on the economy and potentially also for the banking sector.

Waning domestic demand and heightened external risks cloud the outlook. Investment, a main growth driver in recent years, has become a drag on economic growth and private consumption has slowed. Although the fall in investment was led by a drop in housing construction, investment in machinery and equipment is cooling as well. Gross fixed capital formation is not expected to turn positive until 2021. By contrast, net trade was buoyed by strong services exports and is forecast to support growth, in particular in 2019 and 2020 and private consumption will pick up from 2020. Overall, real GDP growth is projected to average 1.3% in 2019-2021.

While Sweden remains among the more equal societies in the EU, it is no longer among the top performers. Social transfers are the main means of counterbalancing the increased disparity between low and higher-wage earners. While wages have increased for the lower paid jobs but not for the lowest paid, the disposable income of the lowest paid has actually increased more than that of any other income group due to redistribution, except the top decile for which business income is an important determinant of disposable income. Income inequality, measured by the income share of the richest 20% compared with that of the poorest 20%, remains stable at just above a ratio of 4. However, when measured using the Gini-coefficient, income inequality has increased because of changes in relative incomes other than the lowest due to changes along the full range of incomes. In addition, Sweden has experienced increased wealth inequality and, in particular, housing wealth inequality. It is difficult for young people, low-income groups, and newly arrived migrants to find affordable housing, particularly in the big cities. More broadly, housing, other non-financial and financial wealth dynamics have been an important driver of income inequalities (Andersen,2019).

In addition to macro-prudential steps, the government has aimed to increase housing supply. Macro-prudential measures include a loan- to-value ceiling of 85% in 2010, raising banks risk weight floors for mortgages in 2013 and 2014, a formal amortisation requirement in 2016, further strengthened in 2018 and an enhanced legal mandate for the financial supervisor in 2018. While this has improved banking sector resilience, it has not stopped household debt growth. The authorities also revised the building and planning regulations and provided budgetary support for more construction. This has increased building supply, but not enough to cover expected needs, in particular in major cities.

Sweden has made some progress in addressing its 2019 country-specific recommendations. Sweden received three CSRs. The first one relates to the high level of household debt and high house prices. This is relevant for the macroeconomic imbalance procedure. Limited progress has been made in addressing these imbalances. The unlawful sale of rental contracts has been criminalized and fines are now higher. The government marginally changed the capital gains tax to improve mobility and achieve a better use of the existing housing stock. To support housing supply, the government has reinstated investment support for building rental apartments. In addition, the countercyclical capital buffer requirement for systemic banks has been raised from 2.0% to 2.5% effective from 19 September 2019.

Household debt remains the main concern. Not only has household debt risen faster than GDP and disposable income for an extended period of time, but the expansion of household debt is also strongly tied to high house prices and very low interest rates. While households possess significant assets, these are usually illiquid, and their value is exposed to market risk. Moreover, high household debt is a particular concern for certain groups that entered the housing market in recent years and took on above average levels of debt relative to income.

House prices are likely to increase further. House prices started to grow again in 2019 as the supply of new homes is lagging and the rental market does not offer many alternatives. Moreover, the low interest rates and negative term premium can suppress user housing costs even if debt increases. In December 2019 the year-on-year increase in house prices was 4.2%, leaving them 3.2% below their August 2017 peak ([11]). Real house prices were 2.3% year-on-year higher in December 2019 and 7.8% below their 2017 peak. Indicators still point to an overvaluation of house prices, with the gap between prices and fundamentally justified values among the highest in the EU. Continued distortions in supply and demand together with growth of nominal disposable income and some financial space (lower interest rates at the longer end of the yield curve plus uptake of consumer loans) suggest that prices are likely to rise moderately in the future.

Limited policy steps have been taken to address the imbalances associated with household debt and the housing market. For the rental market, the unlawful sale of rental contracts has been criminalised and fines have been increased. The government marginally changed the capital gains tax to improve mobility and achieve better use of the existing housing stock. Deferral of the capital gains tax liability on housing transactions remains possible when moving house with the maximum deferrable amount increased to SEK 3 million. To partially address the continued shortage of housing supply, the government has reinstated investment support for building rental apartments (including for students) as part of the 2020 budget bill. This entered into force on 1 January 2020 with a budget allocation of SEK 2.1 billion, which should gradually increase to SEK 3 billion. Concerning macroprudential policy, the countercyclical capital buffer for systemic banks has been raised from 2.0 to 2.5%, effective from 19 September 2019 and the FSA proposed tighter capital requirements on banks for their exposures to commercial real estate.

Important policy gaps remain, particularly in relation to tax incentives for (debt-financed) home ownership and the rental market. Sweden is one of the very few EU countries with tax relief on the full amount of mortgage interest paid and there has been no progress towards reducing this tax deductibility. Nor has any action been taken to reform the system of recurrent property taxation, which currently has a relatively low ceiling so that the tax in practice tends to be a rather modest fixed fee that does not increase apace with property values. At the same time, the capital gains tax, which negatively affects housing mobility in the owner-occupied housing market segment, has been broadly left untouched. Sweden's rental market remains tightly regulated and discourages increased supply of rental housing and more efficient usage of the existing stock.

The Swedish economy still faces macro- economic imbalances related to high private debt and overvalued house prices. Macroeconomic shocks could still destabilise the Swedish economy as household debt related to overvalued house prices could trigger a harmful adjustment. In such an adverse scenario, a large and disorderly correction of house prices would lead to a negative interaction between credit and economic growth. This could spill over to other countries in the region through the financial system.

Policy measures have not sufficiently addressed housing debt and house price imbalances. The authorities have resorted mostly to macro- prudential measures to address demand pressures while supply measures have been restricted to subsidising construction in the rental market. The 2016 '22-point plan' to improve the working of the housing market, which was implemented gradually, has been superseded by the broader reform agenda contained in the government programme of January 2019 ('the January Agreement'). Still policy gaps remain for housing- related taxation and for the functioning of housing supply and the rental market.

The liability structure exposes credit institutions to the risks of liquidity shortage and higher funding costs. Because international wholesale funding is much more sensitive to changes in interest rates or conditions of financial stress, Swedish banks could find it difficult to get sufficient liquidity in an adverse situation e.g. disruption on the housing market or confidence effects stemming from the ongoing money laundering investigations. Against this background, Swedish supervisors have stressed the importance of adequate liquidity coverage ratios and the need to diversify liquidity buffers (Finansinspektionen, 2019b; Riksbank 2019a). On the other hand, all systemically important institutions already meet the current minimum requirements for own funds and eligible liabilities (MREL). This is the amount of own funds and liabilities that can be written down or converted into new equity to absorb losses and restore capital in a crisis.

The exposure of banks to the housing market poses risks. Households remain vulnerable to an adjustment in the housing market and an increase in debt service costs. An indicator developed by the Riksbank (Giordani et al, 2017) to measure vulnerability in the financial system is currently at historically high levels, partly due to high indebtedness and rising real housing prices. This is despite the macro- prudential policy measures adopted to cover the associated risks.

Risks related to the commercial real estate market triggered an in-depth analysis by the Financial Supervisory Authority. Commercial real estate prices have increased sharply since 2013, in particular for offices in the centres of Stockholm and Gothenburg (Finansinspektionen, 2019c). Banks' commercial real estate lending has grown in parallel, possibly indicating a search for yield. However, given the size of the commercial property market in Sweden (around 36% of GDP)([20]) and its sensitivity to macro-financial shocks, a sharp market correction could have ramifications for financial stability, via the exposure of construction firms to interest rate and refinancing risk. Thus, the FSA conducted an in- depth analysis of the appropriate capital requirement for banks to cover losses from commercial real estate lending. In January 2020, the supervisor raised Pillar 2 capital requirements to ensure sufficient capital coverage (Finansinspektionen, 2020). The adjusted risk weight is 35% (with a lower 25% requirement for commercial exposures secured by residential property) against the current level of around 23%.

HOUSING MARKET

Housing market developments

Residential real estate prices have started to grow again in 2019, while housing construction is shrinking. House prices increased by 2.7% in September 2019 year-on-year, leaving them 2.5% below their peak of August 2017. In real terms, the increase was 1.4%. House prices are estimated to have been overvalued by 7% in 2018 according to the European Commission's model. When compared to income only, the overvaluation amounted to 36% in 2018. After the cooling of the housing market for tenant-owned apartments in 2018, the transaction volume returned to its 2017 high in early 2019. Supply constraints and demand developments are expected to support house prices in the near term while market distortions remain in place.

Single-family houses and apartments showed different price trends. Apartments have been more affected by the 2017 price decline than single-family houses, possibly due to a combination of high construction volumes for apartments coupled with macroprudential tightening. Apartment prices declined more (10.4%) than those for single-family houses (8.3%) from peak (August 2017) to trough (December 2017) and have recovered less with prices in September 2019 standing 5.1% below their peak (single-family houses: -0.8%).

Real house prices have grown faster than disposable income over the past 25 years. The increase of about 200% outpaced house price rises in most other EU countries. House prices are most overvalued when compared with rents. Since the Swedish rental market is highly regulated, rents are on average below market rents and waiting lists are long (see European Commission, 2019b, p.30). The development of price-to-income and the Commission's in-house model also suggest some overvaluation. The European Systemic Risk

Board came to a similar conclusion in its assessment and recommendation to Sweden (ESRB, 2019a; ESRB, 2019c).

Low interest rates have supported high house prices, but valuations seem stretched. Historically low interest rates have reduced the user cost of home ownership, pushing house prices up. Interest expenses of households have declined to the lowest level in three decades. Debt service of households, however, has stayed close to its pre- crisis high since 2011. The Swedish Debt Office (*Riksgälden*) (Bjellerup and Majtorp, 2019) examined the valuation of the housing market and concluded that price developments up to 2017 can be explained by changes in disposable income and after-tax interest payments, with also a significant effect from the imposition of loan-to-value limits. Recent developments are more difficult to explain using this model. In recent years, there have been changes in the structure of the mortgage market. Engström (2020) examines the role of new credit intermediaries and the possible impact they have on competitive conditions and interest rates in the mortgage market. To conclude, valuations continue to appear stretched for the entire market, but less markedly so than in 2016 and 2017.

Interest rates at historical lows and structural features propel housing demand. Monetary policy has been expansionary due to low interest rates and quantitative easing. Therefore, three-month interest rates have been negative since the second quarter of 2015. Interest rates for longer maturities have declined even more. This has translated into households increasing the duration of their mortgages (see Section 4.2.3). However, it seems difficult to secure current low mortgage rates beyond five years, regardless of the lower long-term rates and the predictability this could offer for monthly housing costs.

The tax system still favours debt used for investment in housing and amplifies regional divergences in house prices. The interest that households pay on their debt is deductible at 30%, first against capital income and then against labour income tax if capital income is smaller than labour income. For annual interest payments above the threshold of SEK 100,000, 21% can be deducted ([22]). At the same time, local property taxes continue to be low compared with other countries and are capped nationally. The national cap implies that accumulated housing wealth is taxed relatively more in poorer regions than in richer regions. Combined with regional disparities in the income tax, this may reinforce differences in house prices between regions.

The opening gap between growth in house prices and income has increased the vulnerabilities of specific groups. While house prices have increased across the entire spectrum, it seems that the rise has been stronger in lower housing market segments than for other parts of the market. At the same time, there has been less growth of income in households focusing on these segments. Using the difference between mean and median as a rough indicator for this development shows that for tenant-owned apartments, the median price increased 36 percentage points more than the mean between 2005 and 2017.

Three factors possibly explain the relatively higher prices in the lower segment. These are:

(1) building activity favouring more expensive houses, (2) increased income inequality, and (3) housing wealth accumulation. The annual additions to the housing stock has on average been below 1% (see “Supply drivers”) in the past 10 years and income inequality has increased only to a limited extent. Housing wealth accumulation takes place when new entrants pay a higher price than earlier entrants did. This wealth accumulation can be passed on along the housing ladder, i.e. those selling a house to a new entrant will use the proceeds to acquire a new, likely more expensive house. The growing wealth accumulation on the asset side is partially offset by the increase in household debt. At the current very low interest rates, this does not translate into higher housing costs for new homeowners but new entrants in the housing market tend to have (much) higher debt relative to their income than households that had entered earlier.

Supply drivers

Building activity has fallen short of estimated needs for several years. The National Board of Housing, Building and Planning (*Boverket*)(2019) projects an annual need of some 93,000 new home constructions for 2018-2020 and a need of 51,000 for the subsequent period to 2025. The effective housing supply, even at the peak in 2017, has fallen well short of the estimated short-term need and has only rarely met the structural, longer-term need. Residential real estate construction is forecast to shrink at a high rate in 2019(-9.0% year-on-year) with a further decline in 2020 (-2.0% year-on-year). Confidence surveys record falling orders and expectations are at the lowest level since the 2012 recession. New building permits and housing starts show a decline too.

Structural hurdles tend to constrain housing supply and raise construction costs. Developable land is not coming fast to the market and despite some reforms, zoning and building regulations, such as the varying interpretation of building rules by municipalities seems to fragment the market. This could particularly prevent foreign construction companies from entering the market, preventing competition to induce lower prices and higher productivity (European Commission, 2019b, p.29). In addition, lack of competition in a number of building materials markets contribute to increased construction costs (Swedish Competition Authority (*Konkurrensverket*),2018).

In addition to shortage of supply, available housing does not fit households' needs. The ratio of existing housing stock to number of households has been relatively stable recently at between 105% and 106% because the number of households has increased since 2013 at the same annual rate of 1.0% as the housing stock. Beyond the shortage of building supply, the most pressing mismatch appears to be the size of households and the characteristics of the housing stock. Around 70% of Swedish households consist of no more than two people, but only 51% of the housing stock is non-rental multi-dwelling houses, broadly unchanged since the start of records in 2013 (first available year, see Graph 4.2.5). The number of one person households, already 40% of all households, has grown faster than average (1.2%) as has the number of households with more than five people. This last category represents only 6% of all households.

The housing stock and rental market fail to adjust to changing needs due to inertia. Conversion and destruction are even more limited than new additions to the housing stock, rendering changes in the existing stock slow. Building constraints are particularly binding in the metropolitan areas. Those depending more on public housing, i.e. those with lower incomes, face an-ever-tighter gridlock in the rental market. The share of public housing for rent out of the total housing stock has declined from 23% in 2001 to 18% in 2018 while the vacancy rate for rental accommodation has dropped to a historic low of 0.5% and continues to be much lower than the EU average.

The housing stock is not used efficiently. In the rental market, below-market rents create lock-in and 'insider/outsider' effects. In the owner- occupancy market, capital gains taxes reduce homeowner mobility. The housing shortage makes it harder for people to change jobs (European Commission, 2019b, p.30).

Policy developments

Policy steps to address imbalances in the housing market have been limited. Whereas policy measures in 2018 mostly focused on the demand side, the supply side featured more prominently in 2019. These steps have been of a rather incremental nature and are unlikely to fundamentally change housing market distortions. To bring this about, determined policy action is needed in the rental market and in tax policy.

Sweden has raised the ceiling for deferred capital gains taxes from SEK 1.45 million to SEK 3 million. The increase in the ceiling can promote housing market mobility. However, the deferred capital gain is subject to an annual tax of roughly 0.5%, which in the current low-interest- rate environment makes deferral less interesting. Moreover, during the period 21 June 2016 - 20 June 2020, there is a temporary exemption from the previous maximum deferrable amount of SEK 1.45 million, so in practice the new rules represent a tightening of the deferral conditions. More generally, deferral only reduces the immediate cash flow impact and not the effective wealth reduction, and so there is still room for a substantial capital gains tax reform.

The FSA has tightened macro-prudential policy somewhat further. The supervisor increased the countercyclical capital buffer (CCyB) to 2.5% from 19 September 2019. Previously, the FSA had gradually raised the CCyB since its introduction in 2014. The previous level of 2% had been applicable from 14 March 2017. This increase in the countercyclical buffer aims to support overall financial sector resilience even if was not specifically targeted at imbalances related to household debt and the housing market. In addition, the FSA adapted the requirements for macro-prudential risk weights for residential real estate. This measure entered into force on 31 December 2018 for a period of 2 years. While unlikely to have a marked impact on lending, it increased the comparability of reported risk- weighted capital ratios for Swedish banks with those of their EU peers.

Investment support for building rental apartments has been reinstated. To reduce the continued shortage of housing supply, the government has earmarked SEK 2.1 billion to encourage the building of rental apartments (including for students) in its 2020 budget bill. The support should enter into force on 1 January 2020. Together with an easing of building regulations this may attenuate supply side issues somewhat.

The announced comprehensive tax reform could be an opportunity to address several shortcomings in one go. In its political agreement, the government indicated the intention to overhaul the tax system. So far, no timeline or details have been communicated. Such a tax reform could address not only the incentives for debt accumulation but could also lower the barrier to the housing market for people with lower incomes, promoting housing mobility and reducing wealth inequality.

PRIVATE INDEBTEDNESS

Household debt developments

Household debt remains high, although its rate of increase is slowing. Swedish household debt has been on a persistent upward trajectory since the early 2000s, significantly outpacing debt growth in peer countries. However, on the back of less buoyant credit flows, the rate of growth of nominal household debt slowed to 5.8% in 2018, well below the peak increase of 8.0% in 2016 and declined further to 4.8% by the third quarter of 2019, bringing it broadly on a par with nominal household disposable income growth.

The recent more moderate increase in household debt helped stabilise household debt ratios. The average debt-to-disposable income (DTI) and debt-to GDP ratios both broadly levelled off in 2018 and even fell back somewhat in the first half of 2019. Despite the broad stabilisation in aggregate debt ratios, they remain well above the fundamentals-based and prudential benchmarks for Sweden and are still among the highest in the EU. There is also significant dispersion in debt levels across households. The average DTI ratio for new borrowers in 2018 was 289% down from 300% the previous year. Households with a mortgage living in large metropolitan areas, as well as younger and lower- income households tend to face particularly high debt service costs relative to their incomes([25]).That said, persistently low interest rates helped check the rise in mortgage interest payments and thus debt service as a share of disposable income (Finansinspektionen2019e).

Drivers of household debt dynamics

Household debt growth mostly reflects mortgage lending. Mortgage debt amounts to over 80% of total household borrowing and has been the key driver of the persistent rise in overall household indebtedness. Sweden experienced an extended period in which house price rises (see Section 4.2.1) and mortgage debt growth were mutually reinforcing. Increases in the underlying value of collateral enabled higher housing loans, in turn putting upward pressure on prices and thus keeping increases in the loan-to-value ratio in check. The growth in household mortgage loans contracted slightly for most of 2018 in the wake of the correction in house prices in late 2017. However, as house price growth has resumed, albeit at modest rates, and mortgage interest rates have remained low, overall mortgage lending has picked up again.

Unsecured borrowing has not been a major substitute for mortgages. Unsecured borrowing and household loans with other collateral (e.g. cars) have historically grown comparatively slowly. As mortgage credit growth slowed, unsecured borrowing kept increasing at a brisk pace, in part due to rapid changes in the technological, institutional and market conditions under which providers of consumer credit operate. However, Van Santen (2017) finds no evidence of a significant shift in borrowing for housing purposes towards unsecured loans. Overall, unsecured borrowing by households remains under 5% of GDP, a level broadly in line with the EU average, with currently limited implications for financial stability.

Structural factors account for relatively low debt service costs. There are strong tax incentives for purchasing owner-occupied housing, especially when financed with tax-deductible debt (see Section 4.2.2). Swedish mortgage contracts have long maturities compared to other EU countries, and overall amortisation rates are still low in comparative perspective. For historical and institutional reasons, mortgages mostly have had variable rates heavily skewed towards the short end of the yield curve([26]), which between 2011 and 2016 allowed lower interest rates to translate relatively quickly into reduced interest payments as a share of household income, despite ongoing increases in house prices. The combination of these factors has limited current debt service costs, but also implies risks related to future interest rate rises.

A move towards longer maturities helps reduce the interest sensitivity of mortgage service. The long-term increase in the ratio of household mortgage debt to income implied higher interest sensitivity, given the predominance of housing loans linked to very short-term interest rates. Since late 2017, however, the share of mortgages with a maturity of 3-5 years has increased markedly, implying a lower speed at which interest rates changes would be passed on to households (Graph 4.2.7). This broadly coincided with the adjustment in the housing market in the autumn of 2017 and thus possibly partly reflects a shift in risk appreciation on the part of households. However, it also went hand in hand with a change in the term structure of mortgage interest rates offered by banks, as the yield premium for longer maturities increased. On balance this recent shift implies that the immediate effects of an interest rate increase on the capacity of households to service their debt would be cushioned, thus heightening resilience.

Policy developments

High household debt coupled with high house prices are a risk for the Swedish economy. While the recent stabilisation in household debt implies that debt dynamics do not further aggravate existing vulnerabilities, the already high debt level keeps the Swedish economy vulnerable to a rapid deterioration in market conditions. Hence, risks may come into play should the projected economic slowdown be more severe than expected. If incomes were to fall due to an external shock to the economy, or if there was a sharp rise in mortgage risk premiums triggered, for instance, by higher bank funding costs that might originate in the global economy, highly-leveraged households may need to reduce consumption to service their debts. This would reduce demand and increase uncertainty, potentially weighing on investment, employment and economic growth thus further impairing households' debt service ability. At the same time, falling collateral values make banks more cautious about new lending. Ultimately, this could lead to a self-reinforcing deleveraging process with a broader macroeconomic impact.

Risks are partly mitigated by households' robust payment ability and financial wealth. Households have relatively high income surpluses after mortgage service costs and day-to-day expenses, of roughly 40% of disposable income on average (Finansinspektionen, 2019f). The fact that these estimated buffers have stabilised or even slightly improved in recent years lends some comfort. The strong ability of households to pay back their loans is also reflected in a very low share of non-performing household loans (see Section 4.2.1). Additionally, households have significant financial wealth, estimated at roughly three times their liabilities.

Amortisation requirements for mortgages helped dampen household debt dynamics. In 2016 and 2018 the Financial Supervisory Authority (FSA) imposed amortisation requirements on mortgage loans for households with loan-to-value and/or loan-to-income ratios above certain thresholds (European Commission, 2019b, p. 35), with a view to curbing the growth in housing loans and indebtedness. According to preliminary assessments from the FSA (Finansinspektionen, 2019d), the stricter amortisation requirements helped limit the build- up in household debt. New mortgagors who were subject to the stricter amortisation requirement borrowed less and purchased less expensive homes than they would have done without the requirement. The FSA further found that the sharpened amortisation requirement did not significantly limit young households' access to the housing market compared to other groups. Their access was affected, however, by the general increase in house prices (Finansinspektionen, 2019b).

However, the strong overall financial position would likely provide only limited cushioning in a disorderly deleveraging scenario. Income surpluses are high on average, but they are heavily skewed towards higher-income households (European Commission, 2018). Moreover, stressed scenarios assume that households are able to reduce their spending to near-subsistence levels. Thus, although most households may be able to continue servicing their debt even in a downturn, this would likely require a considerable fall in consumption with substantial knock-on effects on the rest of the economy.

A significant part of household financial wealth is illiquid, tied up in pension funds or life insurances. The Swedish gross household savings ratio is among the highest in the EU, partly due to considerable pension savings which outstripped the rise in household income in the last decade. The build-up in pension buffers reflects ageing but also the shift towards a pension system based on defined contributions in both the first and second pension pillars (Aspregren et al., 2019). However, correcting for pension contributions and capital formation the freely available savings that Swedish households have available to counter financial shocks do not appear to be particularly high in comparison to other EU countries with high gross household saving ratios (Graph 4.2.9). In addition, most non-housing financial assets are exposed to market risks and would likely fall in value in an economic downturn, weighing on consumption via wealth effects.

The demand for affordable housing is growing. In 2019, 240 municipalities (of 290) had a housing shortage, particularly for low-income households in the rental sector (Boverket, 2019). 221 municipalities also reported a shortage of housing for newly arrived migrants (particularly refugees). While Sweden does not have social housing as such, in special cases the social services may be obliged to provide housing as social assistance (emergency and more long-term housing solutions). Families with children and young people aged 18-29 with a low income, pensioners and people receiving activity assistance or sickness assistance can apply for housing benefit. According to the Skåne County Administrative Board (2018) older people with care needs, pensioners with a minimum pension, youth and young adults, students and newly arrived migrants find it more and more difficult to either enter the ordinary housing market or have the financial means to keep their housing.

The lack of affordable housing is a driver behind the increase in homelessness and housing exclusion. In the latest count about 33, 250 people lacked a permanent abode in Sweden (National Board of Health and Welfare, 2017). Almost 50% of these were in long-term housing arrangements (for instance municipal social contracts), whereas 650 people were acutely homeless, sleeping outdoors or in public spaces. The number of homeless people doubled between the first homelessness count in 1993 and the most recent one in 2017. An increasing number of homeless people are aged 65 or older, women (38% in 2017 vs 17% in 1993) and people with a migrant background (43% in 2017 vs 23% in 1993).

United Kingdom:

Housing investment: Annual net housing supply has continued to rise but planning permissions have levelled off and there are signs of a slowdown in new housing starts. House building looks set to stabilise at a level below that which what would be necessary to meet estimated demand, due in part to capacity constraints in the construction sector. Real house prices are no longer rising though the cost of housing remains high in many places. The government has extended and revised a number of housing policies, including further changes to the planning system, but major new initiatives have been limited.

The availability and affordability of housing remains a major challenge. The housing market has softened and real house prices are no longer growing. However, house prices and rents remain high in areas of high demand, and there are signs of overvaluation. Significantly fewer young adults now own their own homes and this contributes to inequality between generations. The amount and location of land available for new housing is limited by tight regulation of the land market, particularly around big towns and cities. This has prevented housing supply from responding adequately to shifts in demand and inflated the price of building land and existing houses. The government is implementing a range of measures to boost housing supply. House building remains below what is required to alleviate existing housing shortages.

Major investment and reforms will be needed to continue the transition to a climate-neutral economy. The UK has made good progress to date in reducing greenhouse gas emissions. In 2019, the UK committed to reach net zero carbon emissions by 2050. This will require large-scale investment and behavioural changes across the economy. The prospects for further investment in the renewable electricity sector are encouraging. Reducing the amount of energy used for home heating is complicated by the age of the housing stock. Congestion and long commutes will be a challenge in reducing transport sector emissions.

The UK has announced a range of policy measures to increase housing supply. Residential construction has risen in recent years, due both to a cyclical recovery and policy action, including major reforms to the planning system. Though real house prices have flattened, the cost of housing is particularly high in major urban centres and there is a structural shortage of housing in many parts of the country. The government has set itself the difficult goal of increasing annual housing supply in England to 300,000 units by the mid-2020s. Household debt remains high, but household balance sheets are strong on aggregate.

There has been some progress on boosting housing supply. Annual net housing supply has continued to rise but grants of planning permission have levelled off and there are signs of a slowdown in housing starts. House building looks set to stabilise at a level below that which would be necessary to meet estimated demand, due in part to capacity constraints. Real house prices are no longer rising though the cost of housing remains high in many places. The government has extended and revised a number of housing policies, including tweaks to the planning system, but major new initiatives have been limited.

HOUSING SECTOR

The UK has a persistent housing shortage. The availability and affordability of housing are a particular challenge in areas of high and growing demand, such as in and around urban centres. Annual net housing supply has increased significantly from post-crisis lows. However, a recent fall in housing construction starts suggests it will peak at a level below that which would be necessary to meet estimated demand. In recent years the government has put in place a range of policy initiatives and set ambitious objectives to increase housing supply, though the flow of new policy slowed in 2019. At the same time, regulation of the land market is still tight, and the government has reaffirmed its commitment to limiting development around urban centres. The UK has a lot of old and often energy-inefficient housing and little of this is being replaced.

Housing affordability and demand

Real house prices are broadly flat nationally and declining in some regions. After robust growth from 2014 to 2016, average real house price growth gradually eased. Real house prices have been essentially flat since mid-2018 in the context of persistent economic uncertainty. Indicators of housing market activity (both supply and demand) were quite weak through most of 2019. Nominal national house price growth (year-on-year) picked up to 2.2% in November 2019 (ONS, 2020a), slightly above consumer price inflation. Growth in the price of buying and renting property has slowed the most in more expensive regions. In London, nominal house prices rose by 0.2% in the year to November 2019 and are no higher than in early 2017. Leading indicators of housing transactions and prices suggest the market for house purchases is picking up somewhat (RICS, 2019).

House prices and rents remain high, especially in areas of high housing demand. The average UK house price was £235,000 (€268,000) in November 2019 (ONS, 2020a). The ratio of median house prices to median annual earnings remained at a record high of 7.8 in 2018 (ONS, 2019b), following five years of decreasing affordability. The ratio is higher for newly built dwellings (9.6) than existing ones (7.6), and the decline in affordability since 2013 has been greater for new builds. The Commission estimates that, on average, UK housing is around 20% overvalued. After tending to widen over time, the gap in prices between more expensive and cheaper areas has started to close slightly. Average house prices in each of Scotland, Wales and Northern Ireland are more than a third below the English level. Private sector rent growth has been slightly below inflation since early 2017 and stood at 1.4% year- on-year in December 2019 (ONS,2020b).

The overall home ownership rate is flat, but this masks continuing structural shifts in tenure. Housing transactions remain well below pre-crisis levels, but after being on a downward trend over the last two decades, the overall rate of home ownership has been stable for the last 2 or 3 years. However, this masks a continuing generational shift in property ownership. In 1995-1996, 65% of those aged 25-34 with incomes in the middle 20% for their age owned their home. By 2015-2016 the proportion had fallen to just 27% (IFS, 2018a). The likelihood of young adults owning a house has also become much more dependent on their parents' level of property wealth, with negative implications for social mobility (Resolution Foundation, 2018). At the same time, in addition to their high rates of owner-occupancy a significant proportion of older households own additional properties from which they receive income from (usually younger) private renters.

While mortgage debt remains high, there are few signs of risky growth in lending. Several years of significant levels of high loan-to-income mortgage lending linked to high house prices has contributed to persistently high household debt. Since the Bank of England took some macroprudential steps to curb risky mortgage lending, housing market activity has cooled in the context of high economic uncertainty. The number and value of residential property transactions fell slightly in the year to June 2019 and is well below the pre-crisis peak (ONS, 2019c). The proportion of houses bought with cash (without the need for a mortgage) fell significantly in 2018 and 2019. Secured credit to households is still growing at a slow but steady pace (See Section 1). The average 'loan to income ratio' is no longer rising (UK Finance, 2020), and the proportion of new mortgages with a 'loan to income ratio' of 4.5 or above is flat and remains well below the FPC's recommended limit of 15% (ibid.). Following a long, gradual decline, average interest rates on new and existing mortgages are bottoming out at historically low levels. Consistent with this, and the high employment rate, mortgage arrears and repossessions remain low. Less than 1% of homeowner mortgages are currently in significant arrears (UK Finance,2019).

Housing supply and constraints

Housing completions have increased further, but there has been a decline in the number of dwellings on which construction is starting. The number of net additional dwellings in England (c.85% of the UK's population) rose by a healthy 9% to 241,130 in 2018-2019 (MHCLG,2019a).

The official level of annual demolitions is very low (less than one in 3,000 dwellings), which has implications for the pace at which the housing stock modernises and becomes more energy efficient. However, as shown in Graph 3.2.2, new housing starts have declined by over 10% since peaking in early 2017 (MHCLG, 2019a). This is likely at some point to feed into lower numbers of completions.

There has been a spike in the conversion of other building types into dwellings in recent years. 12% of net additional dwellings in 2018- 2019 came from change of use, including through permitted development rights, mainly office-to- residential conversions. After falling by a third from their 2016-2017 peak in 2017-2018, the number of these conversions has stabilised (*ibid.*). However, concerns have been raised over the quality and appropriateness of many conversions through permitted development rights (LGA, 2018). Since 2015, the nationally described minimum space standard for residential units for one person in the UK has been $37m^2$, but these standards do not apply to conversions under permitted development rights.

Grants of planning permission have levelled off, and there is pressure on the planning system. From 2012 the annual number of units granted residential planning permission grew rapidly. This progress has now stalled, consistent with the slowdown in the number of houses on which building has started. Planning permission for 365,200 housing units was granted in the year to September 2019 (MHCLG, 2019b), a 3% fall from the preceding year. About 80% of major and about 75% of minor residential planning applications are granted.

Urban centres and growth hubs cannot easily support economic growth or modernisation. As discussed in previous country reports, the process of obtaining planning permission is complex and costly. The 'green belt' policy was put in place to contain urban sprawl and keep broad swathes of land around existing conurbations permanently open. After growing through the post-war period, the amount of land designated as green belt has remained broadly fixed in recent years (MHCLG, 2019c). For example, London's green belt now covers over half a million hectares and is about three times larger than London itself. Demand for labour in London has continued to grow. This has only partially been met by densification, due in part to restrictions on the redevelopment and modernisation of existing buildings (which increases the challenge of decarbonising home heating, as discussed in Section 3.5). As well as high house prices, there has been an increase in the volume of long commutes that are expensive, reduce commuters' quality of life and increase transport congestion and emissions. Current rules give limited scope for targeted differentiation of the level of protection, where there may for example be a good rationale for facilitating housing development close to railway stations.

The cost of housing is linked to the high and volatile price of land with residential planning permission. On average, 70% of the price paid for a UK home is now linked to the value of the land (up from 50% in the mid-1990s) and only 30% to the value of the building itself (IPPR, 2018), though this average masks significant spatial variation. Housing supply is not responsive to shifts in demand, with little link between increases in dwellings and increases in housing prices and wealth. This inflates the role of land prices in the economy and has exacerbated regional gaps in wealth (Centre for Cities, 2019).

Housing supply might keep pace with national population growth. The ONS now expects the number of households in England (about 85% of the UK population) to increase by an average of 159,000 a year over the next 25 years (ONS, 2018a). While this is significantly less than the 210,000 previously projected, and projected population growth has also subsequently been revised down slightly (ONS, 2019d), the ONS and the Ministry for Housing, Communities and Local Government (MHCLG) have stressed that this does not mean the government's ambitions for house building should be reduced (ONS, 2018b). If it stays at or above current levels, and demolitions remain very low, residential construction could keep pace with national household formation.

Demand seems set to keep outstripping supply **in areas of high housing pressure.** However, there are few signs that construction will be high enough to alleviate the pressure in the areas that currently have the most acute housing shortages. In the majority of cities in England and Wales, and particularly those with high house prices, floor space per resident fell between 2011 and 2018 (Centre for Cities, 2019). High housing costs may also have suppressed household formation, for example by forcing young adults to live at home or cohabit as renters for longer. As discussed in Section 3.4.3, there are also signs of capacity and skills constraints in the construction industry.

The government's policy response

The government has implemented significant planning policy reforms. Fixing Our Broken Housing Market (DCLG, 2017), set out four housing policy objectives: (i) increasing the supply of land available for house building; (ii) accelerating the rate of house completions; (iii) encouraging more diversity in the building industry; and (iv) providing support to homebuyers. The government has been progressively implementing and updating a revised National Planning Policy Framework (NPPF) (MHCLG, 2019d). In 2019, the government made further changes to 'permitted development rights' that allow changes and extensions to existing buildings without the need to go through a full planning process (MHCLG, 2019e). This includes allowing the conversion of certain types of commercial buildings to residential or office use. In many places, empty retail premises coexist with a housing shortage. Such conversions have played a larger role in delivering new housing supply in recent years, especially in areas with high house prices.

There are some concerns with the practical operation of the planning system. There have been large cuts to funding for spatial planning services at both the national and local levels, which has only partially been compensated for by increased fees and charges for planning applications and appeals (IFS, 2019c). At the same time, the post-crisis period has seen significant demand on these services, due both to the need to implement significant reforms and to a robust recovery in planning applications. The NAO examined the operation of the planning system and concluded that overall it is not working well. The issues highlighted by the NAO included a lack of consistency in targets for new homes, insufficient capacity in local planning systems, and an under- performing Planning Inspectorate (NAO, 2019a). The government planned to publish an accelerated planning white paper in late 2019, although this was delayed due to the December 2019 general election. The stated objectives are to reduce the number of planning conditions and improve the resources and incentives for local authority planning departments. This could potentially mean raising the fees for planning applications but requiring these to be refunded if a decision is not made on time (HM Government,2019a).

The public sector has a significant impact on both housing supply and demand. The government is increasingly focusing direct public support for house building on areas with the highest housing demand and prices. This includes the Affordable Homes Programme, which provides housing with different tenure types and rent levels, not just socially rented properties. The Housing Infrastructure Fund provides £5.5 billion (€6.3 billion) by 2022-2023 to support the funding and planning of infrastructure linked to housing developments. Set against this, sales under 'help to buy' have reduced the stock of social housing over time, contributing to long waiting lists in many areas. The government has relaxed rules on local authority borrowing to build public housing. The NAO concluded that a 'Starter Homes' policy that the government pursued from 2015 to 2018 did not have effective objectives and implementation (NAO, 2019b).

The 'help to buy' scheme has accelerated home ownership for some households but may have slightly pushed up house prices. It is not yet clear how much impact this will have on the ground. Under the 'help to buy' equity loan scheme the government provides a loan of up to 20% (or up to 40% in London) of the purchase price of a house, with the government taking a commensurate equity stake in the property. The number of house purchases under the scheme has grown gradually since its launch, to over 52,000 in the year to June 2019 (MHCLG, 2019e). While this only represents about 5% of all house purchases, two-fifths of all new-build properties have been bought under the scheme since its launch (NAO, 2019c). By reducing the level of deposit that purchasers need and increasing the amount they can borrow, it may have contributed to more rapid price growth in the new-build properties to which its use is restricted. New builds now typically cost 15-20% more than comparable second hand properties. The National Audit Office concluded the scheme might have increased the profit margins of builders (ibid.). If house prices fell in future, the government could lose money on its equity stake.

UK agencies provide various services for people who are homeless or at risk of homelessness. The right to housing provided through the UK's homelessness legislation and right to prevention of homelessness in England and Wales rely on the availability of private rented or social housing and housing benefits. The Homeless Reduction Act, which came into force in April 2018, provides a new legislative framework for local authorities to refocus their work on preventing homelessness. The government has committed to maintaining housing benefit for all supported housing, to halving rough sleeping by 2022, and to eliminating the phenomenon by 2027, in line with the Rough Sleeping Strategy. To what extent these and other measures will alleviate the problem of increasing homelessness remains to be seen.

The building sector will be key to meeting future energy efficiency and climate targets. The UK housing stock will need to become more energy-efficient and fossil fuel heating systems such as gas boilers will need to be replaced by cleaner alternatives. In the short term, this entails the effective implementation of the revised Energy Performance of Buildings Directive. The government has recently consulted on a new 'Future Homes Standard' which would reduce energy consumption in new homes and require them to be fitted with clean heating technologies (such as air source heat pumps) rather than fossil fuel heating systems from 2025 (MHCLG, 2019g). The government's stated intention is to cut carbon emissions from new homes by up to 80% under this new standard.

Reducing the amount of energy used for home heating is complicated by the age of the housing stock. A higher proportion of housing in England is over a hundred years old (21%) than was built after 1990 (17%) (MHCLG, 2019h). Most of the housing stock expected to exist in 2050 has already been built (European Commission, 2018d). The funding and disruption required to retrofit this housing stock will be a challenge, especially in the case of the 35% of privately rented housing which is more than a hundred years old.