

Housing Markets in Austria, Germany and Switzerland

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Running counter to the sharp rise in house prices and housing wealth observed since the mid-1990s in the vast majority of European countries, real house prices in Germany and Austria were going down in this period and did not start to rise until 2010 or 2007, respectively. This reflects national idiosyncracies in housing markets and motivated the discussion of relevant peculiarities in, and similarities among, Austria and Germany as well as Switzerland. Among the most important structural features that ensured housing market stability in these three countries during the last decade are well-developed rental markets, low homeownership ratios and conservative lending standards. While the tax systems of Germany and Austria do not encourage indebtedness, Swiss taxpayers benefit from taking on a lot of leverage. Recent house price increases in all three countries under review here can be attributed to various crisis-related channels (extremely low interest rates, economic uncertainty, safe-haven effect) as well as to demographic developments, including immigration. The Swiss authorities have already implemented a number of macroprudential measures to safeguard the banking sector.

JEL classification: R31, E32, E44

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As housing assets account for a considerable part of a country's welfare, wealth and GDP, they significantly shape the long-term development of economies. Housing markets and housing finance have undergone remarkable changes over the past decades in Europe as well as in the United States. In the vast majority of European countries, house prices and housing wealth have risen sharply since the mid-1990s. At the same time, household debt has reached record levels in many countries, largely as a result of the decrease in real and nominal interest rates and the introduction of a wide range of financial innovations on mortgage markets (product diversification, housing equity withdrawal and securitization).

National housing markets differ in many ways. Hence, the various aspects of the respective national housing and mortgage markets must be thoroughly analyzed to find out why housing mar-

kets in Austria, Germany and Switzerland deviated from European trends. This article aims to compare developments in these countries from various angles with a special focus on financial stability.

1 House Price Developments in Austria, Germany and Switzerland – Some Stylized Facts

While some euro area countries (e.g. Greece, Spain) started to experience a pronounced upswing in house prices in the early 2000s and others (Ireland, the Netherlands, Finland) had done so even earlier, in the second half of the 1990s, Germany, Austria and Switzerland deviate substantially from this pattern.

In *Austria*, house prices remained stagnant until 2005, when a marked upward trend emerged that has since resulted in the sharpest property price increases seen in the euro area in recent years. From the first quarter of 2007

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through the third quarter of 2014, nominal prices rose by 44%, against the backdrop of a continued stagnation of house prices in the rest of the euro area.

Germany stands out with a 1.3% annual increase in nominal house prices between 1980 and 2013, which in fact implies a net decline in real house prices. This development can be attributed to a variety of factors which are examined in more detail below. The key drivers are a low homeownership ratio due to well-developed rental markets, an oversupply of housing units due to a policy-induced building boom following German reunification, and conservative lending practices by German banks. The recent upswing of the housing market has been largely driven by sound economic growth and the good performance of the German labor market, which supported household income. The slump in Eastern and Southern EU countries triggered a wave of immigration to Germany in recent

years (chart 2, right panel). The financial and economic crisis contributed to price increases due to increased demand for safe assets and extremely low financing costs.

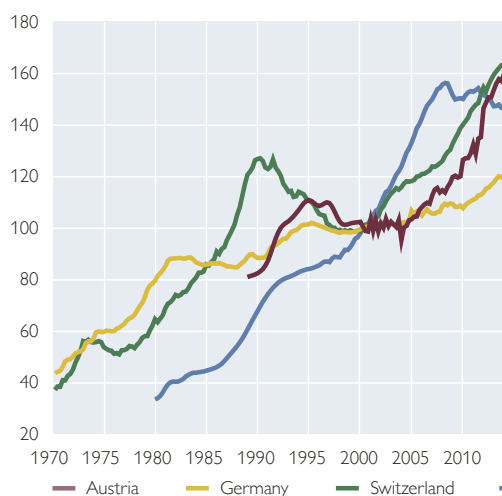
Switzerland experienced a house price bubble in the 1980s that burst in 1990. This bubble was fueled by a substantial increase in the money supply following the launch of the Swiss Interbank Clearing System (Borowiecki, 2009), as more efficient interbank clearing broadened funding opportunities for banks. Mortgage growth was even higher than the growth of real estate prices. Between 1981 and 1992, total mortgages extended by Swiss banks increased by 148%. After the bubble burst, a recession from 1990 to 1993 confronted the Swiss economy with the need for massive restructuring due to increasing globalization. The sharp decline of real estate prices in combination with the macroeconomic slowdown had considerable adverse

Chart 1

Nominal and Real House Prices in the Euro Area versus Austria, Germany¹ and Switzerland

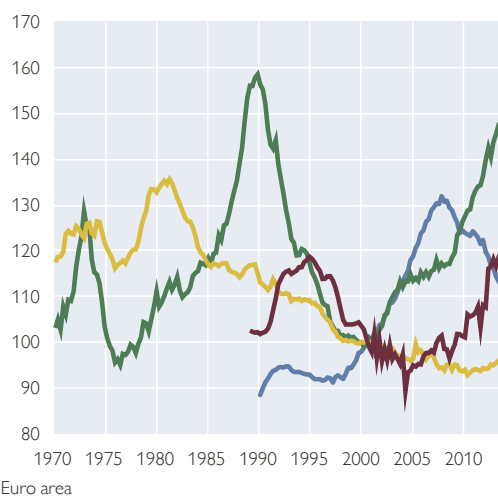
Nominal House Prices

2000=100



Real House Prices (Deflated by the CPI)

2000=100



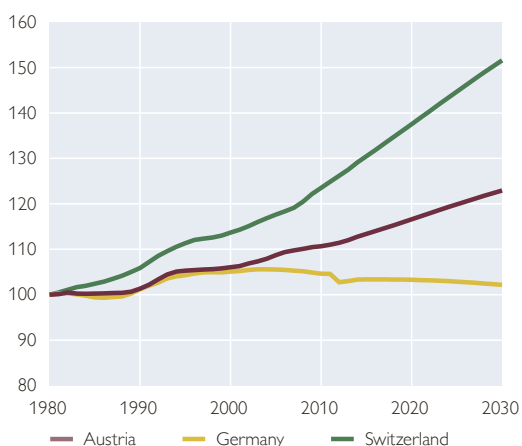
Source: BIS, OeNB, TU-Wien.

¹ The house price series for Germany is subject to multiple breaks (4 Western German cities before 1975, 50 Western German cities until 1991, 125 cities until 2004, all cities and districts since 2004) and must therefore be interpreted with caution.

Demographic Changes in Austria, Germany and Switzerland

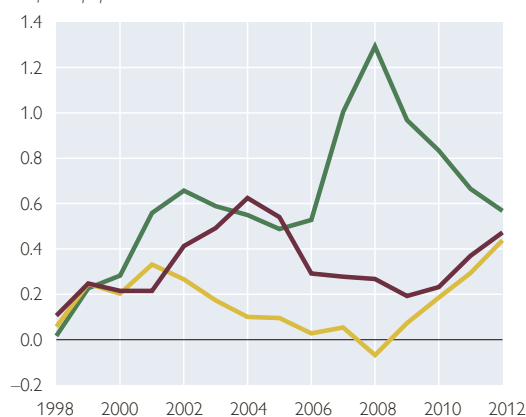
Population

1980=100



Net Inward Migration

% of total population



Source: Eurostat.

effects on Swiss banks. Between 1991 and 1996, they incurred estimated losses of more than 10% of Swiss GDP (BIS, 2004).

The recent upswing in the Austrian and German housing market has also been driven by the global financial situation. Given increased demand for safe assets, the housing market became an investment vehicle of choice for international investors and for domestic households seeking to protect the value of their assets. Furthermore, this tendency has been reinforced by low returns on financial assets. All three countries have benefited from an environment of low interest rates, which moreover reflects their safe-haven sta-

tus. Interest rates for mortgage loans have, thus, been on the decline since the end of 2008.

Whilst nominal house prices (chart 1, left panel) were rising for most of the time in Austria, Germany and Switzerland, real house prices (chart 1, right panel) in fact diverged between the countries. Given the impact of demographic and economic developments (see chart 2 and table 1) on house prices, the fact that house prices have been rising more strongly in Switzerland than in Austria and Germany may be related to the fact that the population, including net inward migration, and real disposable income grew most strongly in Switzerland, too.

Table 1

Economic Developments in Austria, Germany and Switzerland

		Austria	Germany	Switzerland
		%		
Population growth	1995–2012	5.8	–1.5	13.3
Real per capita growth of disposable income	1995–2012	12.7	10.7	28.1
Real GDP growth	1995–2013	40.5	25.5	35.1
Real interest rate for mortgages	2010–2013	0.2	1.5	1.1

Source: Eurostat, ECB, SNB.

2 The Relationship between House Prices and Fundamentals

Are the house price increases outlined above justified by fundamentals? To assess price developments, the OeNB has developed a Fundamentals Indicator for Residential Property Prices (Schneider, 2013). This indicator is calculated on the basis of seven subindicators that monitor a variety of data related to households, investors and systemic factors. To capture the perspective of households, two subindicators have been included to represent different affordability aspects of homeownership. With a view to including the investor perspective, two indicators have been included to reflect the profitability of real estate investments. Another three subindicators are meant to capture the systemic perspective by mapping the relationship between the residential property market, macroeconomics and financial stability.

This indicator shows that residential property prices in *Austria* were in line with fundamentals in Q3/14, apart from a likely overvaluation of 20% for

Vienna. Calculating this indicator with data for *Germany*, we see an undervaluation of 7% in Q3/14. In October 2013, the Deutsche Bundesbank analyzed house price developments based on regional data for residential property prices as well as demographic and macroeconomic factors. The results show that from a macroeconomic perspective, house prices are in line with their fundamental determinants – again with the exception of properties in urban areas, which are likely to be overvalued by between 5% and 10%. In major attractive cities, this overvaluation can amount to up to 20% (Deutsche Bundesbank, 2013).

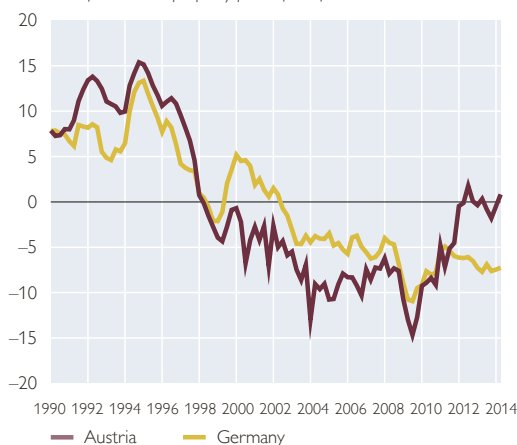
Since we do not have the proper time series to calculate the indicator for *Switzerland*, we looked at the UBS Swiss Real Estate Bubble Index (UBS, 2014), whose structure is similar to that of the OeNB’s Fundamentals Indicator for Residential Property Prices. The main difference is the presentation of the results. While the OeNB indicator shows the deviation of residential property prices from fundamentally justi-

Chart 3

Residential Property Misalignment Indicators

Residential Property Misalignment Indicators for Austria and Germany

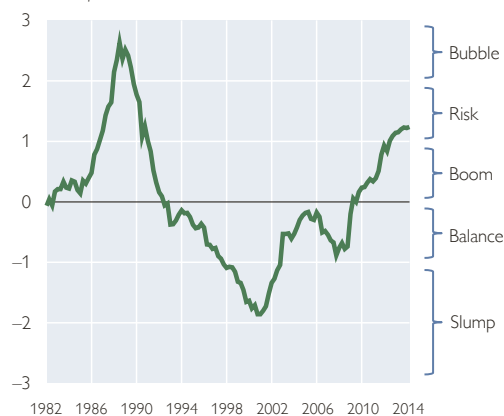
Deviation of residential property prices from fundamentals in %



Source: OeNB calculations.

UBS Swiss Real Estate Bubble Index

Deviation from mean in standard deviations



Source: UBS.

fied prices in percent, the UBS indicator presents the deviation in standard deviations. The results show that prices are clearly above their fundamentals, although the increase of the deviation seems to be slowing down.

3 Differences in Housing Market Policies and Structures

Low Homeownership Ratios and Well-Developed Rental Markets Dominate

In an international perspective, all three countries under review here have very low ownership ratios. Within the EU, Austria (58%²) and Germany (53%³) have the lowest ownership ratios (table 2), far below the EU-28 average of 71% (2012). The low ratios are essentially the consequence of well-developed rental markets,⁴ on top of a well-developed social housing sector in *Austria* and *Germany*. Furthermore, subsidies for homeowners are not as high in Austria and Germany as in countries like Spain or the Netherlands. The fact that Germany has a lower ownership ratio than Austria may reflect the higher degree of regional mobility observed in Germany.

In terms of housing policies, the main objective of *Austria* is to provide affordable housing of high quality. Homeownership is not defined as an explicit target. The Austrian housing model rests on five pillars: (1) housing subsidies, (2) the legal framework consisting of private law, building regulations and property development regula-

tions, (3) limited-profit developers of affordable housing (“gemeinnützige Bauvereinigungen”), (4) building and loan associations (“Bausparkassen”) and home loan banks (“Wohnbaubanken”), as well as (5) other financial intermediaries, including property investment funds.

Austrian legislation on residential tenancy is characterized by a high degree of complexity: different provisions apply depending on the date when a building was erected or when the lease was signed, or depending on the type of subsidies granted. In general, residential tenancy law provides a fairly high level of protection for tenants. Moreover, the share of social rents is quite high in international comparison, in a market with a high share of rented housing: 20% of tenants live in public housing apartments (“Gemeindewohnung”), 40% in homes erected by limited-profit developers of affordable housing, and just 40% of the tenants rent from private landlords. Under this environment, the expected return of renting is quite low for private investors. Thus, both the high share of social rents and the high share of regulated rents seem to have dampening effects on rental and property prices.

Activity in the *German* housing market was dominated to a larger extent by the construction of social housing than in most other euro area countries after World War II, given the magnitude of the destruction experienced. A well-functioning system of social housing

² The share of owners also includes relatives (on the assumption that they reside in additional homes of the owner). The share of owners without relatives is 51%.

³ The ratio of 53% relates to the share of persons living in owner-occupied homes. Based on the corresponding share of households, this ratio drops to 43%.

⁴ The size and structure of the rental market has an important impact on the level and volatility of residential property prices. In countries with well-developed rental markets, households can wait and save money for down-payments. In countries without well-developed rental markets like the United Kingdom, households face problems in finding rental homes, so that even young and low-income households apply for mortgages. This may foster the development of subprime markets.

was built up with both public and private funds. Important pillars of the German housing policy besides social housing are the promotion of homeownership, direct subsidization of lower-income households and market-oriented rents within the freely financed rental housing sector (Cornelius and Rzeznik, 2014). Housing policy has historically been sensitive to the rights of tenants. However, liberalizations of the rent system have led to a more balanced approach.

In *Switzerland*, homeownership is an explicit target of housing policy. Under the Swiss Federal Constitution, housing policy is meant to encourage the ownership of apartments and houses for own use. An important element is the possibility of early withdrawals of pension fund assets of pillar 2 and 3a for homeownership. In practice, the Swiss authorities have maintained a more ambivalent attitude, resulting in a homeownership rate of just 37% in Switzerland. Among other things, this low rate reflects the fact that, on a country-wide basis, housing unit purchases (“Stockwerkeigentum”) have been possible only

since 1965 (Wehrmüller, 2014). Moreover, the high costs of housing due to the scarcity of land and a large foreign-born (often transient) population add to the huge size of the rental sector. Last but not least, rental housing is eligible for subsidies at the federal and cantonal level.

Having examined the determinants of homeownership rates in Europe, especially the role of the state, Springler and Wagner (2009) show that tax incentives have a significant positive impact on homeownership rates. As interest rates have an inverse impact on homeownership rates, they conclude that the liberalization of European mortgage markets and the ongoing innovations in the field of housing finance have a positive impact on homeownership rates.

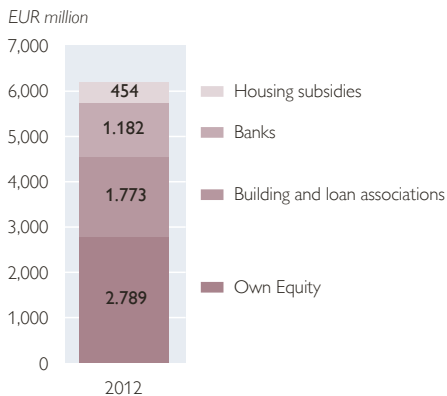
Housing Subsidization and Rental Market Regulation

Housing subsidization and rental market regulation are closely interlinked in many countries, with subsidized segments of the rental market being subject to a higher degree of regulation.

Chart 4

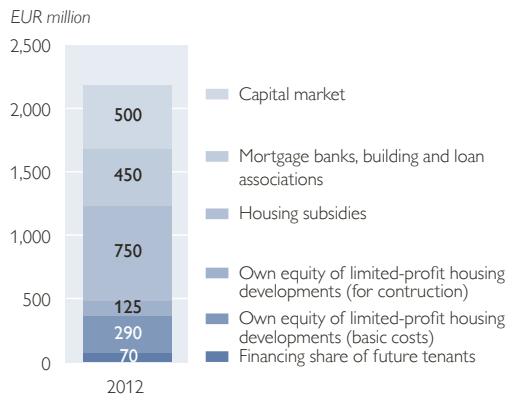
The Role of Subsidies in Housing Finance in Austria

Private Housing Construction 2012: Approximately 22,400 Housing Units



Source: Arbeitsforum Bausparkassen.

Large-Volume Housing Construction 2012: Approximately 14,000 Housing Units



Source: Arbeitsforum Bausparkassen.

In *Austria*, different types of housing subsidization play a major role in supporting both large-volume construction and the building of private homes. For instance, in 2012, building and loan associations financed almost one-third of the money spent on private housing (approximately EUR 6,200 million). Housing subsidies accounted for EUR 454 million or some 7% thereof. In supporting large-volume housing construction, housing subsidies played an even more significant role, contributing EUR 750 million or 34% of total financing.

The predominant instruments are object-related subsidies; less important instruments include subject-related subsidies, tax incentives and capital market instruments. As outlined above, rental markets are highly regulated, and provisions and the degree of regulation may vary a lot. For instance, rents are quite low for buildings erected before World War II, and the regulation schemes differ depending on whether the rental agreement was concluded before or after 1994. Rental

agreements may be of limited or unlimited duration, and they are subject to different rules for termination by the landlord or for rent increases. Landlords wishing to benefit from subsidies are subject to certain restrictions. While freely financed private housing units can be rented out at market prices, the share of freely financed housing in Austria is very small. Regarding the relative size of the sectors, social rental agreements dominate in Austria, whereas the private rental sector dominates in Germany and Switzerland.

In *Germany*, both object-oriented and subject-oriented subsidies play a role. The two main instruments of housing policy are supply-side social housing subsidies and direct housing allowances (“Wohngeld”). Landlords wishing to benefit from social housing subsidies are subject to certain restrictions (rent ceilings and occupancy control agreements). However, these restrictions apply only for a limited period of time. After that, the house becomes part of the privately financed

Table 2

Housing Market Structure

	Austria	Germany	Switzerland
Housing market structure	Low homeownership ratio (58%) ¹	Low homeownership ratio (53%) ²	Very low homeownership ratio (37%)
Dominant rental market	Social rental market (60%)	Private rental market	Private rental market
Main housing subsidy instruments	Object-oriented subsidies dominate, but subject-oriented subsidies also play some role	Social housing subsidy Direct housing allowance	Object-oriented subsidies dominate, minor role of subject-oriented subsidies
Duration of rental agreements	Limited or unlimited	Usually unlimited	Usually limited (most contracts, though technically of limited duration, roll over automatically. Notice to terminate tenancy requires material cause, but this is interpreted quite generously in Switzerland)
Duration of restrictions/duties for landlords	Unlimited	Limited	Limited

Source: Authors' compilation.

¹ The share of owners also includes relatives (on the assumption that they reside in additional homes owned by the owner). The share of owners without relatives is 51%.

² The ratio of 53% relates to the share of persons living in owner-occupied homes. Based on the corresponding share of households, this ratio drops to 43%.

sector, implying that rents can be raised to normal market levels and the property can be re-rented without further restrictions (Kirchner, 2005). Rental agreements in Germany are usually unlimited in duration, with some exceptions (tenancies can be terminated, subject to adequate proof, for the landlord's own use or in case landlords intend to change or repair the dwelling substantially). Rental regulation regarding the initial rent and future rent increases depends on the type of the rental agreement. A system of rent control applies to public dwellings and for private dwellings that were built using public funds. The rent depends on the age of the dwelling (built before 2001 or thereafter). Currently, no restrictions apply to rents under new agreements concluded in the private rental market. However, increases of rents in existing agreements are subject to a cap. Recently, the government coalition proposed plans to set a limit also for rents under new agreements, except for those applying to newly built dwellings, in areas with especially tight housing markets.

Switzerland's federal structure accounts for a more fragmented housing subsidization system than in other countries, making a direct comparison difficult. Housing subsidies are granted by the federal government as well as various cantons and municipalities. Object-oriented subsidies dominate. If a loan is granted to an investor, rents have to be set at a value below that of market rents for 15 years. Some cantons have well-developed subsidy schemes, where tenants have to satisfy income requirements to occupy a subsidized apartment. Subject-related subsidies (rental aid) are far less developed than in Austria and Germany and are available in a fraction of the cantons only (Bourassa et al., 2010). In Switzer-

land, an increase in interest rates on mortgage loans can be partially rolled over to tenants, as an average mortgage-rate index based on the costs of all banks' mortgage loans was introduced in September 2008 as the reference rate for rental-payment adjustments. Rental market regulation is high, as is tenant protection. However, rental agreements are usually limited in duration. Initial rents can be agreed freely, but can be adjusted only if operating and maintenance costs or interest rates increase. Tenants have the right to challenge the initial rent or rent increases during the tenancy. They also have the right to request a rent reduction if they have good cause to suppose that the landlord makes excessive profits on the premises because of significant changes to the calculation basis (Wehrmüller, 2014).

4 Differences in Housing Taxation Schemes

The housing tax system has far-reaching implications for real estate markets. The relevant elements are the deductibility of mortgage interest payments and the taxation of imputed rents, real estate ownership, and real estate transactions.

In Austria, the tax base for real estate tax ("Grundsteuer") is the assessed property value ("Einheitswert") as defined on January 1, 1973, and adjusted since (by a total of 35%, with the latest of only three increases made so far dating back to 1983; Reiss and Köhler-Töglhofer, 2011). The assessed property value is thus clearly below market values, leading to low real estate tax expenses for households. Regarding the taxation of capital gains from the sale of real estate, the existing system was amended in April 2012. Previously, real estate capital gains used to be taxed at the average income tax

rate if the sale occurred within a speculation period (10 years, or 15 years for rented buildings with a depreciation tax shield, subject to exemptions for the main residence and owner-constructed buildings). The new system is no longer linked to a speculation period and provides for taxation at a blanket tax rate of 25%. Some transitional rules apply for property bought before April 2002. Purchases of real estate, finally, are subject to a real estate transfer tax (“Grunderwerbsteuer”) and to various fees (land registry fee, mortgage registration fee). The real estate transfer tax

will change to a staggered system under the newly announced tax reform (to enter into force on January 1, 2016) with a rate of 0.5% for sales prices of up to EUR 250,000; a rate of 2% for amounts ranging from EUR 250,000 to EUR 400,000; and 3.5% (which is currently the default rate) for any higher amounts. At the same time, a new assessment base will be introduced, reflecting the market value rather than the three-fold property value as under current provisions. Moreover, firms will benefit from a tax allowance for real estate transfers of up

Table 3

Tax Treatment of Owner-Occupied Housing

	Austria	Germany	Switzerland
Tax on imputed rents	No	No	Yes (based on imputed income (on average 70% of market rents) minus mortgage interest and other expenses)
Mortgage interest deductibility	No (under certain circumstances and up to a very low cap of EUR 730 a year; building costs including mortgage interest payments may be deducted)	No	Yes
Net wealth tax	Abolished in 1994	Abolished in 1998	Yes (based on fair market value of residential property minus debt)
Real estate tax	Tax levied at a basic federal rate (usually 0.2%) multiplied by a municipal coefficient ranging up to 500%; cadastral value from 1973 with no automatic update	Real estate tax on fiscal value at a federal rate of 0.26% to 0.35% in former Western Germany and 0.5% to 1% in former Eastern Germany, multiplied by a municipal coefficient of 100% to 900%. Cadastral value from 1964 (former Eastern Germany: 1935)	0.03% to 0.4% of the market value or the taxable value of the real estate (in about half of the cantons) Based on 50% to 80% of the market value
Real estate capital gains tax	Not on main residence and owner-constructed buildings Yes on other real estate: Capital gains are taxed at 25%. Prior to April 2012: Other real estate was taxed only if sold within a speculative period (10 years; 15 years for rented buildings with a depreciation tax shield)	Yes, for sale within the speculative period (10 years)	Special cantonal real estate tax or ordinary corporate income tax (depending on the canton)
Real estate transfer tax and registration fees	3.5% of sales price (2% for relatives) Land registry fee 1.1% to 2.3% Mortgage registration fee 1.2%	3.5% to 5% of sales price, depending on the state Land registry fee 0.15% to 0.2%. Notary fees about 0.3% to 0.8% Mortgage registration fee about 0.3%	1% to 3% of sales prices (proportional) in all but two cantons

Source: European Commission (2012), authors' compilation.

to EUR 900,000 as well as a staggered corporate system: a rate of 0.5% for amounts of up to EUR 1.1 million; a rate 2% for amounts of up to EUR 1.3 million; and a rate of 3.5% for higher amounts. Farmers will be exempt from real estate transfer tax under the new regulation.⁵

The structure of real estate taxation in *Germany* is similar to that of Austria. The assessed property values are even older than in Austria (1973 for former Western Germany and 1935 for former Eastern Germany). The German tax system favors long-term investment in real estate, since gains realized from property resale within 10 years are subject to income tax. Moreover, speculation is dampened by high transaction costs (real estate transfer tax and high fees to register the transfer of ownership and for the required notary services). Between 1991 and 1998, investors were given a tax break to stimulate residential construction in former Eastern Germany.

Swiss homeowners have to pay income tax on imputed rental income (net of interest payments, maintenance, insurance premiums, administrative costs for third parties, repair costs, etc.) for own-use homes.⁶ The tax authorities estimate the imputed rent, which on average amounts to 70% of the potential market rent. Tax rates differ among cantons. In most cantons, homeowners can choose between the deduction of the actual costs and a lump sum deduction, which typically ranges from 10% to 30% of imputed rent. The deductibility of mortgage interest payments explains the predominance of interest-only mortgages in Switzerland.

For wealth tax (which has been abolished in Austria and Germany), the tax base is net wealth, i.e. fair market value minus documented debt. Real estate is on average taxed at 70% of the fair market value of the property. This tax value of the property is assessed by the tax authorities. In addition, some cantons levy a real estate tax. The tax is assessed on the basis of the market value of the property, without allowing for the deduction of debts. Capital gains from selling real estate are subject to a real estate capital gains tax (“Grundstücksgewinnsteuer”), which is levied at the cantonal level. The tax rate depends on the holding period and the amount of profit. To prevent speculation, the tax rate is prohibitively high for short holding periods. However, this tax is waived if the profit is used to buy another property for the same or a higher amount within two years. In most cantons, the purchase of real estate is also subject to a real estate transfer tax ranging from 1% to 3% of purchase price or the taxable value of the real estate. In general, the decentralized tax system in Switzerland contributes to huge disparities of residential property prices.

Implications of the Tax Systems

The effects of mortgage deductibility can be seen in *Switzerland*, where mortgage payments can be deducted when calculating imputed rent. The volume of outstanding mortgage loans is three times as high in Switzerland as in Austria and Germany (relative to GDP). Revenues from recurrent real estate taxes are extremely low in Austria (0.6% of GDP in 2012) and

⁵ As announced in March 2015.

⁶ In the European Union, only Luxembourg and Netherlands tax imputed rents on the main dwelling (European Commission, 2012).

Germany (0.9%). In Switzerland, they amount to 2% (OECD Revenue Statistics). High transaction costs stabilize the market in Austria and Germany by fostering long-term investment in real estate and by preventing speculation.

5 Differences in Housing Finance Schemes

National structures of housing finance have important implications for possible risks arising from mortgage debt.

Characteristics of Housing Loans

Several dimensions of housing loans are highly relevant for financial stability. The duration of the interest rate fixation (fixed versus variable rate loans) is important, since variable rate loans

entail higher risks if interest rates increase. Foreign currency loans pose multiple risks (currency risk, interest rate risk, the risk that the saving account does not perform). In countries with financial systems that allow equity extraction, rising house prices can be used to extract additional loans for consumption purposes from the wealth of the house. Some countries have mortgage securitization instruments. In general, there has been a trend toward longer maturities, driven by rising life expectancy and related increases in retirement ages (ECB, 2009). In many countries, maturity lengthening was used to improve affordability as prices went up. The lending practices of banks differ from country to country.

Table 4

Characteristics of Housing Finance

	Austria	Germany	Switzerland
Summary			
Overall financing risk	Low to medium, resulting mainly from interest rate risk and foreign currency loans	Low to medium due to moderate indebtedness and a low share of variable rate loans, but lending standards need to be researched more closely	High due to high indebtedness
Role of foreign currency loans	Very high, but decreasing (from 39% in Q2/07 to 22% in Q4/14)	Low	Almost negligible (< 1%)
Interest-only loans	Yes, for foreign currency loans	No	Yes
Prevailing type of interest rate	Very high share of variable rate loans (87%) ¹	Very low share of variable rate loans (15%)	Medium term fixation
Interest rate for adjusting variable interest rate loans	3-month EURIBOR (LIBOR, swap rate)	EURIBOR or other	CHF-LIBOR
Lending practice of banks	Conservative; was more aggressive in the past	Relatively conservative, but more research is needed	Conservative
Loan-to-value limit	Three-fifths (=60%) of value (for mortgage banks' refinancing) §11 of Mortgage Bank Act	No general loan-to-value limit (60% of mortgage lending value for Pfandbrief refinancing)	Usually up to 80% (65% for interest-only loans)
Equity extraction possible/ mortgage equity withdrawal	No evidence that it plays a role	No evidence that it plays a role	No evidence that it plays a role
Mortgage securitization (mortgage-backed securities/ covered bonds)	Yes	Yes	Yes
Typical maturity of loans for home purchase	25 to 30 years	10 to 15 years	Typically 2 to 10 years with the option to roll over
Household indebtedness	Moderate (55% of GDP)	Moderate (59%)	Very high (124%)

Source: Authors' compilation, ECB (2009).

¹ This is the share of newly issued loans with an initial period of fixation up to 1 year to all newly issued loans.

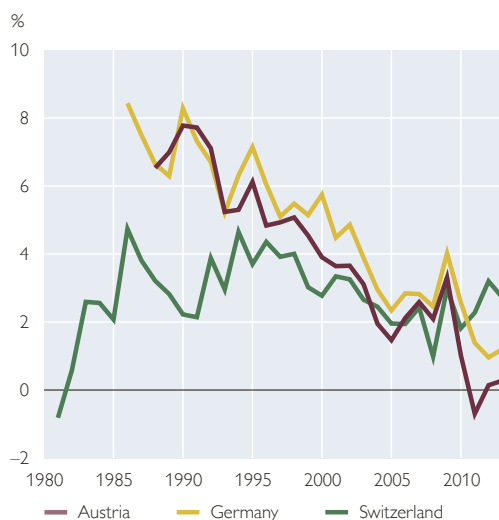
One distinct feature of housing loans in *Austria* used to be the high popularity of foreign currency loans. Foreign currency loans started to become popular in the second half the 1990s, probably mostly due to exchange rate effects. Their share in the total volume of outstanding loans peaked at 39% in the first quarter of 2007. Since then, the foreign currency loan share has fallen continuously to 22.3% (Q4/14). Furthermore, housing loans tend to be variable-rate loans, whose share has steadily increased from 40% in early 2003 to 86.7% in Q4/14 (see chart 4). For more information on foreign currency loans and their distribution among households, see Albacete and Lindner (2015). In *Germany*, mortgage lending is conservative with long maturities and a high share of fixed-rate loans. Over 70% of newly issued mortgage loans have a fixed rate of more than five years. Currently, there is no sign that lending standards are becoming more relaxed.

In *Switzerland*, mortgage loans are offered by banks, insurance companies and pension funds. The overwhelming majority of mortgages are provided by banks. Swiss mortgage indebtedness is very high by international standards, but so is net wealth. One distinct feature of Swiss mortgages is that prior to 2012, interest-only loans dominated. Self-regulation measures of the Swiss Bankers Association implemented in 2012 and 2014 define compulsory amortization (see next section). Mortgages in *Switzerland* typically have a maturity of between 2 and 10 years with the option to be rolled over. At the current low level of interest rates, longer maturities are becoming increasingly popular. Interest rates can be either variable or fixed. When a mortgage is rolled over, the interest rate of the new loan can increase substantially. The typical duration until full amortization is about 20 to 30 years. The required downpayment currently amounts to 10% of the property's

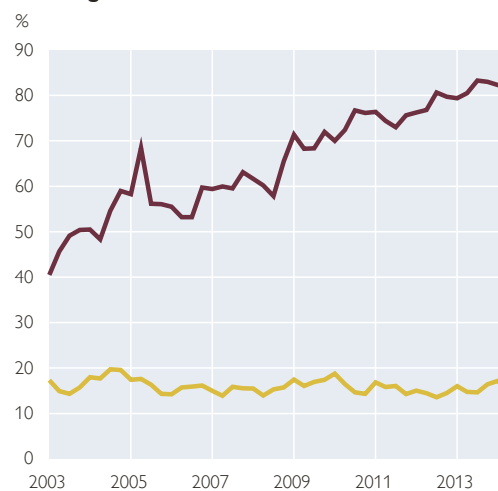
Chart 5

Interest Rates and the Share of Variable Rate Loans

Real Interest Rates for Housing Loans



Share of Variable Rate Loans in Total New Housing Loans



Source: ECB, Thomson Financial, IMF.

value. Pension fund assets were allowed for the downpayment until 2012. An important element of housing finance in Switzerland is the possibility of early withdrawal of funds accrued under the occupational pension scheme (second pillar) and the private pension scheme (third pillar) for the purchase or construction of owner-occupied residential property (Wehrmüller, 2014).

Mortgage Debt and Household Net Wealth

In terms of households' total assets and liabilities, there is a striking difference between Austria and Germany on the one hand, where the volume and structure of assets and liabilities is very similar, and Switzerland on the other (table 5). In Austria and Germany, real estate assets amount to more than 50% of total assets, whereas in Switzerland, financial assets are more important than real estate assets. Even so, Swiss households (279%) clearly outperform Austrian (213%) and German (209%) households when we compare the relative magnitude of households' real estate assets (expressed as percentages of

GDP). The volume of outstanding mortgage loans is low in Austria measured in terms of GDP (36.5%) as well as in percent of the value of real estate assets (17%). Switzerland has a very high volume of mortgage loans (116% of GDP). Measured in terms of the value of real estate assets, mortgage loans amount to 42%. Household net wealth is very similar in Austria and Germany (slightly above three times GDP or above EUR 100,000 per capita at purchasing power parity). In Switzerland, household net wealth amounts to five times GDP or EUR 204,000 per capita at purchasing power parity. This difference stems mainly from financial assets.

Sources of Housing Loans and Funding

In most European countries, banks are the key sources of mortgage loans, followed by insurance companies and pension funds. In Austria and Germany, saving banks and cooperatives play an important role. In Austria, (subsidized) housing loans are also provided by the provinces.

Table 5

Household Assets and Liabilities (2012)

	Austria	Germany	Switzerland	Austria	Germany	Switzerland
	% of GDP			EUR per capita at 2012 purchasing power parity		
Total assets	385.2	394.6	632.0	127,952	124,325	253,762
Financial assets	172.5	185.2	352.7	57,297	58,350	141,628
Real estate ¹	212.7	209.4	279.3	70,655	65,975	112,135
Total liabilities	54.9	58.7	124.3	18,235	18,494	49,925
Loans	54.5	58.2	124.1	18,102	18,337	49,824
Mortgage loans ²	36.5	41.3	116.4	12,124	13,006	46,733
Consumer loans	7.2	6.7	2.6	2,384	2,126	1,061
Other loans	10.8	10.2	5.0	3,590	3,205	2,010
Other liabilities	0.4	0.5	0.3	133	158	100
Net wealth	330.3	335.9	507.7	109,716	105,830	203,838

Source: Eurostat, ECB, SNB, HFCS 2010, authors' calculations.

¹ Real estate wealth for Austria and Germany (for 2010) is taken from the Household and Consumption Survey (HFCS) 2010 and extrapolated using house price growth.

² Loans from banks and from other lenders (states or provinces) for Austria and Germany.

Savings plans with building and loan associations are still very popular in Austria, given attractive base interest rates and the government bonus for such saving plans, which serve as an incentive. Furthermore, loans linked to such savings plans are subject to comparably low interest rates apply at the beginning of the maturity period and capped with a rate of 6% interest. In December 2014, the volume of outstanding loans granted by building and loan associations came to EUR 19 billion. The number of savings plans with building and loan associations in Austria totaled 5,288,827 in December 2014 (which is approximately one-eighth of all loans granted by Austrian financial institutions and a share of 62% when measured against the Austrian population).

Refinancing by Banks

Banks in Europe mostly rely on their general funding sources (especially deposits) for housing loans. According to the financial accounts, just EUR 15 billion of the total volume of housing loans of EUR 113 billion in 2013 were government-financed in *Austria*.

However, there are some exceptions. In *Germany*, banks issue long-term covered bonds (“Pfandbriefe”) in line with households’ preferences for a long interest rate fixation. Yet only a small portion of mortgages are used for Pfandbrief coverage. In *Switzerland*, covered bonds doubled from 2004 to 2013, to EUR 72.9 billion. In *Austria*, housing bonds play also a minor role (EUR 11.4 billion in 2012).

6 Macprudential Framework and Policy Measures

National macroprudential supervision in EU countries is embedded in a complex institutional framework at the EU level. In this context, *Austria* estab-

lished the Financial Market Stability Board (FMSB) in 2014, which integrates all relevant national financial stability stakeholders: the Federal Ministry of Finance, the Austrian Fiscal Advisory Council, the Austrian Financial Market Authority (FMA) and the Oesterreichische Nationalbank (OeNB). The FMSB may issue recommendations to the FMA as the competent authority, release warnings on questions of systemic risk and publish its decisions and warnings (Eidenberger et al., 2014).

Before the establishment of the FMSB, the Financial Market Authority had deployed a set of measures to address risks arising from foreign currency loans and loans with repayment vehicles. In October 2003, the FMA published its minimum standards for granting and managing foreign currency loans and loans with repayment vehicles. In October 2008, the FMA enhanced those measures by issuing a recommendation to the banking industry to stop extending foreign currency loans. Subsequently, it further refined this recommendation with a supplement issued in 2010. Finally, new minimum standards for the risk management and granting of foreign currency loans and loans with repayment vehicles entered into force in January 2013. These minimum standards do not constitute a regulation in the legal sense and do not prevent credit institutions from setting higher internal standards.

The *German* equivalent to the Austrian Financial Market Stability Board and hence the lead macroprudential financial supervisor is the Financial Stability Commission (FSC), which was founded in 2013. It consists of representatives of the Federal Ministry of Finance, the Deutsche Bundesbank, the Federal Financial Supervisory Authority and, as a nonvoting member, the Federal Agency for Financial Mar-

Table 6

Institutional Macroprudential Framework and Policy Measures

	Austria	Germany	Switzerland
Institutional macroprudential framework	Financial Market Stability Board (FMSB, established in 2014) Federal Ministry of Finance Fiscal Advisory Council Financial Market Authority (FMA) Oesterreichische Nationalbank (OeNB)	Financial Stability Commission (FSC, established in 2013) Federal Ministry of Finance Deutsche Bundesbank Federal Financial Supervisory Authority (BaFin) Federal Agency for Financial Market Stabilisation (FMMSA)	Informal arrangement based on Memorandums of Understanding Self-regulation regime implemented by the Swiss Bankers Association (SBA) Swiss National Bank (SNB) Swiss Financial Market Supervisory Authority (FINMA) Federal Department of Finance (FDF)
Policy action taken	FMA measures addressing foreign currency loans and loans with repayment vehicles taken in 2003, 2010 and 2013 (recommendations and minimum standards)	Warnings issued by the Deutsche Bundesbank First FSC report published in 2014 No macroprudential measures have been implemented	SBA self-regulation implemented in mid-2012 Countercyclical capital buffer (+1 pp from September 2013; +2 pp from June 2014)

Source: Authors' compilation.

ket Stabilisation. The FSC presented its first annual report in June 2014. Developments in the residential property market are monitored on an ongoing basis.

In October 2013, the Bundesbank published an analysis of house price developments based on regional data for residential property prices and demographic and macroeconomic factors. The results show that from a macroeconomic perspective, house prices are in line with their fundamental determinants. Properties in urban areas, however, are likely to be overvalued by between 5% and 10%. In major attractive cities, this overvaluation can amount to up to 20% (Deutsche Bundesbank, 2013). No official policy measures have been introduced in Germany yet.

In *Switzerland*, no single authority has an explicit macroprudential mandate. Instead, the responsibilities are shared between three institutions. The Swiss National Bank (SNB) and the Financial Market Supervisory Authority (FINMA) are responsible for financial stability. The SNB analyzes risks to the banking sector, including the monitoring of real estate and mortgage mar-

kets. The focus of FINMA's analysis is mostly on individual institutions. In addition, the Federal Department of Finance has significant power in implementing financial regulations. The Swiss arrangement is fairly informal, since it is based on Memorandums of Understanding between the participants rather than being stipulated by law (IMF, 2014).

An important element of the Swiss macroprudential framework is the self-regulation regime implemented by the Swiss Bankers Association (SBA). It entered into force in July 2012 and includes minimum requirements for downpayments by borrowers as well as a definition of compulsory amortization. Borrowers are required to supply at least 10% of the lending value of the property from their own funds, excluding pension fund assets. Mortgages must be paid down to two-thirds of the lending value within a maximum of 20 years. In June 2014, the SBA adjusted its self-regulation regime, shortening the amortization period from 20 to 15 years, and tightening rules for risk weighing mortgages.

Acting on an official SNB proposal, the Swiss Federal Council introduced a countercyclical capital buffer (CCB) framework in July 2012. Accordingly, banks can be required to hold additional capital of up to 2.5% of their total risk-weighted assets in Switzerland. The CCB was activated in two steps: In February 2013, the Federal Council decided to set the CCB at a level 1% of from September 2013; in January 2014, the CCB was increased from 1% to 2%, to take effect from June 2014.

7 Summary

Comparing housing markets in Austria, Germany and Switzerland along various dimensions, we found house prices in these three countries to have developed quite differently compared with many European countries that experienced a pronounced cycle. In recent years, price increases accelerated, mainly driven by various crisis-related

channels (extremely low interest rates, flight into real assets, safe-haven effect) and increasing immigration. Despite the recent price increases, house prices are in line with fundamentals in Austria and slightly undervalued in Germany. In Switzerland, prices seem to be overvalued.

This study has identified important key elements that contribute to stable housing and mortgage markets. A well-developed and regulated rental sector is an important factor that helps keep house prices stable. The taxation system can have an important impact on house prices and household indebtedness. Especially the tax deductibility of mortgage interest expenses can create incentives for high household debt.

While all three countries have established macroprudential frameworks, Switzerland has already implemented macroprudential policy measures to combat credit expansion.

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