Housing subsidies and taxation in six EU countries

Trends, structures and recent measures in the light of the global financial crisis

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Abstract
Purpose – This paper aims to examine the main characteristics of the housing taxation and subsidy systems in six European Union countries. The structure of this support over the past two decades, before and after the global financial crisis has been investigated and its total effective dimensions have been approximated.
Design/methodology/approach – Official national data and existing literature on housing policy expenses have been analysed and the authors add their own estimations of missing data, where possible. Latest changes in housing policy guidelines and expenses were interpreted.
Findings – It was found that state support for housing is heavily underestimated by official data in most countries, mainly due to missing estimates for the value of imputed rents tax relief, reduced VAT rates and low real estate and capital gains taxation. Our estimates suggest that total public support for the housing sector reaches more than 3 per cent of the gross domestic product in three of the six countries, and about 2 per cent in the others. State support to the housing sector has developed quite differently in the investigated countries over the past decades. In particular, there was no universal downward trend.
Originality/value – This is the first attempt to provide a more comprehensive analysis of national housing policy expenses applying a very broad definition of state support for housing. In particular, we consider indirect tax advantages to the housing sector that are generally not taken into account. Furthermore, we apply a discounted present value approach of current housing policy expenses to facilitate international comparison.

Keywords European union, Global financial crisis, Housing expenses, Housing market stability, Housing subsidies, Housing taxation

Paper type Research paper

1. Introduction

Recent decades have seen a strong move from producer to consumer-oriented subsidies for housing in advanced industrial countries. This move has reflected a number of interrelated developments (Kemp, 1990; Yates, 2012). First, the end of absolute housing shortages in the 1970s prompted a re-evaluation of housing programmes. The perception of the "nature of the housing problem" shifted from the need to increase the supply of housing to the prevention

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of excessive rent-to-income ratios. Second, the perceived "fiscal crisis" of the welfare state in many advanced industrial nations in the 1970s and 1980s led to a search for ways to cut back on welfare spending. Production subsidies were regarded as "indiscriminate", inefficient and inferior to housing benefits in targeting those households "most in need". Third, markets were increasingly seen as beneficent and able to respond flexibly and effectively to changing consumer demands and tastes.

However, not all countries have fully participated in this shift from supply-side subsidies to income-related housing support. There has been a considerable diversity of state support measures for the housing sector in Europe until today. On the other hand, the substantial increase in sovereign debt due to a number of factors related to the global financial crisis (GFC) of 2008/2009 in most European countries is currently putting a drag on the financial state support to the housing sector. As many countries in Europe address high levels of debt through fiscal consolidation, housing subsidies (in particular those directed at producers) are increasingly under pressure.

There are very thorough comparisons on housing policy measures across countries in the form of general overviews (Donner, 2000, 2006; Andrews *et al.*, 2011), or on the impact of the GFC on housing policy elements (van der Heijden *et al.*, 2011; Hegedüs *et al.*, 2011; Scanlon and Elsinga, 2013). Other, more quantitative studies have analysed specific elements of housing policy expenses, e.g. housing benefits (Haffner and Boelhouwer, 2006; Kemp, 2007; Griggs and Kemp, 2012) or social housing programmes and new international programmes to increase affordable housing (van der Heijden, 2002; Lawson *et al.*, 2010; Gibb *et al.*, 2013). Considering the indirect subsidies to the real estate sector, some studies try to shed light on the tax advantages to home ownership or on the tax treatment of real estate *per se* (Haffner, 1994; Figari *et al.*, 2012; Oxley and Haffner, 2010). In general, most studies that apply a broader view on housing policy expenses focus on a single nation state.

There are only a few cross-country comparisons of housing policy expenses. One might expect that the investigation of housing subsidy expenses and their development over time would be a top priority for any research agenda engaged in housing policy evaluation. Yet, especially indirect tax-based advantages to the housing sector are often missing from the comparisons. Even governments often neglect estimating and documenting such tax-based concessions to the housing market as a whole, or to certain participants and segments in it. While monetary expenditures are often documented more comprehensively in government budgets, advantages linked to the tax system often disappear from the eye and scrutiny of the public. This is very problematic from a political point of view and hinders cost-benefit and distributional analyses.

The three main aims of this paper are to show that a wide array of state measures to support the housing market exists, to provide at least an educated guess on the dimension of this support, and to capture the trends over the past decades. This is done in three steps. First, we provide estimates of the total effective state support for housing and its structural components. In particular, we examine the main characteristics of housing taxation and subsidy systems in 2010 or 2011 in Austria, the Czech Republic, France, Great Britain, The Netherlands and Spain to provide a nearly up-to-date picture of the current scope of state support to the housing sector across European Union (EU) countries. Second, we investigate the structure of this support over the past two decades, before and after the GFC, to capture the main trends, and finally, we explore the most recent policy changes that point to more austerity measures in most of these countries.

We find that state support for housing is heavily underestimated by commonly reported official data, mainly due to missing estimates for the value of tax relief on imputed rents, reduced value-added tax (VAT) rates in the housing sector and exemptions from real estate and capital gains taxation. Our estimates suggest that total annual state support for the housing sector reached more than 3 per cent of gross domestic product (GDP) in three of the six countries, which, in some cases, amounts to more than 50 per cent of total annual housing investment. This relationship points to a more crucial role of state subsidies in shaping the general structure of national housing markets in Europe than is usually assumed.

The remaining paper is structured as follows. First, we clarify our approach and data sources and provide information on our own estimates of missing elements. The objective of the paper is to get a better understanding of the dimensions, structures and trends of state support for housing in several European states, rather than the exact numerical computation of each subsidy measure. In the empirical Sections 3-6, we take a closer look at the different components of total effective state support for housing, i.e. demand-side subsidies (e.g. housing benefits), supply-side subsidies and tax advantages. We present official data and our estimates of some of these components for the comparison countries and show how they developed over the past two decades. In Section 7, we present a country-specific analysis of the most important housing policy changes in light of the GFC. We finish with some conclusions in Section 8.

2. Methodology and data

Although a common theoretical framework for an evaluation of state support to the housing sector would be highly valuable, efforts to design such a framework are hampered by a broad range of factors. For instance, the intrinsic complexity of national housing subsidy systems, sometimes encompassing dozens of different channels with highly idiosyncratic features, makes cross-country comparisons difficult. In addition, the relevance, as well as the economic efficiency of a particular housing subsidy programme, depends on many factors, including the degree of decentralization of the subsidy system, the development of the mortgage markets, the importance of the banking system and the institutional and regulatory framework in which the housing markets develop.

Our comparison of housing subsidies across countries based on gross figures is not sufficient to draw conclusions that are operational in terms of policy recommendations. We are not evaluating the different measures from an efficiency or user-cost perspective (Le Blanc, 2005). Nor do we try to estimate the net budgetary position of the state *vis-á-vis* the housing sector (Vandevyvere and Zenthöfer, 2012). The paper rather tries to visualize the main features of housing subsidy systems in terms of structures and their trends, and to put the estimated gross budgetary costs in relation to the overall economic activity of the respective nation states, as measured by nominal GDP.

What should be counted as state support to the housing sector? We apply a very broad concept and include every feasible economic benefit or financial aid provided by a government body to the housing market (Yates, 2012). This is straightforward for supply-side and demand-side financial expenses, but less obvious for the various kinds of indirect support based on tax advantages and concessions (see in detail Section 5). In this area, we also try to apply a broad definition of state support. For instance, we treat lower VAT rates for housing construction or other areas of the housing market as a subsidy, in line with the view of the EU Commission (European Commission, 2013). The application of reduced VAT rates renders a particular advantage for certain goods and services and should be made visible. The benchmark is of course arbitrary across nations (EU-wide general level or higher national level), and without calculating the substitution effect, costs can never be calculated exactly. We think they should nevertheless be included wherever possible, or at least a rough estimate made to advance in the documentation of often overlooked individual advantages.

Our comparison is based on detailed studies of individual countries, on official data sources and on our own estimates in areas where state support exists and where underlying data allowed us to assume some figures. By collecting the components, we heavily draw on the documentation of national academic experts. Their analyses are often more comprehensive than officially documented state support which tends to neglect tax-related advantages. Additionally, we contrast the available components with a pre-defined matrix of potentially important areas of state support to the housing market (Table IV), to identify "black boxes" where state support likely exists but where there are no measures or estimates of it. We were able to fill in some of the gaps by our own estimations, but there is still important information missing. In any case, therefore, our estimate of total effective state support to the housing sector represents the lower bound of the actual dimension. In Table I, our sources and estimations are described in a very condensed way. For further information, please refer to Wieser *et al.*, 2013.

In the analysis, we focus on budgetary effects to the government, or estimations thereof. When assessing housing policy expenses, we applied a discounted present value approach to render certain types of subsidies that generate future returns more comparable (such as low-interest public loans) to such types that do not (grants, housing benefits). Obviously, calculating the present value of certain subsidies depends on the assumptions of underlying factors. The present value of a repayable subsidy is never known, as it changes constantly with expectations concerning the future developments of the underlying factors (interest rates, inflation rates, loan maturity, etc). As with indirect subsidies, we try to approximate the budgetary costs of current direct subsidies and therefore use refinancing conditions of state bodies as adequate reference interest rates (other than an approximation of user costs which would compare subsidised interest rates to market interest rates faced by addressees of subsidies, see Table I for details).

The comparison countries were selected due to the availability of data, as well as analytical literature and explanations of housing policy measures. While we were not able to appoint numbers to each individual housing policy measure in all countries (for example, the present value of cheap land offered to social housing providers or state guarantees for mortgage loans), we believe that our estimates give a good indication of the different structures of state support and its recent developments. In the following sections, we discuss our results of the three main components of state support to the housing sector in detail.

3. Demand-side subsidies: housing benefits

Economists are generally inclined to favour direct subsidies to households over supply-side subsidies (Rosen, 1983). This judgement is based on the assumption that households act rationally and are better informed about their preferences and needs, and that housing markets react to price signals elastically. If that were the case, direct demand-side subsidies would indeed be more efficient and less expensive for

Table I.
Data sources on housing subsidies and other support to the housing sector

Country	Main (official) data source	Main literature
Austria	IIBW data based on provincial housing subsidy reports to Ministry of Finance; BMF (2013), p. 254	Czasny and Moser (2000), pp. 35-314; Amann and Mundt, (2013), p. 25, 34, 43, 60; Knittler (2009), p. 293; BMF (2013), p. 247, 249; BMLFUW and KPC (2012)
Own complementary estimations	Present value of loans and repayable annuity grants: present value factor calculated in reference to average sale price of outstanding loans by regions to commercial sector and refinancing interest rate of state bodies. Discount factor is applied to estimated share of loans and repayable annuity grants. Housing benefits: regional demand-side benefits complemented by part of social assistance payments for housing costs Tax advantages and indirect subsidies: detailed study by Czasny and Moser, 2000, updated for 2011 and estimation of development for gap years; estimation of VAT advantage for rental housing, buy-to-let tax-advantaged scheme and owner-occupied apartments based on microcensus and completion data (Statistik Austria); tax-advantage to contract savings scheme and Housing Construction Convertible Bonds (Mundt and Amann, 2010) based on emissions, outstanding volume and average interest rate and BMF, 2013, p. 249; Deductions for mortgage interest rate based on BMF, 2013, p. 247 Additional subsidies and cost-free building land by municipalities estimated at 10% of total expenses	
The Czech Republic	Administrative data on housing expenses by Ministries and State Housing Development Fund documented in MMR and UUR (2012), p. 21; MMR and UUR (2013), p. 21	Hegedüs *et al.* (2011); Sunega *et al.* (2011); Lux (2013); Grabmüllerova (2005)
Own complementary estimations	Present value of expenses of Ministry of Regional Development and State Housing Development Fund (due to high share of repayable loans) Mortgage tax deductions: based on estimate by Sunega *et al.* (2011) for 2011 and underlying data, i.e. mortgage loans to households and bank interest rates on CZK denominated loans by Czech residents for house purchases (both Czech National Bank), special consideration of higher marginal tax rate before introduction of flat tax in 2008 Reduced VAT advantage: based on difference between lower and higher VAT rates (several adaptations 2001-2011), number of new apartments (MMR and UUR, 2013, p. 74), average acquisition value (MMR and UUR, 2011, p. 75) End-of-year currency conversion from CZK to Euro according to ECB	
France	Compte de logement 1989-2012	Vorms (2012)
Own complementary estimations	Loss of tax revenue due to the exemption of Livret A and LDD (Développement Durable) savings accounts. The estimate for 2011 is based on total deposit accounts, an average interest rate of 2.2%, and on a capital gains tax rate of 19.0%	
Great Britain	UK Housing Review	Pawson and Wilcox (2010), (2011), (2012), (2013)

(*continued*)

Country	Main (official) data source	Main literature
Own complementary estimations	GDP figures corrected for Northern Ireland to focus discussion on Great Britain	
The Netherlands	Data on housing subsidies by the Ministry of Finance; data on housing benefits from Eurostat	Van Ewijk (2007), p. 324; Vandevyere and Zenthöfer (2012), p. 16; Inspectie der Rijksfinanciën (2010)
Own complementary estimations	Capital gains tax relief: data for 2006-2011 from Vandevyere and Zenthöfer (2012); estimates before 2006 calculated with year on year changes of mortgage interest tax relief	
Spain	Memoria de la Administración Tributaria 1997-2011, section "Acceso a la vivienda y fomento de la edificación"; INE on completions	Pareja-Eastaway and Sánchez Martínez (2012), p. 223, 225, 226; Pérez Barrasa *et al.* (2011), p. 43, 45
Own complementary estimations	None. Direct expenses for "planes de vivienda" considered 1:1 present value expenses	

Note: The reference year of the empirical analysis depends on the latest available data (2011, Spain: 2010)
Source: Own compilation; further detail see: Wieser *et al.* (2013)

Table I.

governments in their attempt to reach particular welfare goals. On the other hand, housing benefits have been shown to contribute to price increases in price-inelastic housing markets (Susin, 2002; Fack, 2006; Kangasharju, 2010).

Housing benefits (or housing allowances) are a means-tested monetary transfer, granted to subsidise rental expenses of low-income tenants or to compensate low-income homeowners. Demand-side subsidies in the form of means-tested housing benefits or allowances were traditionally confined to liberal welfare states. Nevertheless, there has been a clear trend towards increased reliance on this form of assistance in many European countries (Kemp, 2007; Griggs and Kemp, 2012). Of the countries studied, only France and Austria support households, regardless of tenure choice. In Austria, however, only some of the provinces grant housing benefits to homeowners as well as to renters (Amann and Mundt, 2013). In the reference periods, the relation of housing benefits to GDP ranged from 0.04 per cent in Spain to more than 1.4 per cent in Great Britain. The share of housing benefits within total effective state support for housing varied from 3 per cent in Spain to 70 per cent in Great Britain (Table II).

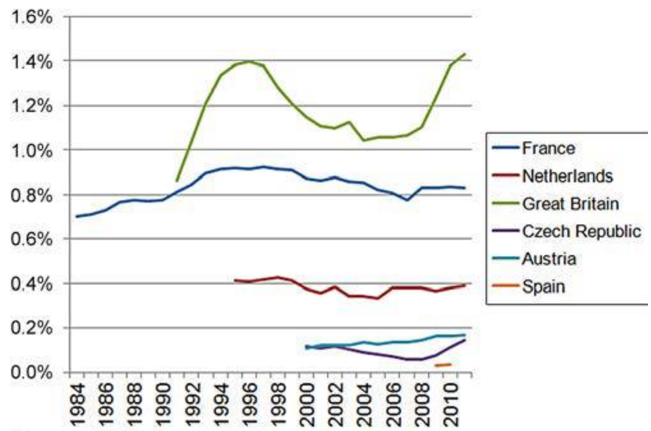
Housing benefits declined considerably in Great Britain during the real estate boom. Because the outbreak of the financial crisis in 2008, however, there has again been a significant increase, with more than €25 billion spent on housing benefits in 2011. In 2012, there were about 5.4 million housing benefit recipients, including 3.8 million in the social rental sector and 1.6 million in the private rental sector (Pawson and Wilcox, 2013; Figure 1).

Housing benefits in France amounted to €16.6 billion and accounted for 37 per cent of total effective housing subsidies in 2011. In relation to GDP, spending on housing benefits has remained largely stable in recent decades, whereas its share in total housing subsidies has fallen. Housing benefits accounted for 45 per cent of total housing subsidies in 1990 and 50 per cent in 2000. In The Netherlands, housing benefits are administered by the central government, and expenditure amounted to €2.3 billion in 2011, up 18 per cent from 2008. Housing benefits in the Czech Republic are currently strongly on the rise since rent controls have been lifted and more and more households depend on housing-related income support to meet rental expenses. Housing benefits have increased from around €82 million in 2007 to

Country	Total state support for housing		Housing benefits		Supply-side subsidies		Tax advantages and concessions	
	Billion €	% of GDP	Billion €	% of GDP	Billion €	% of GDP	Billion €	% of GDP
Austria	2.7	0.9	0.5	0.2	1.7	0.6	0.6	0.2
The Czech Republic	1.3	0.8	0.2	0.1	0.8	0.5	0.3	0.2
France	45.0	2.2	16.6	0.8	10.3	0.5	18.1	0.9
Great Britain	36.8	2.0	25.7	1.4	4.1	0.2	6.9	0.4
The Netherlands	21.7	3.6	2.3	0.4	–	–	19.4	3.2
Spain (2010)	12.5	1.1	0.4	0.04	3.8	0.4	6.4	0.7

Notes: Tax advantages and concessions, as well as total effective support for housing do not include all possible concessions in all countries; for each country some components are missing (Table IV); therefore, the numbers represent a lower bound of total support
Source: See Table I

Table II.
Total state support for housing in three categories 2011



Source: Table I

Figure 1.
Housing benefits in per cent of GDP

around €218 million in 2011. Spain is not a rental country and only briefly introduced housing benefits for young households for their first rental contracts. This measure was recently abandoned due to fiscal constraints. Some autonomous communities still provide housing benefits for the first couple of years of a young household's rental contract, but altogether they are of minor importance.

4. Supply-side subsidies

Critics of production subsidies not only point to the higher costs for governments, but also to the crowding out of unsubsidised production. There are, however, also some arguments in favour of production subsidies. They can help to generate important positive externalities within neighbourhoods, and they are superior to housing benefits in those geographic areas and market segments with the most acute housing needs (Khadduri *et al.*, 2003; Yates, 2012). Furthermore, it may not be market failures in the housing markets in a narrow sense (asymmetric information, monopoly power, externalities) which make the strongest case for production subsidies, but the fact that public intervention in form of rent control, land use zoning and environmental regulation, sometimes impact negatively on the supply side of the market. Virtually all housing markets in the countries under investigation are ranked low in terms of their long-term supply elasticity. Regulatory measures, as well as incentives within housing policy and subsidy systems, are made responsible for this (Barker, 2004; Boulhol, 2011; Hoj, 2011; Andrews *et al.*, 2011; OECD, 2011).

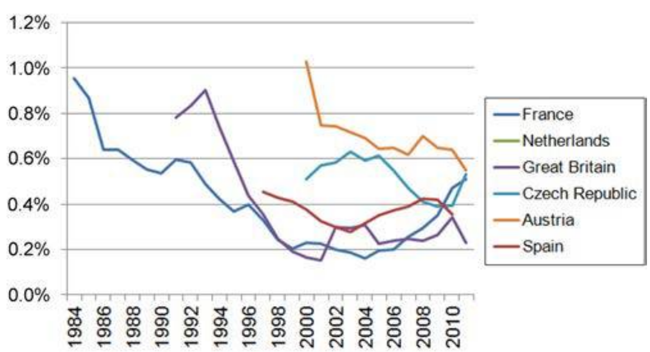
Production subsidies, which have dominated housing policy of most countries in the post-war period, were heavily reduced and/or superseded by other instruments in the 1980s and 1990s. The Netherlands greatly reformed their housing subsidy regime in the mid-1990s. Bricks-and-mortar subsidies were abolished almost completely, and the subsidy system today mainly consists of housing benefits for renters, interest tax relief for owners and state guarantees for housing loans. Since 2000, some of the other countries have returned to supply-side subsidy programmes, often for refurbishment measures or new social housing construction. In 2010/2011, country-to-country differences in supply-side expenses were much lower than in the case of demand-side housing subsidies; they ranged from 0.2 per cent of GDP in Great Britain to 0.6 per cent of GDP in Austria.

In Austria, bricks-and-mortar subsidies are allocated to all tenures, but Limited-Profit Housing Associations predominate as recipients (Mundt and Amann, 2010). Between 2000 and 2011, however, state support for housing production fell from about 1 to 0.6 per cent of GDP (Figure 2).

In the Czech Republic, production grants reached a level of 0.5 per cent of GDP in 2011. This relatively high value was, however, due to temporarily high spending under the "Green Savings Programme". In the past, supply-side subsidies related primarily to a savings premium by the Ministry of Finance. This premium reached a peak in 2005 but has been cut considerably recently.

In France, the effective gross costs of bricks-and-mortar subsidies amounted to €10.3 billion or 0.5 per cent of GDP in 2011. The *compte de logement* lists 10 different types of grants and low-interest state loans for private and social housing producers (new build and renovation), as well as 15 different measures to support mortgage interest (SMI). SMI amounted to €6.8 billion, whereas €3.5 billion were allocated to off-market loans and grants. This was considerably more than in the years preceding the financial crisis. The share of production subsidies in GDP has been declining for two decades and had reached a level of less than 0.2 per cent in 2004. Since then, spending on production subsidies has almost tripled again, while housing benefits have only increased by 30 per cent. Production subsidies in France are allocated not only to the social housing sector but also to the private rental segment and to private home owners.

Recent developments in Great Britain show parallels with France. In the 1990s, production subsidies were massively reduced, whereas the past decade showed a rising trend. In the budget year 2009/2010 production subsidies were boosted by various programmes the government initiated in response to the post-crisis credit crunch. Expenditures amounted to €5.8 billion, the highest level in nominal terms since 1994. In 2010/2011, however, production subsidies were again cut to €4.2 billion or 0.2 per cent of GDP. Production subsidies in Great Britain consist mainly of grants to social housing associations, as well as support for mortgage interest (ISMI/SMI) to homeowners and the low-cost home ownership grant. Housing association grants amounted to €3.0 billion in 2010/2011, whereas production subsidies for homeowners were lower, €1.4 billion in 2010/2011.



Source: Table I

Figure 2.
Supply-side subsidies in per cent of GDP

In relation to GDP, Spain spent roughly similar amounts for bricks-and-mortar subsidies in 2010 as the Czech Republic or France. Production subsidies are mainly allocated to the construction of *vivienda de protección oficial* (VPO) dwellings that are sold at low prices to needy households. The peculiarity of the Spanish social housing system stems from the fact that VPO dwellings eventually become private property after some years and can then be sold on the free market (Hoekstra *et al.*, 2009). The significant fluctuations of the subsidies have been criticized in the past: comparatively little funding for VPO dwellings was used in the boom period up to 2007, although problems of affordability were already starting to show clearly (Pareja-Eastaway and Sánchez Martínez, 2012; Gibb *et al.*, 2013, p. 34).

5. Tax advantages and concessions

The main forms of tax relief for the housing sector in the six analysed countries are the deduction of mortgage (interest) payments, operating costs and housing investment from income taxes, reduced VAT rates for some goods or services in housing construction and refurbishment and tax exemptions on imputed rents and capital gains.

The combination of various tax advantages makes an assessment of the overall impact of the tax system on housing investment quite complex. Tax measures may have impacts on the volatility of housing markets, on distributional outcomes and on the neutrality in decision-making. Neutrality in a wider sense includes tenure neutrality, asset portfolio neutrality and neutrality between investment in new and existing housing. It depends on what we have in mind when considering the characteristic of a particular tax measure. For example, following an investment good view of housing, if there was imputed rent taxation (and capital gains taxation) for home ownership in income tax, the full deduction of mortgage interest would not be considered a subsidy (Oxley and Haffner, 2010). On the other hand, if we consider tax neutrality between owner-occupied housing and financial assets, differences in capital gains taxation will distort relative prices (Nakajima, 2010; Table III).

Exploring tax subsidies to the housing sector is thus a very difficult task. This is mainly due to different tax regulations and tax rates (European Commission, 2013; see Table III). To make tax subsidies comparable between the countries, we decided to focus on the investment good characteristics of housing and to primarily concentrate on the different aspects of neutrality (Oxley and Haffner, 2010). Strikingly, all countries included in the analysis do not follow the strict investment good approach of housing taxation because they do not tax imputed rents and there are generous exemptions from capital gains taxation for principal residences. At the same time, most of the countries allow some form of income tax deduction of costs made in the process of housing investment. The Netherlands is the only country that follows an investment good approach. This approach is rather incomplete, however, as imputed rents are taxed far below market values, and there is no capital gains taxation for owner-occupiers at all. The rather low tax on imputed rents is the reason why we consider the generous mortgage interest deduction in The Netherlands as a subsidy.

A second major problem is the data. There is no comprehensive documentation of the various forms of tax subsidies to the housing sector. In the literature, these indirect subsidies are often neglected or only partly considered. Wherever feasible, we have included the components estimated by the national experts in the context of their respective national taxation schemes. We have also tried to fill in some of the missing

Country	Taxes on imputed rents	Deduction of interest payments and other costs	Capital gains taxes
Austria	No	Yes (but strongly limited)	Yes (exemptions for principle residences; 2 years)
The Czech Republic	No	Yes (fairly generous)	Yes (exemptions for principle residences; 5 years)
France	No	Yes (tax credit for the first 5 years)	Yes (exemptions for principle residences; 2 years)
Great Britain	No	No	Yes (exemption for principal residences)
The Netherlands	Yes (in most cases, 0.55% of market values)	Yes (full; but since 2013 not for interest-only mortgages)	No
Spain	No	Yes (tax credit with limits)	Yes (after 10 years holding period or in case of reinvestment within 3 years)

Source: Table I

Table III.
Taxation of residential real estate 2011

components by our own estimations (see Table I for detail), but some gaps remain (Table IV).

The French *Compte de Logement* contains a very detailed list of tax incentives for the residential sector. For the year 2011, it lists 16 different tax breaks for consumers and producers. Yet, even here important information is missing. There is no data on the loss of tax revenue due to the exemption of Livret A and LDD (*Livret de Développement Durable*) savings accounts from capital gains tax, or on the tax breaks for the savings product *épargne-logement*. The state-regulated Livret A savings accounts play a significant role in refinancing loans to social housing providers. According to our own calculations these measures together accounted for an extra €1.2 billion in 2011.

Particular problems arise from the tax exemption of imputed rents and the assessment of capital gains tax relief for homeowners. The indirect advantage of tax exemption of imputed rents to homeowners is likely to be immense. According to Pawson and Wilcox (2013), homeowners alone have benefited from tax relief due to tax-free imputed rents to the order of €15 billion in Great Britain in 2010/2011, even after controlling for a hypothetical mortgage interest deduction, which was abolished in 2000. Our own rough estimates of revenues foregone due to non-taxation of imputed rents (for homeowners and social tenants) point to current values in the range of 1.2 per cent of GDP in Austria and Spain, to 1.8 per cent of GDP in Great Britain. These figures are calculated using data from Eurostat on imputed rents (COICOP), as well as data from the ECB on outstanding mortgages, and data from the European Mortgage federation on typical interest rates for new housing loans. Furthermore, an average income tax rate of 25 per cent has been assumed

Tax relief	Austria Million €	% of GDP	Czech Republic Million €	% of GDP	France Million €	% of GDP
Total (Documented) tax relief	550	0.19	280	0.19	19.300	0.96
VAT	80	0.03	100	0.07	8.200	0.41
Income/corporation tax	260	0.09	180	0.12	7.400	0.37
Property tax	n.a.	–	n.a.	–	1.000	0.05
Capital gains taxes–sales	n.a.	–	n.a.	–	n.a.	
Capital gains taxes–savings plans	210	0.07	n.a.	–	1.200[a]	0.06
Transfer taxes	0	0.00	n.a.	–	1.500	0.07
Others	0	0.00	n.a.	–	0	
Tax relief	**The Netherlands Million €**	**% of GDP**	**Spain (2010) Million €**	**% of GDP**	**Great Britain Million €**	**% of GDP**
Total (documented) tax relief	20.100	3.30	7.100	0.68	6.900	0.40
VAT	n.a	–	1.300	0.12	n.a	–
Income/corporation Tax	12.000	2.00	4.800	0.44	n.a	–
Property tax	n.a	–	n.a	–	n.a	–
Capital gains taxes–sales	7.400	1.20	1.000	0.09	6.900	0.40
Capital gains taxes–savings plans	700[a]	0.10	n.a	–	n.a	–
Transfer taxes	0	0.00	n.a	–	0	0.00
Others	0	0.00	300	0.03	0	0.00

Notes: Components marked with [a] are not documented as time series and are therefore not included in our figures; n.a. = advantage exists, but not documented; total tax relief does not include tax relief in the field of imputed rents
Source: Table I

Table IV. Overview tax advantages and concessions (foregone revenues) 2011

(Wieser *et al.*, 2013). However, due to the rather crude estimation method, we have not incorporated these estimates in the presented tables and figures.

Also, it is common within most tax systems that principal residences are exempt from capital gains taxation, at least after a certain holding period (Table III). Only The Netherlands refrain from taxation of capital gains, regardless of the legal tenure (primary residence or not) and of the holding period. We have collected estimates of capital gains tax benefits for principal residence owners from secondary sources in Great Britain, The Netherlands and Spain (Table I).

Nevertheless, the total volumes of tax subsidies in Table IV are not comprehensive. We have no data on the value of tax exemption under the capital gains tax in France, Austria and the Czech Republic, and there are no data on tax revenue lost due to lower VAT rates in Great Britain and The Netherlands. In addition, calculations on some of these components are likely to vary from country to country. Overall, therefore, the total amount of tax measures in Table IV ought to be interpreted as the lower bound of the total volume of tax subsidies to the housing sector in all six countries.

Particularly interesting is the long-term development of tax subsidies. In The Netherlands, the foregone tax revenues associated with the deductible payments on mortgage debt rose from €5.1 to €12.0 billion between 1995 and 2011. At the same time, the total revenue from the tax on imputed rents remained fairly constant at between €2.0 and €2.8 billion (Van Ewijk, 2007; Vandevyere and Zenthöfer, 2012). In relation to GDP, revenue loss from mortgage interest deduction climaxed in 2004/2005 and slightly levelled off thereafter. Recent measures to curb these costs will take time, as the costs incurred are based on the stock of housing loans and not only on new lending.

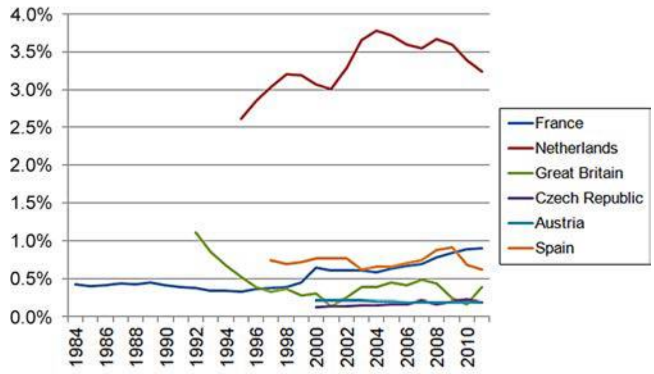
Also, in France, we can see an increase in tax subsidies since the late 1990s. Since then, the volume has more than doubled from 0.4 to 0.9 per cent of GDP. This is primarily attributable to reduced VAT rates for investment in housing improvements. Furthermore in Great Britain, since the abolishment of the interest deduction from income tax for home owners in 2001, visible tax concessions were dramatically reduced. On the other hand, tax concessions through non-taxation of imputed rents and non-taxation of capital gains is of considerable importance in Great Britain, as are VAT exemptions for new construction and VAT reductions for repairs and renovation. However, data on imputed rent tax relief and VAT exemptions in Great Britain are not included in the following figures due to a lack of comparable data.

In Spain, mortgage deductions were particularly generous in the past, especially for owner-occupied housing from 1985 to 1998. After that, fiscal advantages were slowly reduced, but as the volume of housing transactions increased considerably, overall indirect costs have remained high. With the downturn following the GFC, the Spanish government first tried to revive the market by providing additional tax advantages (see Section 7). As of 2011, indirect subsidies were heavily curtailed and the deductibility of mortgage interest abolished altogether.

Tax advantages to the housing sector had less importance in Austria or the Czech Republic. In the 1990s, the first steps were taken to reduce them in Austria, a trend that has continued until today. In the Czech Republic, deductibility of mortgage interest played a role, as did the application of reduced VAT rates for new housing and housing-related services. As the transaction volume declined with the GFC, and VAT rates were increased bit by bit, these subsidies have become much smaller (Figure 3).

6. Approaching an estimate of total effective state support for housing

Overall, the effective lower bound of total state support for housing in 2011 (not including the non-taxation of imputed rents) varied between 0.8 per cent in the Czech Republic and 3.6 per cent in The Netherlands (Table II, p. 5). The focus of the funding was mostly on the expenditure side, tax advantages only outweigh the others in Spain and The Netherlands (Figure 5). If we add foregone tax revenues due to tax-free imputed rents, total housing subsidies would very likely account for more



Notes: Only those components are included that were available in time lines or where we could provide our own estimates. Therefore, the sums do not hold the same categories for each country (Table IV) and should be considered a lower bound of total overall tax relief. Total tax relief does not include tax relief in the field of imputed rents

Source: Table I

Figure 3. Lower bound of tax advantages and concessions in per cent of GDP

than 3 per cent in France and Great Britain. The relative difference to The Netherlands would become a bit smaller (because there is some taxation of imputed rents there), but total state support in The Netherlands is probably still around 4 per cent of GDP. In the other three countries, considering non-taxation of imputed rents, total state support is around 2 per cent. These numbers make up more than 50 per cent of the total gross capital formation in the residential sector in some of the countries (Figures 4 and 5).

7. Recent and current reforms

All housing subsidy systems have been and still are under pressure due to rising government liabilities following the GFC. France and, to some extent, Austria have tried to maintain a higher level of direct supply-side support for house building to counteract the severe effects of the crisis on the labour markets. Others, like Great Britain and The Netherlands have witnessed strong increases in housing benefit spending due to weak labour markets, high house prices and shrinking or depressed household incomes. It is important to note that there are major differences in the mechanics of subsidy instruments during the business cycle (Wieser, 2011). For example, it may well be that capital gains tax relief operates in a pro-cyclical manner and contributes to a higher volatility of house prices and/or investment (for a counter-argument see Oxley and Haffner, 2010).

The years 2009-2011, in the immediate aftermath of the outbreak of the GFC in 2008, are part of the previous analysis. In 2009, total state support increased as most of the analysed countries tried to revive the housing market or at least mitigate the effects of the crisis. However, with the ongoing crisis and tighter public budgets, several measures were implemented that indicate a negative trend of state support to the housing market in various countries. A closer look at the most recent national measures reveals strong variation.

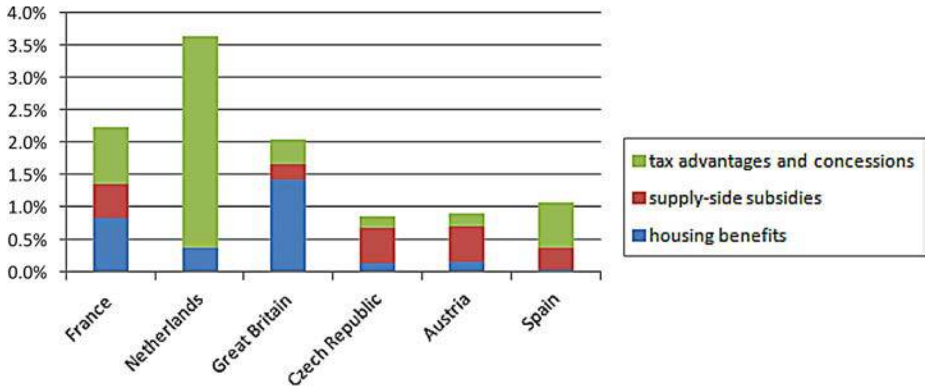


Figure 4.
Composition of total state support for housing 2011 (2010 for Spain)

Source: Table I

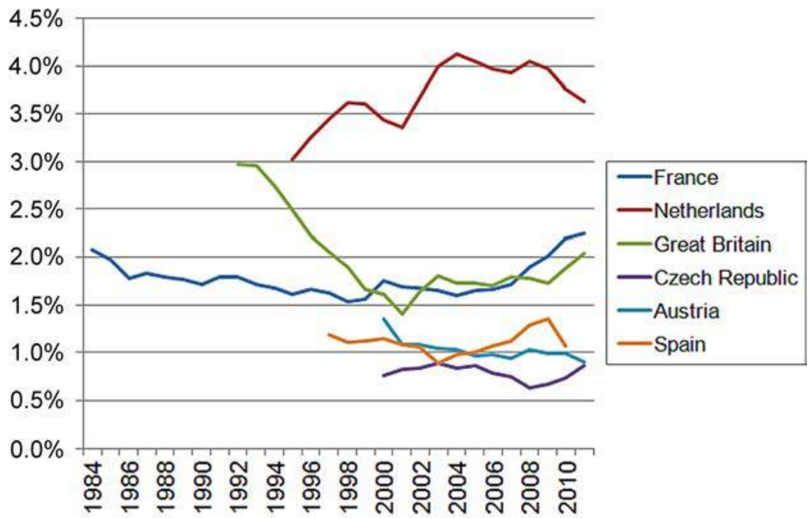


Figure 5.
Total effective state support for housing in per cent of GDP

Note: Total effective state support for housing does not include tax relief in the field of imputed rents (Table IV)
Source: Table I

In Austria, federal state support to the housing sector is shrinking, whereas the majority of the provinces are trying to maintain their level of housing subsidies, at least in nominal terms. For almost 20 years now, the real value of production subsidies allocated by the central government to the provinces has been declining because of a nominal fixation in 1996. Recently, indirect subsidies were cut due to the elimination of tax deductibility of housing bond purchases and a reduction of the state premium for housing savings plans. The trend of reducing indirect tax subsidies started back in the early 1990s (Czasny and Moser, 2000). Two other pertinent tax measures are the tax concessions for non-profit housing associations and VAT concessions for various types of condominiums. The observed massive spending increase in housing benefits up to 2010 ended and, in fact, showed a slight decline in 2011, due to a more restrictive allocation and the coverage of rental expenses within a new scheme of social assistance. Including these payments, demand-side housing expenses have remained more or less stable since 2010.

In the Czech Republic, housing policy measures since the beginning of the political transformation have so far focused primarily on the ownership segment (Lux, 2013). In 2008, approximately 78 per cent of expenditure was attributed to this segment (Hegedüs *et al.*, 2011). The government's new housing policy strategy 2020 places a higher priority on the promotion of the rental housing sector, but this is not reflected in budget proposals. Recent austerity measures also affected the subsidy activities of ministries and municipalities. Both direct and indirect subsidies were scaled back in recent years. The "Green Savings Programme", funded by proceeds from the sale of CO_2 certificates, promotes the switch to energy-saving technology in the use and construction of dwellings. The programme has been running since 2009 as a deliberate economic stimulus. Government expenses were particularly high in 2011 (ca. €330 million), and accounted for one-third of all direct housing subsidies. This, however, will not be a sustainable amount, and state support for housing will very likely decrease in the future. Indirect state support by applying reduced VAT rates for housing purchases was considerable in the past. By increasing the VAT rates, over the years, this advantage diminished and a general standardization of VAT rates planned for the future will see an end to this type of subsidy in the construction sector altogether.

The French housing sector has profited from two ambitious fiscal stimulus programmes implemented in the years 2009 and 2010. These programmes brought not only additional funding for social housing but also increased tax incentives for investment in the private rental sector and subsidies for the construction or purchase of homes by low-income households. The effective state expenditure has increased significantly. In the 2012 budget, however, the promotion of private residential investment and low-income ownership was considerably reduced. For the 0 per cent loans to finance ownership (PTZ and PTZ+), income ceilings were re-introduced and subsidies limited to new construction. Both measures will lead to substantial savings. Government spending on the PTZ+ is estimated to have declined from €2.6 billion in 2011 to only €800 million in 2012 (Vorms, 2012). Another reform announced by the French Government relates to changes in the tax system. Since February 2012, profits from sales of secondary residences have been subject to a higher capital gains tax. For 2014, it is planned to reduce VAT on construction in the social housing sector from the current 7 to 5 per cent. Social housing associations are expected to build 150,000 homes per year in return.

In The Netherlands, several steps were taken to counteract the consequences of the GFC. First, a one-off agenda amounting to €400 million was launched in 2009, which was awarded in three instalments to local and provincial governments. In the same year, the house price upper limit to qualify for loans to owners with government guarantees was increased from €265,000 to €350,000. Provisions were made for the limit to gradually return to €265,000. In 2010, the government reduced the VAT for renovations from 19 to 6 per cent, and it announced a new tax on landlords and a reduction in mortgage interest tax relief. In 2011, the transfer tax was reduced from 6 to 2 per cent and maximum loan to value ratios on new loans were decreased from 120 to 104 per cent. Since 2013, interest on interest-only mortgages is no longer deductible from income tax. The introduction of the new landlord levy will have an important impact on the social sector (Priemus, 2014). As of 2018, it is expected to raise €2 billion in additional tax revenues, and this will primarily affect rental housing construction by the social housing associations. Estimates suggest that the levy corresponds to a rent increase amounting to two-month average rent (van der Veer and Schuiling, 2013). Scanlon and Elsinga (2013) list some additional, mostly temporary and quantitatively less important measures.

In 2009, the Spanish Government tried to prevent the collapse of the housing market by widening tax concessions for reinvested profits from housing sales and for providers of rental housing. The indirect subsidies rose to €9.5 billion or 0.9 per cent of GDP. Together with the direct housing subsidies, around 1.4 per cent of GDP were spent to support the housing sector. Nonetheless, the impact of these measures on the dynamics of the housing market was very low. The massive economic crisis and the pressure on public budgets have since led to a massive cut in housing subsidies. Tax breaks, in particular, were abolished or limited. On the insistence of the EU Commission, the VAT on newly built homes, which was reduced to 4 per cent in 2012, had to be raised again to 10 per cent. In combination with the elimination of the mortgage interest tax relief and the tax deductions for part of the purchase price, this has led to an average estimated increase in the cost of housing purchases by 20 per cent by the beginning of 2013. While the volume of transactions and the price level are declining, house-prices are still considered overvalued in relation to rents and income (The Economist, 2014).

In Great Britain, the main supply-side policy to stimulate the housing market was the Homes and Communities Agency's "Kickstart" programme, which directed funds (about £1 billion) from the social housing budget to developers to support stalled housing projects. The programme was announced in April 2009 and ended in March 2012. In March 2010, the government introduced a temporary two-year reduction in Stamp Duty Land Tax for first-time buyers. The change of government in 2010 had and still has important consequences for the housing subsidy system. The former National Affordable Housing Programme (NAHP) in England made way for the new Affordable Homes Programme 2011-2015 (AHP). Under AHP, the average state subsidy per apartment should be less than £20,000 compared to £51,000 in the NAHP. In the realm of council housing, the reciprocal transfer system between the central government and the municipalities has now been terminated. The current government has also introduced new programmes to promote home ownership, none of which are means-tested. The NewBuy Guarantee scheme for mortgage loans taken out by buyers of new-build properties is directed more at the construction industry, as new properties represent only a small share of total UK house sales. The scheme was introduced in March 2012 and is jointly funded by government and house builders. Under the title "Help to Buy", there are currently four different schemes at work (GOV.UK, 2013), two of which (Help to Buy – equity loans, and Help to Buy – mortgage guarantee) are also available for mortgages on existing homes. The price ceiling for both schemes (£600,000) is very high and covers the vast majority of housing transactions in the UK (Scanlon and Elsinga, 2013). Both schemes have been strongly criticised (National Housing Federation, 2013). The critics assume massive windfall profits, a contribution to a new housing bubble and an extension of the boom–bust cycle and reduced affordability for lower-income households, as well as moral hazard problems through credit guarantees.

8. Conclusions

Up to now, inter-country comparisons of housing subsidies did not account for all direct and indirect measures that accrue to national housing markets. Most often, this is the case for tax measures, in particular, non-taxation of imputed rents, reduced VAT rates, capital gains tax exemptions and the deductibility of mortgage expenses. Taking these measures into account, housing policy expenses are much higher than usually assumed, especially in large home ownership countries and countries where the social housing sectors are larger.

We find the lower bound of total effective state support for housing in 2010/2011 (disregarding, in particular, the non-taxation of imputed rents) to range between 0.8 per cent of GDP in the Czech Republic and 0.9 per cent in Austria, up to 2.3 per cent in France and 3.6 per cent in The Netherlands. Taking the non-taxation of imputed rents into account, total state support for housing ranges between about 2 per cent and above 3 per cent of GDP and is much higher than usually assumed. Overall total direct and indirect subsidies are around 50 per cent of housing investment in some of the comparison countries.

When looking at the developments since the 1990s, contrary to the widely held belief, there was no universal reduction of effective support for housing. The investigation instead reveals quite different trajectories in the six countries. In the immediate aftermath of the GFC in 2007 and 2008, effective support for housing rose in many countries as states tried to revive their housing markets by stimulus packages or extra tax advantages. This was most visible in Spain, Great Britain and France. Only starting around 2011, when it became obvious that additional housing policy expenses had very diverse and sometimes questionable effects on housing production and could not be continued due to demands of austerity, most comparison countries reduced their effective support, especially indirect subsidies. In 2014, this is still an ongoing process.

All in all, considering the high share of effective state support for housing in total residential investment, it is worth asking, why comparative housing market research almost completely refrains from incorporating all of the information on the magnitude and structure of state support to the sector. In our view, more detailed information on (and quantification of) the structure and development of the often complex housing subsidy and taxation systems in European countries could not only contribute to better specifications of empirical models of national housing markets but also give a better understanding of the different mechanics of housing market cycles in a comparative context. The collection and documentation of related data remains a valuable and rewarding enterprise. It should be strongly encouraged to help policymakers take informed decisions on housing policy in the future.

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