Taxing owner-occupied housing: comparing the Netherlands to other European Union countries

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TAXING OWNER-OCCUPIED HOUSING: COMPARING THE NETHERLANDS TO OTHER EUROPEAN UNION COUNTRIES

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ABSTRACT

This paper compares owner-occupied housing tax regimes in the Netherlands and the other countries in the EU-15. The Netherlands appears to stand apart in two respects. First, in Luxembourg and the Netherlands owner-occupiers have to include an imputed rental income in their taxable income. Second, in the Netherlands, the tax-deductibility of mortgage interest payments is almost unrestricted.

The tax regime of owner-occupied homes increasingly erodes the personal income tax base in the Netherlands, so that higher tax rates are needed to collect a given amount of revenue. However, elimination or reduction of the mortgage interest deduction can only be realized gradually.

Due to a lack of data both within the various tax regimes and across time periods, a comprehensive multivariate time-series comparison among the various tax regimes in the EU-15 is not possible. Thus, the statistical analysis is limited to bivariate comparisons.

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1. INTRODUCTION

In Europe, approximately two thirds of the households own the dwellings that they occupy. In the Netherlands the home ownership rate of 54% lags the European average (VROM-raad, 2004, p. 11). However, the Netherlands is gradually closing the gap as the lion's share of new estate construction consists of owner-occupied houses. In 2002, this share was over 78 percent (CBS, 2005, p. 78). As a result, the share of owner-occupied dwellings has increased from 39 percent in 1977 (CBS, 1982, p. 71) to 54 percent in 2002. This is consistent with Dutch housing policy as evidenced by a statement made by the Dutch housing secretary that "… given the housing preferences, the share of [home owners] has to increase considerably" (Parliamentary Papers, 2000, p. 22).

The goal of enhancing private home ownership through public policy has been pursued for decades. The government can deploy a number of policy instruments to enhance home ownership. In the past, subsidies for homebuyers were one of these instruments. These homebuyer subsidies were aimed at offering people in the lowest income brackets a choice of renting a home with a rental subsidy or buying a house with a purchase subsidy. However, the Dutch government has discontinued this policy. The most important policy instrument now seems to be the mortgage interest deduction. This in turn is one of the most sensitive issues in modern Dutch politics. There is no theme that politicians deal with as prudently as the deductibility of home-mortgage interest.

Successive Dutch cabinets have taken the view that the mortgage interest deduction does not constitute a tax expenditure. Tax expenditures can be described as "a loss of governmental tax revenue attributable to some provision of tax law that allows a special exclusion, exemption, or deduction from gross income or that provides a special credit, preferential tax rate, or deferral of tax liability" (U.S. House of Representatives, 2005). So far, all Dutch cabinets have regarded the deductibility of mortgage interest as an element of the regular tax structure rather than a special deduction. As a result, the mortgage interest deduction has never been included in the list of tax expenditures that the government has published on an annual basis from 1999.

To a certain extent this is a logical approach. If a taxpayer's own dwelling is considered a source of income, the income derived from this source should be taxed, whereas the cost associated with this income should be tax-deductible. This has been the position of the Dutch government – irrespective of the coalition's political color. In the Dutch system this would imply that an owner-occupied house should be taxed similar to other assets (in Box 3).[1] Currently, however, it is taxed together with labor income at a progressive rate (in Box 1). For the vast majority of taxpayers the current taxation results in a negative income from owner-occupied houses because the deduction of mortgage interest outweighs the imputed rental income (0.6 percent of the value). Taxation in Box 3 would subject owner-occupied homes to the presumptive capital income tax at a fixed rate of 30 percent that is applied to the 4 percent presumptive return on personally held assets. Effectively, this implies a net wealth tax at a rate of 1.2 percent (30 percent of 4 percent). If cars were to be treated in the same way, an income derived from a taxpayer's own car would be taxed, while it could be beneficial to finance the car with a loan as the interest payments would be tax-deductible.

The fact that income derived from cars is not taxed stresses the arbitrary character of the underlying view.

[1] A concise overview of the box system in the Netherlands is presented in Box 1 ("Dutch Treat: The analytical box system").

BOX 1

Dutch Treat: The analytical box system

The Dutch income tax system distinguishes three types of taxable income that have been classified into three so-called boxes. Each box is for certain categories of income and has its own tax-rates.

Box 1 includes income from employment and home ownership. The main income categories in this box are wages, pension payments, social benefits, notional income from a company car, profits from (unincorporated) business activities, and notional income from owner-occupied housing. The total income from these sources is taxed at progressive rates including social security contributions (in 2006: 33.65%, 41.4%, 42%, and 52%).

Box 2 is for income from shares and profit-sharing certificates that are part of a substantial business interest. This income category is taxed at a (flat) rate of 25% (in 2006).

Box 3 includes income from savings and investments. The (flat) rate is 30% (in 2006) and applies to a notional fixed yield of 4% of the average total net value over the year.

This arbitrariness implies that an alternative approach would also be possible. An alternative view could consider an owner-occupied home as part of a taxpayer's personal wealth. As a result, the home would be treated in a fashion similar to other assets and taxed as part of the taxpayer's personal wealth. Therefore, the net income derived from an owner-occupied dwelling could no longer be negative. Indeed, the OECD has proposed to change the homeowner tax system by gradually beginning to treat owner-occupied homes in a manner similar to other assets (OECD, 2004, p. 56). Although the European Commission does not go quite that far, the Commission has criticized the nearly unlimited deductibility of mortgage interest payments in the Netherlands. The Commission considers in the reversal of tax-deductible mortgage interest payments a "promising avenue to explore”. This could mean an upper limit on the amount of interest that is tax-deductible or even the abolition of tax-deductible mortgage interest payments (European Commission, 2005, p. 94).

In addition, the IMF has suggested three possible policy options for phasing out mortgage interest deductibility in the Netherlands:
1. an immediate and complete removal of tax deductibility;
2. the introduction of a nominal limit on the size of the mortgage loan that qualifies for a tax deduction;
3. a reduction of the deductible rate.

In fact, the IMF considers policy option 2 – a limit on the tax-deductible amount – to be the most attractive (IMF, 2006).

These proposals are understandable given the budgetary consequences of the tax regime with regard to owner-occupied homes. There are two key aspects to this plan that have critical consequences: 1) whether or not an imputed income from owner-occupied housing is taxed; and 2) whether mortgage interest payments are tax-deductible. In the Netherlands, the deductibility of mortgage interest payments outweighs the taxation of an imputed rental income from the budgetary perspective. The imputed rent from owner-occupied housing broadened the income tax base by €4.6 billion in 2005, whereas the tax-deductibility of mortgage interest payments narrowed the tax base by €22.5 billion (Parliamentary Papers, 2004, p. 41). Therefore, on balance, the owner-occupied housing tax regime reduced the income tax base by €17.9 billion.

In the remainder of this paper we first investigate how a taxpayer’s principal home is fiscally treated in the 15 countries that were member states of the European Union prior to May 1, 2004. We will refer to these “old” member states as the EU-15 in the rest of this paper. The degree to which the Netherlands stands apart with regard to the owner occupied housing tax regime warrants special attention. Next, we deal with the housing market's special character and its consequences for pricing. This section also will present a theoretical analysis of the effects of eliminating the tax-deductibility of mortgage payments. A cross-national comparison of the different tax regimes will allow us to determine the degree to which the practices in the various EU countries are consistent with the theoretically expected effects we develop. Finally, we will present a summary and some concluding remarks.

2. OWNER-OCCUPIED HOUSING TAXES IN THE EU-15

Taxation of owner-occupied housing affects the cost of housing. Assuming that an owner-occupied dwelling is fully mortgaged, the following key points are relevant to the cost of capital for owner-occupiers (van den Noord, 2003, p. 6):

1. whether the mortgage interest payments are tax-deductible (or, alternatively, whether redemptions are tax-deductible) and if so, whether there are restrictions as to the period and the amount;[2]
2. whether tax credits exist;
3. whether an imputed income from owner-occupied dwellings is taxed.

We have adapted data on the tax regime regarding owner-occupied homes in the EU-15 from the International Bureau of Fiscal Documentation (IBFD, 2005). On the basis of these data (summarized in Table 1) the tax regimes can be categorized as follows:

1. *No tax breaks*

There are no tax breaks for owner-occupied housing in Germany, France, the UK and Sweden. Therefore, the

[2] Premiums for life insurance tied to a mortgage loan, for example, are not considered here although they are tax-deductible in some countries.

net (after tax) mortgage interest rate is equal to the gross (or market) interest rate. Mortgage interest payments were fully deductible in the UK until 1974. However, the tax-deductibility was gradually abolished afterwards. In 1974, the UK set a ceiling on the size of mortgages eligible for interest deductibility. At the time of introduction, this ceiling affected few households. However, the ceiling was not indexed to inflation and it progressively became more binding as nominal house prices rose. In addition, in 1993, the tax rate at which the interest on debt held below the ceiling could be deducted was capped below the top income-tax rate. This rate was successively reduced such that by 1999 tax deductibility was eliminated altogether (Hendershott, Pryce and White, 2003).

2. *Tax credit without time limit*

This is the most common tax regime across the EU. Belgium, Greece, Ireland, Italy, Portugal and Spain fall into this category, but the details differ across the countries. In Belgium, part of the redemption of capital on a mortgage loan entitles the taxpayer to a tax credit (up to a maximum of €1,830) at the highest marginal rate. In Greece, most of the deductions from the taxpayer's aggregate income have been replaced with tax credits from 2003. However, interest payments on mortgage loans taken by December 31, 2002 remain deductible. The credit is equal to 15 percent of the annual mortgage interest on a taxpayer's home and can only be claimed as part of the loan financing not exceeding €200,000. Exceptions apply for taxpayers owning a house that exceeds a certain size. In Ireland, the credit is restricted to €5,080 for married or widowed taxpayers or €2,540 for single taxpayers. In the first seven years of entitlement, the limitations are increased to €8,000 and €4,000, respectively, for first-time buyers only. In Italy, the tax credit amounts to 19 percent of the interest payments on mortgage loans for owner-occupied homes, up to a maximum of €687. In Portugal, the tax credit is equal to 30 percent of mortgage interest and amortization up to a limit of €539. In addition, a taxpayer may credit 25 percent of the amount deposited annually on a savings account earmarked for the purchase, construction or restoration of his primary residence (up to €576). In Spain, the tax credit amounts to 15 percent of the cost incurred for the acquisition or renovation of the taxpayer's primary residence up to €9,015 (i.e., a maximum of €1,352). If the acquisition or renovation was financed with a loan, the credit is 25 percent of the amount paid annually (as principal and interest) up to €4,507 in the first two years (thereafter 20 percent) and 15 percent of the next €4,507 (in any year). Alternatively, a credit equal to 15 percent of the amount deposited on a special bank account (up to €9,015) with the purpose of acquiring the primary residence is granted.

3. *Deductible up to a ceiling, but no time limit*
This applies to Finland and Austria. In Austria, interest payments are deductible up to €730 for singles or €1,460 for couples and single parents (plus €364 if the taxpayer has at least three children). The reduction is reduced proportionally to zero between an annual income of €36,400 and €50,900. In Finland, mortgage interest payments are, in principle, only deductible from capital income. Losses of the category "income from capital" are deductible from capital income during the following 10 years. Therefore, Finland would fall in category 4 below. The reason why we have included Finland in category 3 is that losses of the category income from capital, which is generally caused by deductible interest expenses, may also be deducted indirectly from earned income (an amount equal to 28 percent of the loss is credited against taxes payable on earned income). The creditable amount is increased by two percentage points for the part of the losses related to interest paid for the taxpayer's first dwelling. The deduction is limited to €1,400 per taxpayer (plus €400 for one child and €800 for two children).

4. *Deductible from a certain income category*
Denmark and Luxembourg fall into this category. In Denmark, mortgage interest payments are only deductible from capital income. In Luxembourg, mortgage interest payments are only deductible from an imputed rental income from the taxpayer's home, up to a limit depending on how long the taxpayer has occupied the dwelling and on the household composition. The maximum deduction varies between €750 and €1,500, increased by the same amount for the spouse and for each child belonging to the taxpayer's household.

5. *Almost fully deductible*
This only applies to the Netherlands. Mortgage interest was deductible without any restriction until 2001, but the past few years some minor limits were introduced. In 2001, the deductibility's duration was limited to a maximum of 30 years in particular because mortgages without redemptions and no final date were deemed undesirable. However, this was the fastest growing category.[3] Another limitation - introduced in 2004 - applies if a surplus value is realized at sale. The seller is supposed to use the surplus value to finance the new house. As a result, deductibility of interest payments on the new loan is limited to the price paid for the new house minus the surplus value realized on the old home. Note that this does not imply any limitation for first-time buyers. A taxpayer who owns a dwelling must include an imputed rent in his taxable income. The imputed rental income is calculated as a percentage (up to 0.6 percent) of the value. The maximum imputed rent is €8,750.

Large differences in the owner-occupied housing tax regimes exist across the EU-15's member states.[4]

[3] In 1994, only 3 percent of the mortgages were without redemptions against 26 percent in 2002 (Ministry of VROM, 2004, p. 43.

[4] We only consider the deductibility of mortgage interest payments and the taxation of an imputed income from the taxpayer's own

The Netherlands appears to be an exception in that mortgage interest payments are almost fully deductible. In the other EU-15 member states, mortgage interest is not deductible at all or deductible up to a maximum that varies from a few hundred to a few thousand euros. Dutch taxpayers must include an imputed rental income from their own homes in their taxable incomes, which is quite rare in the EU-15. Luxembourg is the only other country where this exists. In both countries the imputed rent is relatively low. The imputed rent of 0.6 percent of the home's value in the Netherlands is meant to be a net income (gross income minus cost). At first sight, the imputed rental income seems higher in Luxembourg, where it is calculated at 4 percent of the unit value up to €3,800 and 6 percent of the excess. However, the unit value is based on the house's value on January 1, 1941 (even if the house was built later).

3. THE HOUSING MARKET

New housing development adds less than 2 percent to the existing housing stock. Supply is thus inelastic in the short run as it can hardly adjust to changes in demand for housing.[5] Flexibility is also very limited in the medium run. The decision-making process regarding zoning schemes is time consuming - particularly in the Netherlands - and developing new housing takes a lot of time. Under these circumstances supply hardly affects the price. Rather, demand determines housing prices. In

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dwelling. As a result, the picture is not complete because other allowances may also affect the financing cost of owner-occupied housing (see for some examples the end of the section entitled "Effects of differences in tax regime pertaining to owner-occupied housing".

[5] Most British studies suggest that the housing supply elasticity is less than one. Although American estimates are notably higher, Meen (2002, p. 21) suggests that the observed differences are in part an artifact of the methodologies. In the cases he has examined the similarities are more striking than the differences.

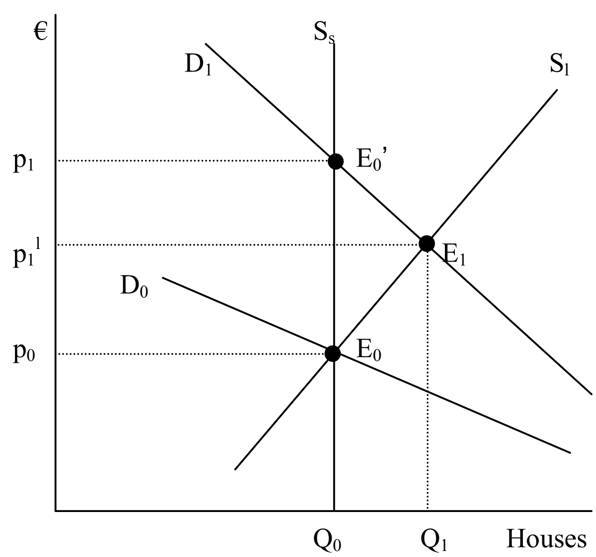
addition, external factors including owner-occupied housing tax policy affect the housing market.

The effects of introducing deductible mortgage interest can be analyzed with a simple graph. Figure 1 shows demand curve D_0, the long-run supply curve S_l and the short-run supply curve S_s. The short-run supply curve's vertical slope results from the hypothesis that supply is perfectly inelastic in the short run. In the initial situation – in which mortgage interest is not tax-deductible - equilibrium is at the intersection of D_0 and S_l. This is point E_0, where the price amounts to P_0 and the quantity to Q_0. As a result of the introduction of mortgage interest deductibility, the demand curve shifts from D_0 to D_1, which has a steeper slope than D_0. This shift is not parallel as we assume that the benefit of the tax-deductibility of mortgage interest increases by house price. This seems likely given that (1) the higher the income the higher the house price; and (2) the interest will be deducted at a higher marginal rate. It also seems likely given the empirical fact that the average mortgage loan in the Netherlands in 2002 steadily increased from €77,000 in the third decile to €161,000 in the tenth (highest) decile (Ministry of VROM, 2004, p. 42).

After the introduction of mortgage interest deductibility a new short-run equilibrium arises in the intersection of the new demand curve (D_1) and the short-run supply curve (S_s). That is in point E_0', where the price (P_1) exceeds the price in the initial situation, but the quantity has not changed (Q_0). The movement from E_0 to E_0' is along the short-run supply curve S_k as supply does not respond to price changes in the short run. In the long run, the new equilibrium arises in E_1, being the intersection of the new demand curve (D_1) and the long-run supply curve (S_l). Relative to the short-run equilibrium in E_0' the long-run equilibrium in E_1 is at a larger quantity (Q_1) and a lower price (P_l). The movement from E_0' to E_1 occurs along the new demand curve D_1.

In the new long-run equilibrium E_1 price changes resulting from a demand shock are larger than in the initial equilibrium. The reason is that they affect net income only partially as a result of the tax-deductibility of mortgage interest payments. The treasury absorbs the other part. The new demand curve's steeper slope is, thus, the graphical expression of the increased housing market's volatility relative to the initial situation.[6]

FIGURE 1
Effects of Introducing Mortgage Interest Deductibility

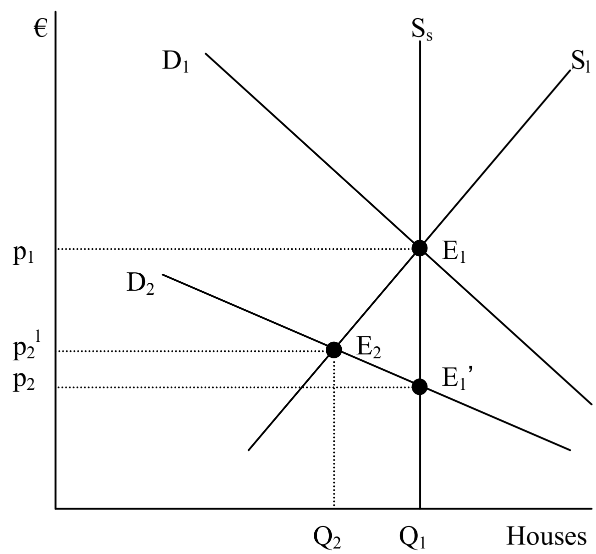


The effects of eliminating the mortgage interest deduction mirror those of introducing it. Figure 2 shows a situation in which mortgage interest payments are deductible. D_1 is de demand curve, S_l the long-run supply curve, and S_s the short-run supply curve. Equilibrium arises in the intersection of the demand curve (D_1) and the long-run supply curve S_l. This is in E_1, where the

[6] Van den Noord (2003) presents the same conclusion, while illustrating it with a model developed by Poterba (1984) and Poterba (1991).

price is P_1 and the quantity Q_1. As a result of the elimination of the mortgage interest deduction the demand curve shifts from D_1 to D_2 and the short-run equilibrium shifts from E_1 to E_1', where the new demand curve (D_2) and the short-run supply curve (S_s) intersect. The price decreases from P_1 to P_2 and the quantity remains unchanged at Q_1. This is a movement along the short-run supply curve S_s. The new long-run equilibrium arises in E_2, where the new demand curve (D_2) and the long-run supply curve (S_l) intersect. The quantity supplied has decreased from Q_1 to Q_2 and the price has increased from P_2 tot P_2^l compared to the short-run equilibrium situation. This is a movement along the new demand curve D_2. The new demand curve's slope is less steep than that of the original demand curve D_1, which is the graphical expression of the reduced volatility of house prices. Price changes caused by a demand shock now fully affect net incomes and are no longer partially absorbed by the treasury.

FIGURE 2
Effects of Eliminating Mortgage Interest Deductibility



Other effects of the mortgage interest deduction are related to the financing of owner-occupied housing, particularly leverage (ratio equity/debt). The mortgage interest deductibility leads to a difference between the net interest rate (after tax) and the gross interest rate (or market rate). If the net return on equity exceeds the net mortgage interest rate, it is profitable to finance one's home with debt. This tends to be the case under the presumptive capital income tax such as that levied in the Netherlands. At a (gross) mortgage interest rate of 4 percent and a marginal tax rate of 52 percent, the net interest rate amounts to 1.92 percent. If the gross return on equity also amounts to 4 percent, the net return under the presumptive capital income tax - with a presumptive return of 4 percent and a constant marginal tax rate of 30 percent - is 2.8 percent.[7] This is considerably higher than the net mortgage interest rate of 1.92 percent, although the gross return on equity is equal to that on debt (4 percent). At a mortgage interest rate of 4 percent, taxpayers with a marginal tax rate of 52 percent will have an incentive to finance their home with debt if the gross return on equity exceeds 2.74 percent.[8] If the gross return on equity exceeds 4 percent, the net return increases by the full difference. For example, if the gross return on equity amounts to 6 percent, the net return will also increase by 2 percentage points to 4.8 percent. It can be expected that a homeowner will finance his home to a larger extent with debt, relative to both the value and his income, when the mortgage interest deduction is more generous.

The share of owner-occupied homes in the housing stock is relevant to the assessment of the effectiveness of policies aimed at enhancing home-ownership. If mortgage interest deductibility is effective in increasing

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[7] This example does not consider an allowance.

[8] A gross return of 2.74 percent equals a net return of 1.92 percent under the presumptive capital income tax.

home-ownership, the share of owner-occupied housing in the housing stock will – ceteris paribus - increase. Thus, we expect that as the mortgage deduction increases:

1. a larger proportion of the house price will be financed with debt;
2. the total of mortgage debt will be higher;
3. the share of owner-occupied housing in the housing stock will be larger.[9]

4. EFFECTS OF DIFFERENCES IN TAX REGIME ON OWNER-OCCUPIED HOUSING

In the Netherlands, mortgage interest has been tax-deductible for over a century. The deduction was introduced in 1893 as an element of the first personal income tax. For the purpose of empirical testing not only the introduction of mortgage interest deduction is relevant, but also the extent that taxpayers make use of it. Beginning in the 1990s the use of this deduction has intensified. The number of newly registered mortgages was constant in the late 1980s at a level of approximately 200,000 per year. In 1995, however, this number rose to over 650,000 (Parliamentary Papers, 2000, p. 303). Although this increase is partly attributable to the renewals of existing mortgages it in turn contributed to a more intensive use of the mortgage interest deduction. Frequently, the presence of a surplus value in the house led to an increase of the new mortgage loan over the old loan. Other causes of a more intensive use of the mortgage interest deduction are the increase in the number of houses (to 3.5 million in 1999 from 2.6 million in 1990), the rising house prices, and the development of

[9] This crowding out effect results from the fact that tax deductions raise the rate of return on investments in owner-occupied housing relative to other assets. Empirical support for this effect can be found in a number of studies as cited in Gervais (2002).

new mortgage types.[10] The increased use of the mortgage interest deduction also increased its budgetary significance. The budgetary amounts involved (in current prices) grew from €3.4 billion in 1990 to over €7.3 billion in 1999 (Parliamentary Papers, 2000, p. 318).

In an efficient market, the current value of expected housing subsidies would be included in housing prices no matter the form the subsidies take (tax expenditures or direct subsidies). If the mortgage deduction's quantitative significance increases, a greater volatility of house prices can be expected, as we concluded in the previous section. Thus, a relatively high degree of volatility in the pricing market can be expected in the Netherlands given the almost unrestricted tax-deductibility of mortgage interest payments and the intensified use of this deduction. The opposite should be true in other countries where this deduction is limited or non-existent. Until the 1990s, volatility of housing prices in the Netherlands hardly differed from the average in the OECD area. However, this has changed in a short period of time. In 2002 volatility in the Netherlands was the highest in the OECD area (see for the underlying data OECD, 2004, p. 51).[11]

Given the differences in the owner-occupied housing tax shown in section 2 ("Owner-occupied housing taxes in the EU-15"), it seems obvious to expect differences in the way that owner-occupied homes are financed as well as the share of owner-occupied houses present in the housing stock. Table 1 shows that important differences among countries do exist. However, they are not always consistent with the expectations. It should be noted that the possibilities for statistical

[10] Particularly relevant is the mortgage without redemptions leading to a higher outstanding debt during the loan's term relative to traditional mortgage types.

[11] The development in the Netherlands is consistent with the expectation and with the analysis of van den Noord (2003).

analyses are very limited. Only bivariate comparisons across the various tax regimes are possible because of the relative scarcity of data both within the various tax regimes and across time periods. The fact that mortgage debt relative to GDP is the highest in the Netherlands (78.8 percent as the last line in the third column of Table 1 shows) is consistent with the expectation. This ratio almost doubled in a decade, up from 40 percent in 1992. However, the countries without tax breaks (France, Germany, Sweden, and the UK; mean: 43.8 percent) are not, as expected, at the bottom of the list. Italy and Greece have tax credits for homeowners, whereas mortgage interest is deductible from capital income in Luxembourg. Nonetheless, the ratios of total mortgage debt and GDP in these countries (11.4 percent, 13.9 percent, and 17.5 percent, respectively) are lower than in France (22.8 percent) and considerably lower than in Sweden (40.4 percent), Germany (54.0 percent), and the UK (58.0 percent). However, comparisons of the variability of mortgage debt relative to GDP within owner-occupied housing tax regimes are more consistent with expectations. The variability of the ratios of total mortgage debt and GDP for countries without tax breaks is lower (coefficient of variation, CV: 36.3 percent) than the variability for countries with tax credits (CV: 50.0 percent) and considerably lower than those countries where mortgage interest is deductible from capital income (CV: 87.5 percent).

The expectation that the loan to value ratio of the home would be the highest in the Netherlands is met. The Netherlands is on top of the list with a ratio of 90 percent (see the last line in column 4 of Table 1). However, countries without tax breaks are not at the bottom of the list. Although Italy and Ireland grant tax credits to homeowners, the loan to value ratio in these countries (55 percent and 66 percent, respectively) is even lower than in countries without tax breaks. In two of these countries (France and Germany) this ratio amounts to

67 percent, so the difference with Ireland and Italy is small.

TABLE 1
Total Mortgage Debt (Relative to both GDP and House Value) and Share of Homeowners

	Mortgage debts as % of GDP		Ratio of mortgage loan and value of the house (in %)	Share of homeowners		
	1992	2002		1990	2002	% change
No tax breaks						
France	21.0	22.8	67	54	55	1.9
Germany	38.7	54.0	67	39	42	7.7
Sweden	37.5	40.4	77	56	61	8.9
UK	55.5	58.0	78	64	68	6.3
CV[a]	36.9	36.3	8.4	19.6	19.5	49.9
Tax credit without a time limit						
Belgium	19.9	27.9	83	67	71	5.9
Greece	4.0	13.9	75	76	83	9.2
Ireland	20.5	36.5	66	79	77	-2.5
Italy	6.3	11.4	55	68	80	17.6
Portugal	12.8	49.3	83	67	64	-4.5
Spain	11.9	32.3	70	78	85	9.0
CV	54.0	50.0	15.0	7.9	10.3	141.6
Deductible up to a ceiling, but no time limit						
Austria	…	…	60	55	56	1.8
Finland	37.2	31.8	75	67	58	-13.4
CV	…	…	15.7	13.9	2.5	185.7
Deductible from a certain income category						
Denmark	63.9	74.3	80	52	51	-1.9
Luxembourg	23.9[b]	17.5	…	64	70	9.4
CV	64.4	87.5	...	14.6	22.2	214.4
Almost fully deductible						
Netherlands	40.0	78.8	90	45	53	17.8

a. CV = coefficient of variation
b. 1994
Source: Catte et al (2004), p. 18.`

However, the loan to value ratio is considerably higher in the other two countries without tax breaks: the UK (78 percent) and Sweden (77 percent). On the other hand, the variability of the loan to value ratio of the home within tax regimes is more consistent with expectations. The variability of the loan to value ratio of the home for countries without tax breaks is lower (CV: 8.4 percent) than the variability for countries with tax credits (CV: 15.0 percent) and those countries with a ceiling set on the size of mortgages eligible for interest deductibility (CV: 15.7 percent).

Finally, Table 1 also shows that the share of owner-occupied homes in the housing stock was the lowest (42 percent) in Germany in 1992. This is consistent with the expectation, as German homeowners do not enjoy any tax break. Given the nearly unrestricted tax-deductibility of mortgage interest payments in the Netherlands it is against expectation, however, that the share of homeowners in the Netherlands (53 percent)[12] is the third lowest after Germany and Denmark. In the three other countries without tax breaks the share of homeowners is higher: 55 percent in France, 61 percent in Sweden, and 68 percent in the UK. Apart from that, the share of homeowners in the Netherlands increased at the fastest pace in the 1990s (with 17.8 percent). Notably, the share of homeowners did not decrease in any of the countries without tax breaks. This is especially notable for the UK, where the tax-deductibility of mortgage interest payments was gradually eliminated in this period. Obviously, the deduction's elimination did not prevent the share of homeowners from rising by 6.3 percent. The variability of the percentage change in the share of homeowners from 1990 to 2002 for countries without tax breaks is considerably lower (CV: 49.9 percent) than the variability for countries with a tax credit (CV:

[12] According to the source of Table 1 it is 53 percent, however according to the Dutch Central Bureau of Statistics it is 54 percent (see CBS, 2005, p. 80).

141.6 percent), those countries where mortgage interest is deductible from capital income (CV: 185.7 percent) and those countries that have a ceiling set on the size of mortgages eligible for interest deductibility (CV: 214.4 percent).

Table 2 displays for a smaller number of countries three other characteristics of the mortgage market: the relative increase of total mortgage debt, the share of homeowners without debt, and the ratio of the loan relative to income. Again, the differences are great and not completely consistent with expectations. The Netherlands scores high in growth of the total mortgage debt in the 1990s (147 percent, see the last line of column 2 in Table 2), but it ranks second. In Ireland (with a tax credit up to a maximum) the total mortgage debt grew by 208 percent. Consistent with the expectation, France (with no tax breaks) has the lowest growth of total mortgage debt of the countries considered. Although there are no tax breaks in the UK, the growth of total mortgage debts is approximately the same as in Denmark, where mortgage interest can only be deducted from capital income.

The share of homeowners without a mortgage is highest in Italy (87 percent) and lowest in the Netherlands (12.5 percent). The latter is consistent with the expectation, but in general the differences hardly seem associated with the tax-deductibility of mortgage interest payments. Although in France – with no tax breaks - 55 percent of homeowners do not have a mortgage, the differences with some other countries where tax breaks do exist – including Ireland (56.8 percent) and Austria and Belgium (60.8 percent) – are limited. The variability of the share of homeowners without a mortgage for countries without tax breaks (CV: 19.5 percent) is approximately the same as that for countries with a tax credit (CV: 19.9 percent).

TABLE 2
Homeowners and Mortgage Loans

	Growth of total mortgage debt 1990-2000 (in %)	Homeowners without mortgage (in %)	Loan relative to income
No tax breaks			
France	16	55.0	1.19
UK	52	41.7	2.66
CV[a]	74.9	19.5	54.0
Tax credit without a time limit			
Belgium	77	60.8	0.97
Ireland	208	56.8	2.30
Italy	98	87.0	0.44
Spain	126	76.0	2.92
CV	45.2	19.9	69.3
Deductible up to a ceiling, but no time limit			
Austria	…	60.8	0.97
Deductible from a certain income category			
Denmark	51	16.3	2.23
Almost fully deductible			
Netherlands	147	12.5	3.76

a. CV = coefficient of variation

Source: Neuteboom (2004), p. 172.

With regard to the size of the loan relative to income the Netherlands is on top of the list with a ratio of 3.76. Although this is consistent with the expectation, the differences in this ratio also seem barely related to the deductibility of mortgage interest. In countries without tax breaks one would expect the lowest ratios. Yet, the ratios in France (1.19) and the UK (2.66) are considerably higher than in countries with tax breaks: Italy (with a ratio of 0.44 at the bottom of the list) and Austria and Belgium (0.97). On the other hand, the variability of the loan to income ratio within tax regimes is more consistent with expectations. The variability of the loan to income ratio for countries without tax breaks is lower (CV: 54.0 percent) than the variability for countries with a tax credit (CV: 69.3 percent).

The effects of differences in tax regimes regarding owner-occupied housing are thus not always consistent with theoretical expectations. This may imply that the underlying hypotheses tentatively have to be rejected, but this is not necessarily true. Deviations from theoretical expectations might also be related to other factors. These may include historical and cultural differences between countries as well as other matters of public policy.

First, tax aspects other than the tax-deductibility of mortgage interest and the taxation of an imputed rental income may be associated with owner-occupied housing. At least five aspects may be relevant:

1. Whether a capital gains tax includes gains resulting from the sale of a taxpayer's own home (and whether a loss can be compensated).
2. Whether a wealth tax covers owner-occupied homes and if so, how. In the Netherlands, for example, owner-occupied homes are not subject to the presumptive capital income tax that applies to other assets. Rather, they are taxed together with labor income. Because most taxpayers derive a negative income from their own home, they effectively enjoy a

deduction on their labor income which is subject to a progressive tax rate structure.

3. Is VAT also imposed on newly built houses and if so, which rate is applicable?
4. Is there a real estate transfer tax and if so, at which rate?
5. How is the death tax applied to family-occupied homes?

Second, government can enhance homeownership through direct expenditure. No home-owner tax breaks exist in Germany, but subsidies for investments in building society savings contracts do exist (Börsch-Supan and Eymann, 2000). This also holds true for Luxembourg. In the Netherlands, direct expenditure took the form of purchase subsidies in the past. However, these subsidies have been abolished. Apart from this, other measures can act as a subsidy and, therefore, produce the same effect as direct expenditure aimed at enhancing homeownership. In the Netherlands, for example, this is true for the so-called national mortgage guarantee. Homebuyers meeting certain conditions can apply this guarantee resulting in a lower mortgage interest rate.[13]

5. DISCUSSION

In the Netherlands owner-occupied homes are considered a source of income. Therefore, taxpayers must include an imputed rental income from their own homes in their taxable incomes, which is taxed together with labor income at a progressive rate. However, the cost associated with this income source – including mortgage interest – is deductible. The imputed (net) rental income is calculated as 0.6 percent of the value up to a maximum of €8,750. Mortgage interest payments are

[13] As the lenders basically do not render any financial risk, they usually give borrowers a 0.2-0.25 percent-points discount on the interest rate (Ministry of VROM, 2004, p. 58).

tax-deductible with almost no restrictions. This approach is arbitrary for two reasons. First, the value could be set at another (higher) level. Second, owner-occupied homes could also be subjected to the same tax regime that applies to other personal assets.[14]

The differences in the owner occupied housing tax regime across countries in the EU-15 are large. The Netherlands stands apart in that it is one of the few countries where an imputed rental income from the taxpayer's home is taxable, while it is the only country where almost no restrictions exist on the deductibility of mortgage interest payments. In other countries of the EU-15, mortgage interest payments are not deductible or are only deductible up to a maximum that varies from a few hundred up to a few thousand euros. From a budgetary point of view the mortgage interest deductibility far outweighs the taxation of the imputed rental income. In 2005, the mortgage interest deduction narrowed the personal income tax base by €22.5 billion, whereas the imputed rental income broadened it by €4.6 billion (Parliamentary Papers, 2004a, p. 41). Thus, the tax regime with regard to owner-occupied homes decreased the tax base on balance by €17.9 billion. The vast majority of homeowners derive a negative fiscal income from their own homes. Given that it is taxed together with a taxpayer's labor income, an owner-occupied home usually has the same effect as a deduction on labor income.

Certain effects can be expected from differences in tax regime regarding owner-occupied dwellings. Statistical data are blurred in that they are not completely consistent with the expected effects. Therefore, support for the underlying hypotheses is not, at present, complete. Portions of the data inconsistent with the hy-

[14] It is conceivable that such a move would be coupled to an additional allowance for owner-occupied homes.

potheses put forth may result from cultural and historical differences between countries as well as differences in other public policies. The latter includes other tax aspects than the tax-deductibility of mortgage interest payments and the taxation of an imputed rental income from owner-occupied homes. The possible tax aspects include a wealth tax, a capital gains tax, a Value Added Tax, a real estate transfer tax, and a death tax. In addition, the government may enhance homeownership with direct expenditure as opposed to tax expenditure.

To collect a given amount of revenue, tax rates must be higher if the tax base is lower. Rate reductions can be realized along two lines: cutting spending or broadening the tax base. Given the budgetary significance of the tax-deductibility of mortgage interest payments in the Netherlands, spending cuts would have to be very large to engender the same budgetary effect as eliminating the mortgage interest deduction. Therefore, a substantial rate reduction in the personal income tax does not seem possible without reducing the mortgage interest deduction in one way or another. The most obvious solution seems to move owner-occupied dwellings from Box 1 to Box 3.

However, the government has to respect existing contracts. People have bought a house and have committed themselves to long-term financial obligations in the expectation that mortgage interest payments will be tax-deductible. Therefore, the almost unrestricted mortgage interest deduction can only be phased out gradually. One of the reasons for the IMF to consider introducing a nominal limit on the tax-deductibility component of mortgage loans (an attractive policy option) is that it has a gradual impact on households. The nominal limit tends to only become binding for low- and medium-income households over time, as house prices increase.

The OECD also emphasizes that a new tax regime should be introduced gradually by only applying it to incremental purchases of owner-occupied housing. They present the following example: Suppose that an owner-occupier moves from a house worth €500,000 with a €300,000 mortgage to a house worth €700,000 with a €500,000 mortgage. He would continue to include an imputed rental income based on the value of the former home (worth €500,000) less interest charges on the old mortgage (€300,000) in Box 1 (labor income) of the personal income tax system. However, the incremental €200,000 of housing assets (€700,000 minus €500,000) and the associated increase in mortgage debt of the same amount would be included in Box 3 (income from net wealth) of the personal income tax system (OECD, 2004, pp. 64-65). This would not generate any extra tax liability, as there is no increase in net wealth. Nevertheless, the owner-occupier would pay more tax than under the current system because he would no longer be able to deduct interest on the additional €200,000 mortgage debt from labor income.

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