# Home equity in the Netherlands: wealth for the owner-occupied sector

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# Home equity in the Netherlands

In the owner-occupied sector the demand for housing is not only determined by the price of the house and the income of the consumer but also by the amount of home equity. When the owner-occupier is moving up the housing ladder, the amount of home equity enlarges the number of possibilities. In this paper we analyze the relative sizes of home equity and the factors that determine the size of home equity in the Netherlands[1].

by prof. dr. Johan Conijn and drs. Frans Schilder

Home equity comprises the largest share of total wealth for most households. In most countries house prices have increased strongly in the past decades (Girouard e.a., 2006). This has resulted in a strong increase in home equity. Due to the current crisis on the housing market in many countries, home equity is decreasing again at a fast pace. Home equity is very volatile and the change in home equity has a large impact on the housing market and on the rest of the economy. With this paper we intend to increase knowledge about the size of home equity. The (il)liquidity of home equity plays an important role in the analysis.

Home equity is equal to the value of the house subtracted by the amount of mortgage outstanding. Part of this home equity may result from the initial cash that was invested in the dwelling by the owner-occupier at the time of purchase. The size of this cash input depends, among other things, on the conditions of the mortgage lenders and the fiscal policy. Comparative research showed that the cash input of owner-occupiers is very different across countries (Yelten, 2006). In the Netherlands starting households can get a mortgage up to 115% of the value of the house and, as a result, many of them start their housing career with negative home equity. The further development of home equity is dependent on both the house price development, the degree of amortization on the mortgage and the extent of home equity withdrawal.

### Life cycle hypothesis

In the United States, extensive research has been done on the size of home equity (see Nothaft and Chang, 2004; Masnick et al., 2005). In Europe, the body of research on the size of home equity on a micro level and its development over time is smaller. Turner and Yang (2006) are one of the exceptions. They find that home equity 'peaks in the pre-retirement years of 60 to 64 and then dwindles in the oldest age group.' (p. 290). According to the authors, this distribution of home equity is in line with the life cycle hypothesis in which older households withdraw home equity for consumptive purposes. They further report that 'higher income households tend to have more housing equity on average than lower income households' (p. 290). However, Venti and Wise (2001) find that home owners generally do not extract home equity, not even when moving. 'We find that on average there is no reduction in housing equity among persons who continue to own homes, even as they age through their eighties and even into their nineties' (p.5). They also found that even among movers, those families that continue to own, typically do not reduce home equity. These results show that home equity is not liquid and is in general exclusively used for housing consumption.

**TABLE 1** ▶ SUMMERY STATISTICS HOUSEHOLDS, 2009

| | ALL HOUSEHOLDS | OWNER-OCCUPIERS | RECENTLY MOVED OWNER-OCCUPIERS |
|---|---|---|---|
| Gross income | 48.254 | 61.667 | 58.386 |
| Age head of household | 51 | 51 | 39 |
| Occupation duration | 13 | 14 | 1 |
| Household composition | | | |
| Single or single + child(ren) | 42% | 25% | 29% |
| Couple | 29% | 35% | 37% |
| Couple + child(ren) | 27% | 39% | 34% |
| Other | 2% | 1% | 1% |
| Housing market behavior | | | |
| Not moved | 82% | 87% | 0% |
| Moved within owner-occupied sector | 5% | 7% | 51% |
| Moved from rental sector | 7% | 4% | 31% |
| Moved as a starter | 6% | 2% | 18% |
| Income source | | | |
| Salary | 54% | 62% | 79% |
| Business - entrepreneur | 12% | 15% | 13% |
| Pension | 24% | 21% | 7% |
| Social security | 10% | 3% | 2% |
| N (weighted) | 7.312.579 | 3.831.323 | 502.990 |
| n (unweighted) | 69.149 | 36.309 | 4.839 |

SOURCE: WoON 2009

### Home equity and fiscal policy

The size of home equity, the degree of liquidity and the impact that home equity has on the demand for housing are very dependent on the fiscal treatment of owner-occupied housing. In the Netherlands, there is a significant fiscal benefit to owner-occupiers. However, the fiscal treatment of owner-occupied dwellings has become less generous in recent years. One of the effects of the changes in the fiscal treatment is that home equity has become less liquid. For a review of the fiscal treatment of owner-occupied housing in the Netherlands we refer to Rouwendal (2006).

An important example of the decrease of the implicit subsidization of owner-occupiers relates to the core issue of this paper: the introduction of the additional loan act in 2004. The additional loan act states that in case a mortgage to refinance the withdrawal of home equity is not eligible for mortgage interest deductibility. This also applies when one is moving to another home as home equity has to be used to finance the new home. Before this act households were able to refinance their home equity and invest it elsewhere or consume it freely.

The additional loan act does not forbid refinancing, but it does make refinancing more costly than it was before. As a result, the act makes alternative use of home equity less attractive and home equity less liquid. Figures with the relatively high rate of equity withdrawal in the Netherlands (Catte e.a. 2004, p.17) are based on the fiscal policy before 2004 when it was advantageous to withdraw equity. These figures are not representative anymore for the period after 2004.

**TABLE 2 ▶** SUMMARY STATISTICS OF THREE GROUPS OF RECENT MOVERS, 2009

| | MOVED WITHIN OWNER-OCCUPIED SECTOR | MOVED FROM RENTAL SECTOR | MOVED AS STARTER |
|---|---|---|---|
| Gross income | 64.759 | 56.336 | 43.847 |
| | | | |
| Age head of household | 45 | 35 | 30 |
| Occupation duration | 1 | 1 | 1 |
| | | | |
| Household composition | | | |
| Single or single + child(ren) | 22% | 30% | 44% |
| Couple | 34% | 37% | 44% |
| Couple + child(ren) | 43% | 31% | 10% |
| Other | 1% | 2% | 2% |
| | | | |
| Income source | | | |
| Salary | 71% | 87% | 88% |
| Business - entrepreneur | 15% | 11% | 8% |
| Pension | 11% | 1% | 2% |
| Social security | 2% | 1% | 2% |
| | | | |
| N (weighted) | 257.374 | 154.543 | 91.073 |
| n (unweighted) | 2.538 | 1.448 | 853 |

SOURCE: WoON 2009



**TABLE 3 ▶** SUMMARY STATISTICS OF HOME EQUITY, (% OF VALUE)

| HOME EQUITY | |
|---|---|
| Mean | 45,9 |
| Minimum | -49,9 |
| Maximum | 100,0 |
| Standard deviation | 38,8 |

SOURCE: WoON 2009

### Home equity in the Netherlands

Our analysis is based on the Housing Needs Survey 2009. The data is representative for 2008 and 2009. Some sample statistics are given in Table 1. The table summarizes the key statistics for all households, all owner-occupiers and owner-occupiers who have moved in the period 2007-2008 .

The group of recent movers is further divided into three subgroups. The categories into which the recent movers have been divided are households who moved within the owner-occupied sector, households who moved from the rental sector to the owner-occupied sector and households who did not move out of an independent dwelling and are starting on the housing market. These groups display strong differences among each other, which is displayed in Table 2.

### Explaining home equity

The presented analysis deals with the size of home equity and the factors which influence home equity. The level of home equity depends on the price of the house. We therefore do not use levels of home equity, but the relative size of home equity compared to the house value. Table 3 summarizes some key statistics of the home equity measure we use in this study. Mind that the minimal level of home equity is bound by a selection of -50 percent, which is applied in order to filter out unlikely observations from our data, while the maximum limit of the relative equity is obviously 100 percent. The average share of home equity in the Netherlands was 46 percent in 2009.

Table 4 gives some summary statistics for each of the four groups based on recent housing market activity. It becomes clear from Table 4 that owner-occupiers that have not recently moved have the largest share of home equity. Moreover, it can be seen that especially households that have newly entered the owner-occupied sector

**TABLE 4 ▶** HOUSE VALUE AND HOME EQUITY BY RECENT HOUSING MARKET BEHAVIOR

| | NOT MOVED | OWN-OWN | RENT-OWN | START-OWN | TOTAL |
|---|---|---|---|---|---|
| House value | 294.576 | 31.0643 | 223.472 | 209.585 | 290.767 |
| Mortgage | 153.500 | 236.238 | 216.184 | 186.789 | 163.213 |
| Relative equity (% of value) | 51% | 25% | 2% | 6% | 46% |
| Negative equity (% of households) | 12% | 31% | 63% | 57% | 16% |
| | | | | | |
| N (weighted) | 3.328.333 | 257.374 | 154.543 | 91.073 | 3.831.323 |
| n (unweighted) | 31.470 | 2.538 | 1.448 | 853 | 36.309 |

SOURCE: WoON 2009

often have negative home equity. Table 5 gives the relationship between income and home equity. It is clearly stated in Table 5 that income does not have a strong positive relationship with home equity: households have financed on average 46% of the house with equity. However, this share is larger in the low-end income groups. We also observed that the middle-income groups seem to have slightly lower equity shares.

Finally, we summarize the relationship between home equity and age and between home equity and occupation duration. Figure 1 shows that relative home equity is increasing with age. Even at a high age there is no sign of large-scale equity withdrawal. This is in contrast with the findings in Sweden (Turner and Yang, 2006) but in agreement with the results of Venti and Wise (2001). We also see that there is a positive relation between occupation duration and the size of the relative equity. These results are in concordance with the presumption that there is hardly any equity withdrawal in the Netherlands.

### The level of equity

So far we presented a general overview of the size of home equity and some household characteristics. In order to create further insight in the relation between household characteristics and home equity we run a regression model on home equity. Home equity is defined as the difference between the tax-assessed value (observed) and the outstanding mortgage (observed). As the level of equity is strongly dependent on the value of the house we use relative equity as dependent variable. Relative home equity is defined as equity divided by value:

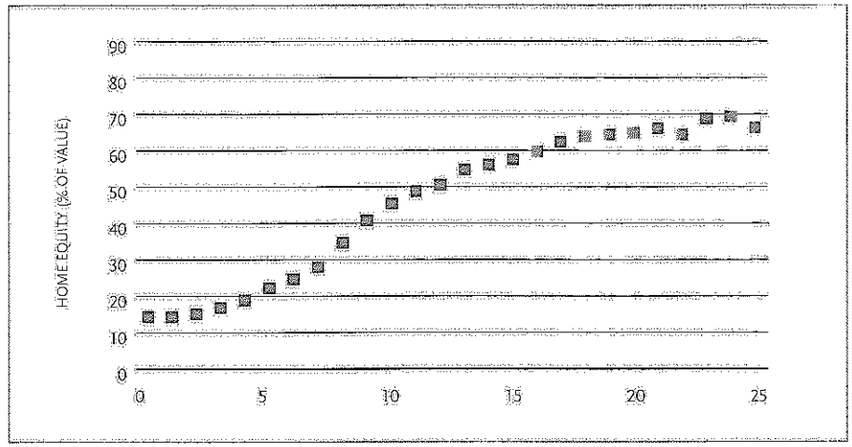
*Relative home equity = (tax assessed value – outstanding mortgage) / tax-assessed value*

The model is estimated by ordinary least squares on the total sample of owner-occupiers (i.e. 36,309 observations). The non-movers are the reference group for the housing market activity dummies and income from salary is the reference category for the source of income dummies:

*Home equity = constant + b1*gross income + b2*age + b3*occupancy duration + b4*own-to-own + b5*rent-to-own + b6*starter + b7*business + b8*pension + b9*social security + e*

The model explains variance reasonably well. We obtain an R-squared of 47%. The results of this regression are summarized in Table 6. All of the presented coefficients have the expected signs. Most of the presented coefficients are statistically significant by the normal standards and most variables show coefficients that seem mutually coherent.

**FIGURE 1 ▶** OCCUPATION DURATION (YEARS)




AGE HEAD OF HOUSEHOLD (YEARS)

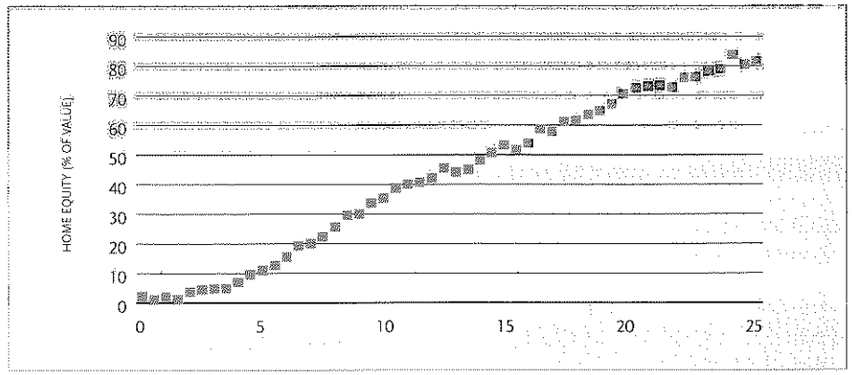



**TABLE 5 ▶** HOUSE VALUE AND HOME EQUITY BY INCOME DECILE

| | INCOME DECILE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | TOTAL |
| House value | 252.882 | 236.341 | 241.996 | 251.721 | 261.178 | 265.854 | 290.152 | 305.466 | 343.961 | 464.227 | 290.767 |
| Mortgage | 117.841 | 116.591 | 122.894 | 135.216 | 143.180 | 159.495 | 172.743 | 178.959 | 202.920 | 260.520 | 163.213 |
| Relative equity (% of value) | 63% | 53% | 50% | 45% | 43% | 38% | 39% | 41% | 42% | 45% | 46% |
| Negative equity (% of households) | 10% | 15% | 15% | 17% | 18% | 21% | 19% | 17% | 15% | 13% | 16% |
| N (weighted) | 363.437 | 387.360 | 388.646 | 388.219 | 386.788 | 387.790 | 390.596 | 384.270 | 383.867 | 370.350 | 3.831.323 |
| n (unweighted) | 2.856 | 3.332 | 3.503 | 3.703 | 3.726 | 3.800 | 3.922 | 3.858 | 3.848 | 3.761 | 36.309 |

SOURCE: WoON 2009

We find a small but positive effect of income on home equity. The relative independence of home equity cannot be explained by the fact that we estimate the model on relative equity. This finding is in line with Table 5 from the descriptive statistics, where we observed that the relative home equity does not differ very much between the income groups. Therefore, the relative independence of home equity from income shows that households try to maximize their fiscal benefits from mortgage interest deductibility. In other specifications of the model (e.g. including absolute levels of equity, excluding other variables from the model) we also find that the impact of income is very limited.

We further find that the age of the principal occupier as well as the occupancy duration are much more important predictors for the size of home equity. This is both statistically and economically correct. The standardized regression coefficients of age and occupation duration are more than ten times larger than the standardized coefficient on income. The relationship of these variables with home equity is strongly positive. For every year the principal occupier ages, home equity rises with 1.15 percent. Similarly, not moving for 10 years increases home equity, ceteris paribus, by 8.6 percentage points. We expected home equity to be illiquid, especially because there is a tax incentive to roll over home equity. The results presented in Table 6 are in line with this expectation. Home equity increases strongly by progression of age and by the duration of occupancy, as could already be seen in the descriptive statistics we presented in Figure 1.

### Moving

The coefficients on the housing market activity dummies are all negative. Compared to non-movers the relative equity of movers is lower. In the case of moving within the owner-occupied sector this may be explained by the fact that moving involves costs (roughly 10% of the house value, based on 6% transfer tax, and the fees for the realtor and the notary). Moreover, moves are generally up the housing ladder, which means the value of the 'new' house is higher than the value of the 'old' house. These factors explain the negative coefficient for movers within the owner-occupied sector of –3.20. The size of the negative coefficient indicates that there is hardly any equity withdrawal anymore. This is influenced by the additional loan act that was introduced in 2004. As expected, the relative equity of households that have moved from the rental sector, is quite low (–13.98). The coefficient for starters (-1.63) is surprising. Some starter households invest substantial equity into their homes. This is contrary to the expectation based on the effect of the fiscal stimulus to maximize one's debt.

**TABLE 6 ▶ THE REGRESSION RESULTS FOR RELATIVE HOME EQUITY**

| | COEFF. | | STD.ERR. |
|---|---|---|---|
| Gross income (1000's of euro) | 0,02 | *** | 0,00 |
| Age head of household | 1,15 | *** | 0,02 |
| Occupancy duration | 0,86 | *** | 0,02 |
| | | | |
| Move dummies (ref. = not moved) | | | |
| Moved from owner-occupied sector | -3,20 | *** | 0,62 |
| Moved from rental sector | -13,98 | *** | 0,79 |
| Moved from household / starter | -1,63 | | 1,02 |
| | | | |
| Income source dummies (ref. = salary) | | | |
| Income from business / entrepreneur | 5,00 | *** | 0,45 |
| Income from pension | 2,53 | *** | 0,55 |
| Income from social security | 8,04 | *** | 0,91 |
| | | | |
| Constant | -27,91 | *** | 0,75 |
| | | | |
| R-squared | 0,472 | | |
| Standard error of regression | 28,3 | | |
| n | 36308 | | |

*** INDICATES SIGNIFICANCE AT 1%

### Conclusion

We find evidence that supports the view that home equity is illiquid and that households predominantly use home equity to roll over into a new dwelling. Home equity increases strongly with the age of the principal occupier and occupation duration. Households do not seem to withdraw equity from their houses, not even when they move. However, debt is maximized through, among other things, a move to another house (i.e. buying a more expensive house) and non-amortizing mortgages.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**Notes:**

1) This article is based on Conijn, J.B.S. en F.P.W. Schilder (2010): Home equity, fiscal policy and the demand for housing: The case of the Netherlands. Paper presented at the ERES-conference in Milan

2 N = weighted number of households; n is the non-weighted (actual) number of households in our data. N is obtained using a weight factor in the data set.

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