House-price fluctuations and the disfuctionality of the Dutch Housing market: exploding house prices versus falling housing production

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1. Introduction

Home ownership is on the rise in Western Europe, and the Netherlands is a case in point. The share of this tenure in the Dutch housing market has increased over the past 30 years; from a mere 35% in 1970, it now accounts for 54% of the housing stock (Table 1). This tenure is not evenly distributed by income bracket, however. It is especially predominant among households with an above-modal income (67%). The lower half of the income distribution is mainly found in the rented sector (69%). Various housing-demand surveys document the widespread desire to own a home. Housing policy in the Netherlands is closely tied to this expressed demand. By building new owner-occupancy dwellings and selling off a hefty share of the social-rented stock, the government expects to raise the share of home ownership to 65% by 2010.
Whereas the owner-occupancy sector has been growing in many other countries in Western Europe, house prices in the Netherlands have taken a different course**.** Unlike other West-European countries, the Netherlands did not experience a recession at the end of the 1980s. In fact, in the 1990s there was an unprecedented price explosion in housing markets throughout the country (Ball and Grilli, 1997; Boelhouwer, 2000). A second key difference is the generous fiscal treatment of home ownership in the Netherlands. Almost all West European countries have either abolished the deduction of mortgage interest from taxable income (as in Germany and the United Kingdom) or severely curtailed it (as in the Scandinavian countries, France and Belgium). The extremely modest Dutch imputed rent (0.8% of the valuation) in no way offsets the advantages of the unrestricted fiscal deduction of mortgage interest that Dutch owner-occupiers enjoy. A third difference is the range of lending options offered by financial services to homebuyers in the Netherlands. A mortgage loan can amount to as much as 125% of a dwelling's valuation, while financiers in most other European countries are not prepared to lend more than 70% to 80%, or occasionally 100% at the very most. This generous financing, in combination with the mortgage interest deduction, makes a maximum mortgage an attractive proposition for many Dutch owner-occupiers, allowing them to use part of the loan to meet objectives unrelated to housing (purchase of stocks and shares, consumer goods, etc.). The Dutch Central Plan Bureau calculated that, in the period 1993-1999, a third of the growth in the purchase of consumer goods was financed by other means than through the growth of total available family income, while the Netherlands Bank estimated, on the basis of model calculations, that increases in house prices were responsible in the period 1996-1999 for about 0.4 percentage

points of the average economic growth through direct and indirect effects on domestic expenditure. For 1999, this percentage would work out to about 0.6 to 0.7% (De Nederlandse Bank, 2000). Finally, there is the inadequate functioning of the (new

Table 1 House price development and tax subsides in the Netherlands, 1990-2003

	1990	1995	1999	2001	2003
Home ownership (%)	45	48	53	54	54
Total mortgage debt (% GDP)	38.2	48,3	67,9	73,6	85,6
Average house prices (x 1.000 euro)	66.9	93,3	142,5	187,6	204,4
Average mortgage interest rate* (%)	-	7.1	5.1	5.9	4.5
Tax subsidies (billion euro)	3.4	5.3	7.3	7.3	9.0

* New mortgages

Source: Grob, 2005, p.103.

construction) housing market. In most West European countries, a rise in housing demand will be reflected much more quickly in increased new housing construction. In the Netherlands, spatial planning policy makes such coordination extremely difficult; in the last four years, while housing prices were exploding, new house construction fell sharply.

The situation in which the Dutch housing market finds itself has its shadow side. Several leading Dutch economic institutes have pointed out how an unstable market situation could endanger the stability of the economy. As indicated, a not inconsiderable share of the growth in consumption expenditure and the purchase of stocks and shares in the Netherlands has been financed at the end of the last decade from the profits of home ownership. Where this income source disappears, the likelihood of an economic recession would increase. There is also a risk that in less favorable economic times the subsidizing of home ownership could be put under pressure. The strong growth in mortgage credit lending in the 1990s, in combination with the generous fiscal treatment of home ownership, has led to a substantial shortfall in State revenues. In 2004, the net result of the fiscal treatment of home ownership amounted to about 9.0 billion euro (Table 1). Many analysts and institutions have called this generous subsidizing of home ownership in question when considering the need to create a more stable market situation. Such respectable institutions as the Netherlands Bank and the Council of State have in the last few years advocated restraint of the fiscal subsidizing of home ownership and the discontinuation of top mortgages up to 125%. In addition to the objections of political parties who foresee serious problems being raised by their electoral supporters, many opponents to such a radical change draw attention to the possible negative consequences of curtailment of mortgage interest deduction on house-price fluctuations.

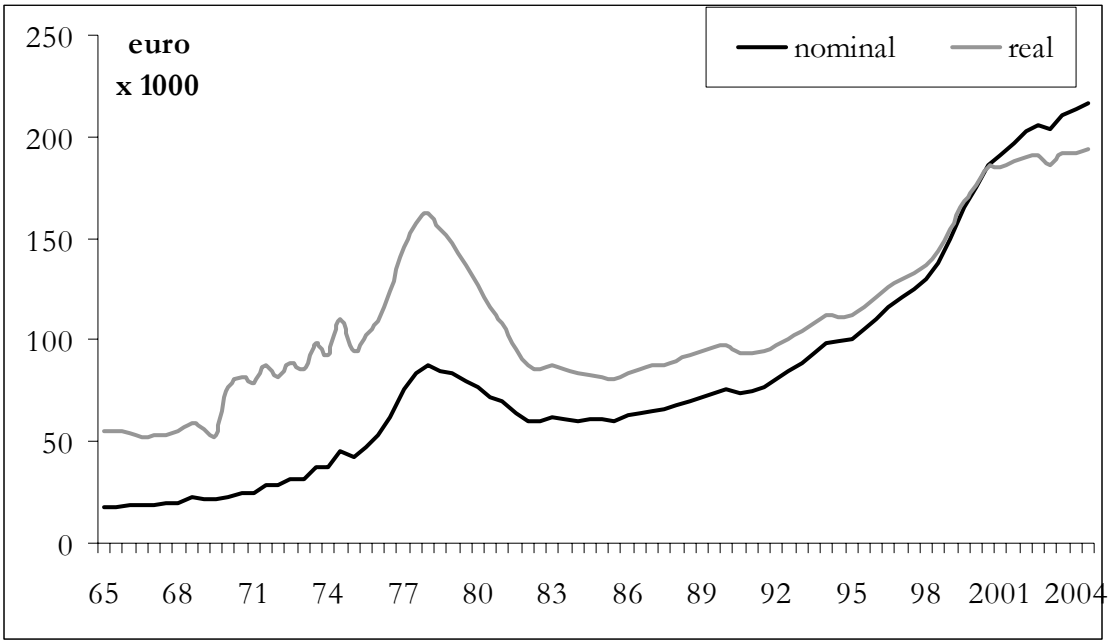
Against this background, this paper pays closer attention to two important phenomena of the Dutch housing market: the price development of owner-occupied houses and the production of new houses. As will be pointed out, both aspects are highly connected to each other. Also the relation between the two is quite remarkable. As will be stipulated, at the second half of the nineties house prices have been exploded, while housing

production has decreased. Before we pay attention to this peculiar phenomenon, we first pay attention to the development of house prices in the last forty years. To understand this development at to get some insight in possible future price developments, section 3 presents an error-correction house price model. The second part of this paper analyses the situation in the Dutch housing market during the 1990-2004 period, and more in particular housing production policy, planning policy, quality assurance policy and the way demand is boosted. The results form the input to the last section of this paper, possible lesson for the future.

2. Development of purchase prices for the period 1965-2004

The opportunities which home ownership offers to households to attain a general improvement in their financial position is strongly associated with the developments in house prices. The capital of households rises as house prices rise. To identify these opportunities in the Dutch situation, we focus our attention here on price developments in the period 1965-2004. Five discrete phases in the development of purchase prices can be distinguished in this period (see Figure 1).

Figure 1 Nominal and real house price development in the Netherlands, 1965-2004



Source: CBS and NVM

In making this distinction, we have to bear in mind that these phases are based on national averages. Of course, specific areas (urban centers, or peripherally located rural areas) may exhibit patterns that diverge from these four averages. However, the development of house prices in the twelve provinces of the Netherlands has been fairly comparable over the past three decades. In the first phase, covering the years 1965-1972, there was a stable development in prices for the country as a whole. Moreover,

when corrected for inflation (real prices), prices prove to have remained almost the same.

The second phase ran from 1973 to 1982. This period was characterised by hefty price increases up to 1979. At that point, prices started to decline just as strongly. We consider that the three main factors explaining these enormous price increases were: 1) the influence of measures taken by the government and other institutions; 2) the development of a number or economic variables; 3) the dynamics of the market mechanism, specifically the effects of speculation.

With respect to the influence of institutions, a crucial breakthrough was the decision by the Netherlands Central Bank in 1972 to terminate credit control. As a result, the commercial banks acquired the opportunity to expand their mortgage portfolios. Banks were no longer limited to extending loans for 70 percent of the market value of a dwelling; in some cases, they could go as high as 125 percent of the market value. On top of that, municipal mortgage guarantees were expanded; these guarantees had been introduced in 1973 for existing dwellings.

Furthermore, economic conditions were extremely favorable during the mid 1970s. Incomes were rising and the prospects for further growth were bright. In addition, mortgage interest rates were low and continuing to decline. Finally, the dynamics of the market mechanism led to speculative price increases and an overheated market. The whole picture changed drastically after the second oil crisis at the end of the 1970s. Income growth stagnated, the prevailing optimism about further income growth disappeared, and mortgage interest rates rose sharply. The situation was aggravated by government policy and the strategies undertaken by the banks. To reduce their potential future losses, the conditions for mortgage lending and for extending municipal guarantees were tightened. After the downturn in prices, the bubble that had been expanding in the market as a result of speculative developments burst. Consequently, nominal and real house prices dropped as fast as they had risen. By 1983, they had returned to the real levels of 1973.

The third phase in the development of purchase prices ran for just three years, covering the period 1983-1985. It shows an entirely different picture. In this period, the nominal housing prices stabilized. In real terms, house prices dropped even further, roughly to the level of 1972.

In the fourth period (1986-2000), commencing in the first half of 1986, the development of both nominal and real prices was again positive. The only exception to this positive price development occurred in the first half of 1990. At that time, prices declined in nominal as well as in real terms. The Gulf War was fought in this short time span, and there was some degree of economic instability. Then, starting in 1992, the sharp rise in prices resumed. The nominal increase in the period 1992-1999 was as high as 98 percent, which corresponds to an average annual price increase of 8.9 percent. In nominal terms, however, the record high of 1978 was not reached again until the first half of 1993.

The fifth period is not ended yet. The steep rice in house prices has since 2001 been stopped and the yearly growth in real terms is between 1% and 2%. Because of this stabilisation of house prices, a lively public debate has been started in the Nederland's about possible future house price developments. Some organisations like one of the bigger banks and PWC forecasted in 2002 that house price in the Netherlands would drop by 20% to 30% in the coming years. Others, like the OTB, expected a price

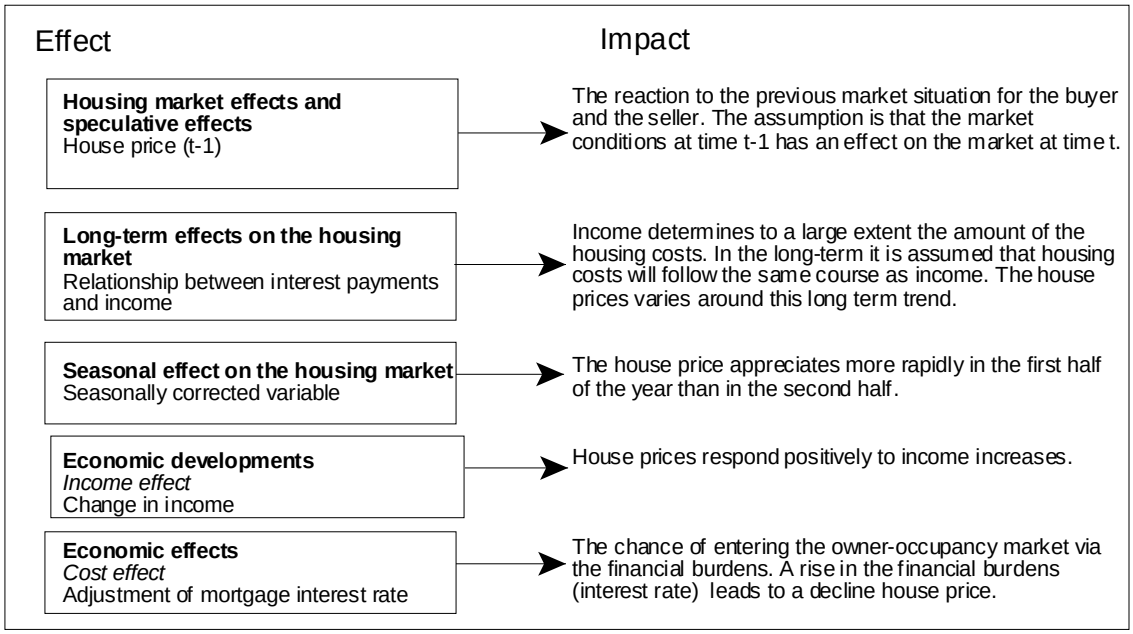
stabilisation. Despite of an economic recession in the Netherlands, the decline in house prices did not occurred until yet. This can mainly be explained by the historical low interest rates. Before we explain the disfunctionality of the Dutch housing market, we first discuss the possible future house price development in the Netherlands in the next section. This will be explored by presenting a econometric house price model.

3. House price modelling

Econometric models in Europe have been developed for house prices in Sweden (Hort, 1998) and the United Kingdom (Meen, 2002), among other countries, but so far none have been worked out for the Netherlands. The insights gleaned from the above mentioned countries form the point of departure for the house-price model that we subsequently built. Ultimately, these insights led us to select the following variables:
house prices (speculative effect/housing market effect)
long-term equilibrium.
seasonal effect
income level
interest rate
constant term
rent
unemployment
building costs
new completions

An effort was made to include as many of the pre-selected variables in the model. These steps are shown schematically in Figure 2. The variables that ultimately made it into the model are the dummy variable for seasonal correction, the lagged appreciation of the selling price, the rate of interest, the level of income, and the long-term equilibrium. The influence exerted by other variables – i.e., rent, unemployment, building costs, and volume of new completions – on the variation in house prices was either absent or statistically insignificant. Therefore, their effect was not incorporated in the definitive model. The rest of this section expands upon the relation between the selected variables and the variation in house prices.

Figure 2 Schematic representation of the Dutch house price model



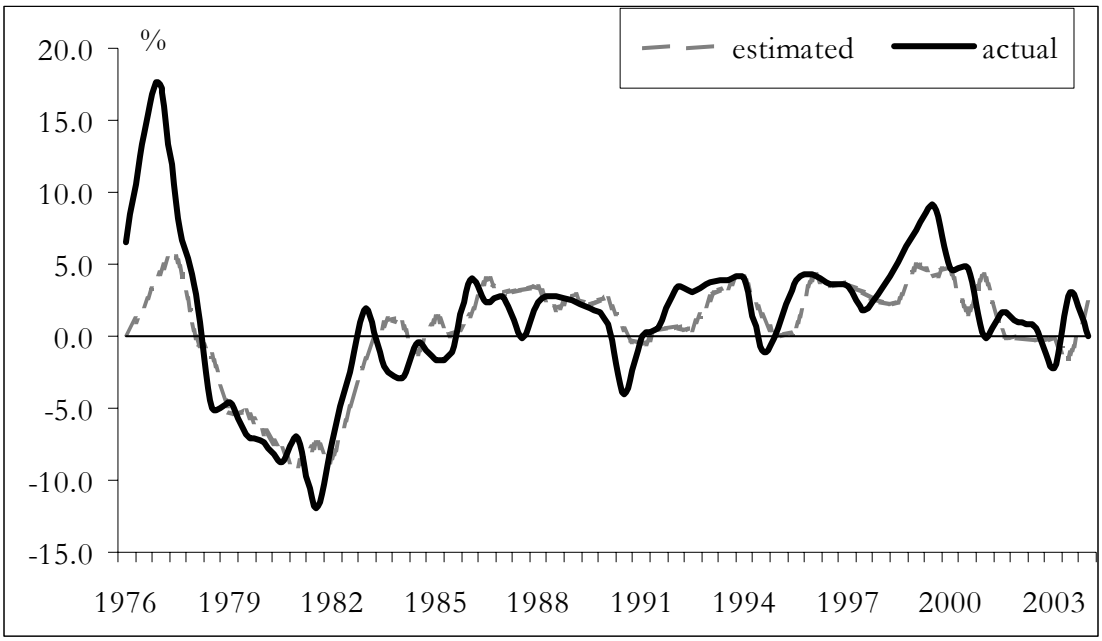
House prices (dependent variable, speculative effect)
Many modelling studies expect current house prices to depend on the house prices of preceding periods because of the slow adjustment process of the (new) construction market and the speculative effects (Abraham and Hendershott, 1996; Malpezzi, 1999). These two factors provide an explanation of the occasionally substantial house-price fluctuations that occur in the short term (bubble builders). In the model, the change attained one period earlier is included as the explanation for the change at time *t.* To model the equilibrium between interest payments and house prices in the long term, the house price fluctuates around a trend.

Long-term equilibrium, housing- market effect
A precondition for a good time series model is the presence of a variable that restores the long-term equilibrium. This assumption plays an important part, because the owner-occupancy market is characterized by short-term price fluctuations. A model estimated on the basis of short-term price changes would miss the price equilibrium in the long term and would tend to model the market irregularities. For future scenarios, this could mean that a speculative overheating of the market was being extrapolated. The inclusion of the lagged house prices together with a long-term equilibrium takes these speculative effects into account.

Seasonal effect (dummy), housing-market effect

An experiment was carried out with a variable that corrects for a seasonal effect. As can been observed in Figure 2, house prices in the Netherlands display a seasonal pattern. In the first half of the year (spring and summer), the house-price fluctuations are greater than in the second half (autumn and winter). A seasonally corrected variable (+1,-1) follows this pattern; it was expected that the semi-annual effect would have a positive regression coefficient.

Figure 3 Observed and estimated house prices[1)], 1976 – 2004



Source: Model, selling price of existing owner-occupied dwellings/OTB Research Institute
1) exogenous: income, interest rate, inflation, endogenous (from 1980): house price

Income effect, economic development
Disposable household income was chosen as the income concept. A positive correlation between the change in income and the change in house prices was expected. If income rises, then a household spends more on housing. Income can have a delayed or a progressive effect on changes in house prices.

Interest effect, economic development
The mortgage interest rate is the most dominant explanatory variable. This is self-evident, because most owner-occupiers who have moved recently take out a mortgage to finance their new dwellings. It is assumed that the interest (nominal or real) will only influence the fluctuations in house prices if the interest rate itself also changes. If interest rates and price levels remain the same, housing costs do not change. The data material only includes adjustments in interest rates when they constitute a possible explanation for a change in house prices. It is conceivable that a change in interest rates will gradually work its way through into price changes. An effect may be delayed or progressive.

4. Model specification

As indicated in the previous section, the regression model eventually included house prices, a long-term equilibrium factor, the seasonal effect, income, and interest rate as explanations for real house-price fluctuations (Figure 3). As Malpezzi asserts, a classic error-correction model begins by posting long-term relationships between a dependent variable (here, house prices), lagged values of the dependent variable, and one or more independent variables (such as income and interest rate), with lag structures to be empirically determined (Malpezzi, 1999, p.34). Building on the previous literature, we describe house-price appreciation rates as a function of their lagged values, a measure of deviation from long-term equilibrium, mortgage interest rates, household income, and a seasonal effect:

$P_t = f(\_P_{t-1}, LTE_t, R_t, I_t, S_t)$

On the basis of the above description, we can conclude that our findings correspond quite well with other house-price models as described in the literature (see also Meen, 1998). There is also a clear connection with the concept of user costs (Meen, 2002). The function of user costs is that a consumer can adjust his or her consumption of housing services at any time, depending on the price level (user costs) of the housing services. According to this approach, the price of the housing service is the result of the expected inflation in the house price, amortization, interest payments, fiscal regulations, and the nominal price of the dwelling. With the exception of amortization, all of these variables have been incorporated into the model.

Less common in this international practice is that our estimated error-correction model is based on just 50 observations, which is a rather small number for statistical time series. For instance, Hort (1998) compared Swedish and American OLS models that estimate the variation in real selling price. The Swedish models are based on 500 observations, the American models on 420. Malpezzi (1999) also had a dataset containing hundreds of observations. The limited number available to us means that a certain degree of inaccuracy cannot be ruled out. The emphasis was put on constructing a model that was as theoretically robust as possible. The final equation accounts for 84% of the variance, and estimates have been made for the period from the first half of 1978 through the second half of 2004. Statistical tests to check for serial autocorrelation and heteroscedasticity yielded good results. The theoretical plausibility of the resulting coefficients of the selected variables was subsequently tested. The relations that came to light were entirely consistent with the insights that had been presented beforehand on the basis of other house-price models found in the international literature.

Equation 1: Dutch house-price model

Above right, between brackets, the *t* values of the variables

$$(\_P_{ipc})_t = +0.56(\_P_{ipc})_{t-1}^{(7.26)} - 0.22(LTEk)_{t-2}^{(-4.12)} + 1.29(S)_t^{(+4.56)} + 0.71(\_I_{ipc})_t^{(2.55)} - 1.54_{g2}(\Delta R_{ipc})_t^{(-2.37)}$$

GLM test for serial correlation: lag(1)=0.07, Significance level: lag(2)=0.18, lag(3)=0.33

Whites test for heteroscedasticity: , Significance level: 0.65

where:

Speculative effect: change in real house prices $(\_P_{ipc})_t$

Model variable	Description
$(\_P_{ipc})_t = \frac{(P_{ipc})_t - (P_{ipc})_{t-1}}{(P_{ipc})_{t-1}}$	Change in real house prices
Where:	
P	Nominal house prices
$(P_{ipc})_t = \frac{(P)_t}{(IPC)_t}$	Real house price
(IPC)	Index of Private Consumption of goods

Long-term equilibrium $(LTEk)_t$

Model variable	Description
$LTEk_t = \left(\frac{\{(R)_t * (P)_t * (1-B)\}_{ipc}}{(I_{ipc})_t} \right) - k$	Correction of long-term equilibrium
Where:	
K=27,1	Long-term equilibrium
P	Nominal house prices
R	Mortgage interest rate
B=0.405	Average interest deduction
Ipc	Indexed for inflation
$(I_{ipc})_t$	Real disposable household income

Seasonal effect (*S*)

Model variable	Description
S	Correction for seasonal influence
Where:	
First half	+1
Second half	-1

Income effect: change in percentage terms of real disposable household income $(\_I_{ipc})_t$

Model variable	Description
$(\_I_{ipc})_t$	% change of the real income
Where:	
$(\_I_{ipc})_t = (\_I)_t - (INFL)_t$	% change in real income
_I	% change in nominal disposable household income
INFL	% change in price-indexed family consumption

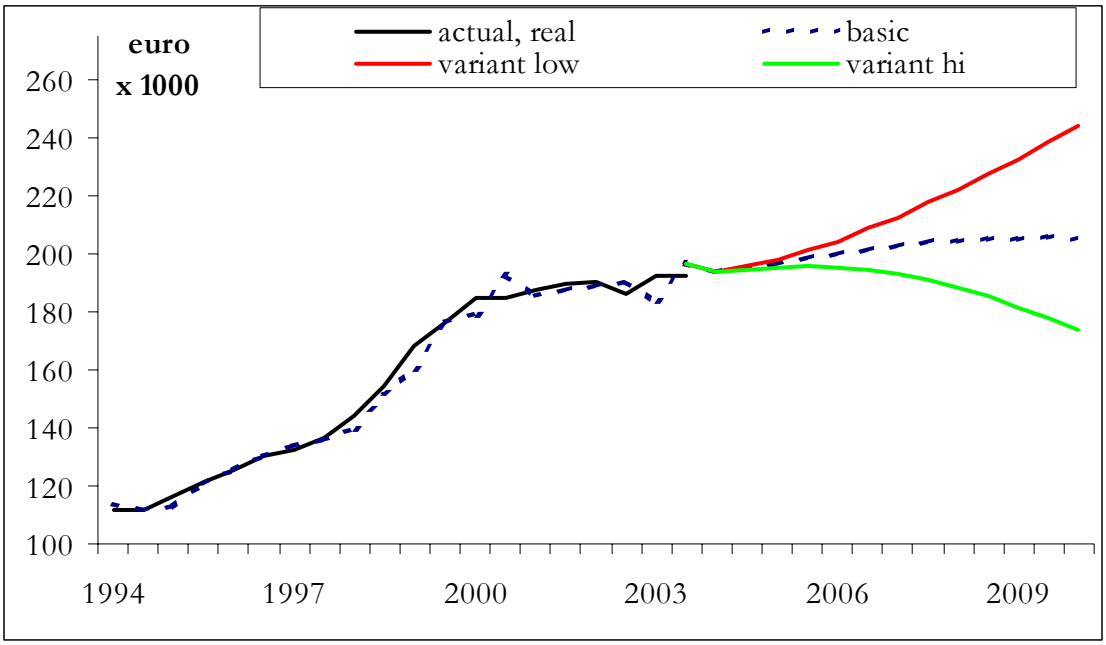
Interest effect: absolute change in real interest $_{g2}(\Delta R_{ipc})_t$

Model variable	Description
$_{g2}(\Delta R_{ipc})_t = 0.5(\Delta R_{ipc})_t + 0.5(\Delta R_{ipc})_{t-1}$	Progressive year average of the absolute change in the real mortgage interest rate
Where:	
$(\Delta R_{ipc})t = (R_{ipc})_t - (R_{ipc})_{t-1}$	Absolute change in the real mortgage interest rate

$(R_{ipc})_t = (R)_t - (INFL)_t$	Real interest rate
R	Nominal interest rate
$INFL$	Change in percentage terms of the price-indexed family consumption of goods

To get an impression of the model's explanatory power, a prediction was made whereby from 1980 on, the lagged house price was included as an endogenous rather than an exogenous variable. In this way, we gained insight in the degree to which the model is capable of estimating the unknown house price solely on the basis of the exogenous variables of income, interest rate, inflation and seasonal correction. Figure 4 shows that the model is capable of providing a good estimate of the nominal and real house prices.

Figure 4 Observed and estimated house prices[1)], 1976 – 2010

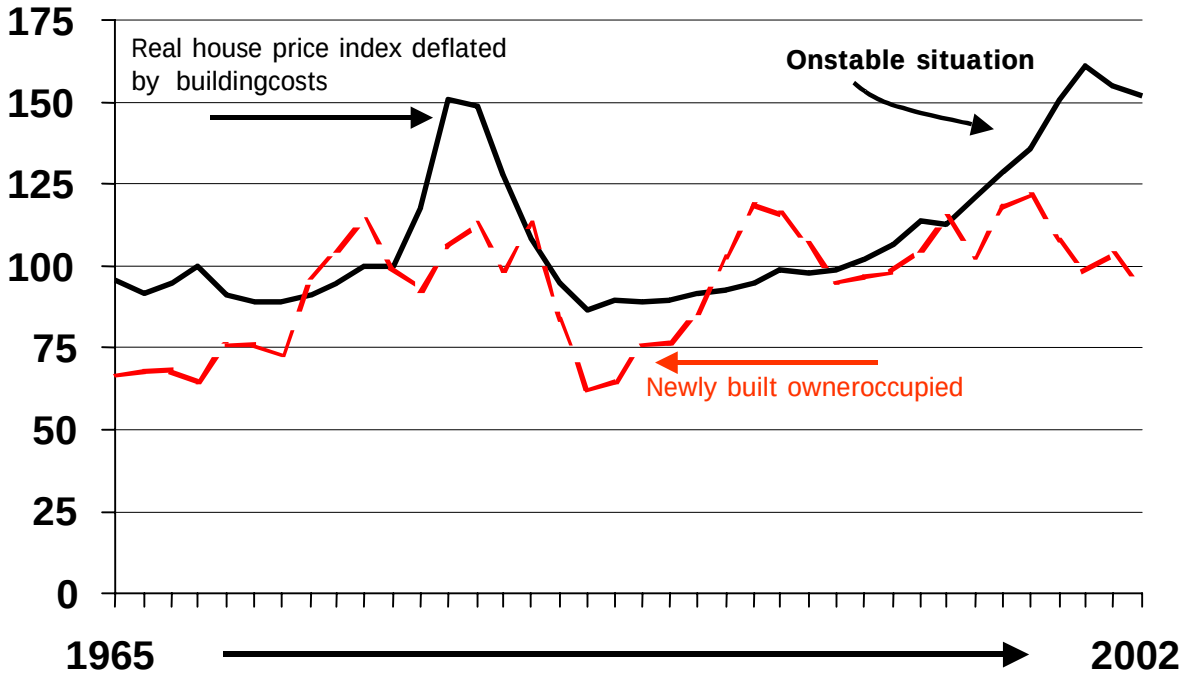


As presented in figure 4, for the coming years we aspect a quite stable development of house prices. The basic projection shows a very modest price increase of real house prices. In nominal terms, yearly house prices will rice with 2% to 3%, depended of the inflation rate. This outcome can be explained by the fact that the interest rate and the household incomes are kept almost constant, whereby also the yearly price mutations are quite flat. The last three years show already a stable price development. Of course, the predicted price development changes when we alter the interest rates. In the high variant, interest rates increases with yearly 0.25% and in the not very realistic low variant it decreases with the same percentage. As shown in figure 4, both variants are leading to quite different house price developments. In the not unrealistic scenario of rising interest rates, house prices will decline with about 10% in the near future.

5. House price development and housing supply

With the introduction of his Housing in the Nineties white paper (*Wonen in de jaren Negentig*), the State Secretary, Enneüs Heerma, broke with the anti-cyclical house building policy for the first time since World War II. Market forces, consumer sovereignty and the ending of object subsidies were now at the heart of the government's policy. Entirely in line with his market-based housing policy, Heerma announced that a disappointing economic situation would not automatically mean that the government would maintain housing output with subsidies to properties.
Against the background of the change in policy outlined above, the second part of this paper looks at the coordination problems in the liberalized housing market during the 1990-2004 period, in particular the mismatch between the explosion in house prices and the stagnation in house-building during the past six years. Figure 5 shows the nature of the situation

Figure 5 Price and production of owner occupied housing in the Netherlands 1965-2002



Source: CBS, NVM

Output of new homes during the 1995-2003 period fell by 35%, whereas house prices for existing stock rose no less than 59% in real terms. This justifies the description 'the

disfunctionality of the Dutch housing market': exploding house prices versus falling house-building output. While it is clear from the RICS European Housing Review 2004 that this situation is not confined to the Netherlands, the extent of the phenomenon there can certainly be regarded as unique (Ball, 2004, p. 11). Only the United Kingdom is in a somewhat similar situation (Barker, 2004).

As mentioned above, the publication of the Housing in the Nineties white paper can be seen as a turning point in Dutch housing policy. From then on the Dutch government's house-building programme was merely indicative, and the balance of housing types being built was resolutely changed. At VINEX sites (new-build sites designated under the government's planning policy) at least 70% of homes were to be built commercially, whereas until then over half had been built for the subsidized sector. The government did not adopt a house-building policy in line with the market, however; instead it continued to exert a major influence on house-building through planning policy and quality assurance policy and by boosting demand.

The VINEX policy was introduced in a planning white paper (*Vierde Nota Ruimtelijke Ordening Extra*), which strengthened the urbanization policy already being applied. This policy aimed to combat undesirable suburbanization and target house-building at areas in and just outside the major towns and cities. The consequence of this tight planning policy was that the amount of possible building plots was severely restricted.

The shortfall in output is explained not only by the strict planning policy, which restricts the number of sites available for house-building, but also by the current rules and regulations. This problem is confirmed by recent research (Van der Heijden et al., 2001; De Vries and Van der Heijden, 2002). This research identifies problems in (a) the planning phase, (b) the sales phase and (c) the actual building phase. Developers find the problems identified in the planning phase to be the worst, in particular the length of time municipal authorities take to reach decisions. After that the problems mentioned are the lengthy negotiations with municipalities, the inadequate quality of municipal staff, the procedures associated with local plans, and insufficient municipal staffing. Interestingly, the complexity of Environmental Impact Statement procedures, mortgage interest rates, lack of building materials and lack of equipment were considered to be only modest problems.

Building firms also experience problems in the construction and sales phases, albeit to a lesser extent. Most frequently mentioned in the sales phase was 'an unsatisfactory price-quality ratio due to high land prices'; in the construction phase the main problem was rising construction costs.

In general it is fair to say that the administrative situation regarding house-building projects has become very complex, none of the parties involved is now in a position to act entirely independently, and there is a high degree of interdependency between both the planning aspects and the participants. Municipalities have lost their dominant status, often trying to organize house-building through communicative planning and without any direct financial tools. Once the parties involved have entered into often detailed, complex administrative covenants, it is very difficult to adapt these quickly and

appropriately to changing market conditions. An example is the VINEX contracts signed in the early 1990s, following lengthy negotiations: the ink was hardly dry on the contracts before there was a sharp qualitative increase in housing demand. Now that, at the beginning of the 21st century, after years of debate and at the insistence of the industry, most schemes include more scope for high-quality housing, the market for new owner-occupied homes in the higher price range is in decline: as a result, homes in expensive schemes are unsaleable and the funding for house-building as a whole is being eroded.

Quality assurance policy

On top of housing production policy and making new-build sites available (in limited quantities) in and around the towns and cities, the government has exerted an influence on supply and demand in two other areas. Firstly, it has tightened up its quality assurance policy, with e.g. tougher environmental standards, rules on adaptable and safe building and in many cases municipal standards for architecture (in the expensive sector). With the revised Building Decree which came into force on 1 January 2003, the government put in another substantial oar: research by PRC Bouwcentrum indicates that this will cause construction costs to rise by an average of 6%. Consumers will, of course, have safer and more comfortable homes in return (BouwNed, 2002), but the question is whether they see these additional investments the same way the government does.

Boosting demand

Lastly, the Dutch government still interferes substantially by supporting demand, in particular through aid to social landlords, direct government spending and tax concessions to owner-occupiers. The Netherlands proudly leads the field in Europe in the first and last of these aid categories.

As regards capital growth and independence in the social rented sector, let us turn to the findings of Kemeny (1995). The maturation of the Dutch rented sector can be described as unique in Europe: not only does the Netherlands have by far the largest social rented sector, accounting for 35% of the total housing stock (followed at a safe distance by the United Kingdom with 21%), the sector has a high degree of independence and it has accrued a large amount of capital in the existing stock. In this context the Central Housing Fund calculated in 2002 that the Dutch housing corporations had combined net assets of 22 billion euros, even valuing the housing stock at its value in use, not the—much higher—market value, and allowing a certain amount for uncertainty. This figure of 22 billion euros is in fact 10 billion euros higher than the minimum net assets required according to the Fund, and the surplus is expected to rise to 18 billion euros by 2005 (Centraal Fonds Volkshuisvesting, 2002, p. 5).

With the scope they have for rent pooling and the freedom to sell off property and thus use capital invested in bricks and mortar for other purposes, the corporations are able to rent out newly built social housing well below cost price. The now common financial gap (the difference between production cost and calculated value in use) of 50,000 euros for building a social rented home is much higher than the property subsidies handed out by central government in the early 1990s.

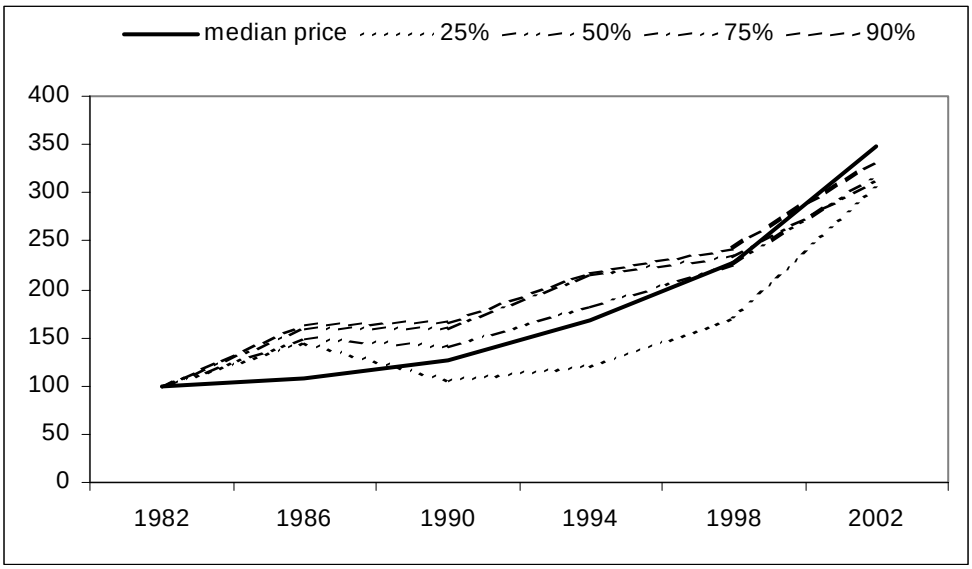
The second way in which the government boosts demand is still in the traditional manner, through the budget of the Ministry of Housing, Spatial Planning and the Environment (VROM). The personal subsidies in both the rented and owner-occupied sector are particularly striking here: in 2002 a sum of 1.9 billion euros was earmarked for affordable housing, 1.5 billion of this specifically for rent rebate (VROM, 2002, p. 3). Compared with the rest of Europe, however, this interference in the market can be seen as modest: Stephens et al. (2002, p. 27) calculated that spending on rent rebate in the Netherlands in 1995 amounted to about 0.4% of gross national product (GNP). Of the seven countries included in the study, only Germany scored lower, with 0.2%; the other five had much higher figures (UK 1.8%, Sweden 1.2%, France and Finland 1.0% and Denmark 0.7%).

The third way in which the government stimulates demand is through tax concessions, and this amounts to a lot more than the support provided through rent rebate (see also table 1 and the introduction). In particular, the full deductibility of mortgage interest from taxable income and the low imputed rental income make for a substantial demand boost. The sum of mortgage interest deductions less imputed income amounted to as much as 7.3 billion euros in 2004; 6.1 billion if property transfer tax is included in the calculation. This generous fiscal support is reprehensible from the point of view of welfare theory, plus it is entirely unique in Europe: this government interference does not serve social justice, on the contrary it aggravates social inequalities, as the amount of aid increases as income rises, because of the higher tax rates. One of the effects of this system is that homes have become unaffordable for first-time buyers in the lowest tax band unless they have substantial capital of their own. Also, as income rises, consumer choice is increasingly manipulated, again causing a welfare loss.

It is clear from the data and analysis above that prices for existing homes have risen partly as a result of the substantial boosting of demand, and the output of new homes has not only failed to keep up with this, it has even declined in recent years. We can conclude from this that the marked for owner-occupied homes needs to be seen not as a construction market but as a ‘stock’ market, where the relationship between supply and changes in demand is highly inelastic. This finding is confirmed if we look at the relationship between borrowing capacity and prices at micro level (Figure 6).

These computations take the rules applied by mortgage brokers and banks into account, as well as interest rates and income. Borrowing limits, which had come under severe pressure during the previous period, rose over the 1982-86 period. Prices, which were also emerging from a deep dip, did not immediately respond to the increase in opportunity, presumably because most households were still mindful of the severe recession. During the next period the difference disappeared again, then in the 1990s prices and borrowing limits kept reasonably in step. Another interesting point is that the gap between borrowing limits and prices has gradually narrowed.

Figure 6 Mortgage borrowing limits for households with a perceived household income of 25%, 50%, 75% and 90% of income distribution and prices in the existing housing stock during the 1982-2002 period (index 1982=100)



Source: OTB computations based on data from various Housing Surveys, mortgage brokers, the National Mortgage Guarantee Scheme and the Dutch Association of Real Estate Brokers and Real Estate Experts (NVM)

6. Lessons for the future and possible solutions

This paper has looked at the changes that have taken place in the Dutch housing system since the last decades. First we described and explained the typical Dutch house price development of the last four decades. We also presented a error-correction model to get more understanding of the price-mechanism and to have a tool for possible future price developments. The relationship between house prices and housing production and more precise the disfunctionality of the Dutch housing market was discussed in the second part of this contribution. It was found that there is still a marked discrepancy between the terminology used in the policy discourse and the supply and demand situation on the Dutch housing market now, in 2005. Policy revolves around controlling market forces and increasing the choice available to the public, as well as social values. Analysis of the housing market, on the other hand, shows that the government is stimulating demand with a variety of subsidies, causing an explosion in the prices of existing homes. As in many other European countries, the government is not focusing on the weakest groups in the housing market, it is only increasing existing income and wealth gaps, and it is creating major hurdles to house-building through its planning policy, administrative organization and building regulations. The result of this mismatch between policy and the actual behaviour of the market is that the policy objectives are not being met: output is stagnating and the housing shortage is growing sharply. The risks for the public, the government and the building industry are also increasing, and

owning your own home has become impossible for people in the low and middle-income groups.

If we are to escape from this impasse, we need to re-examine the government's role in the housing market. Firstly, we need to cut down the substantial boosting of demand compared with the rest of Europe and target support more at the low and middle-income groups. This would prevent the housing market becoming overheated in times of economic prosperity (as it did at the end of the twentieth century), causing—among other things—a sharp increase in the volatility, which causes substantial harm to the country's general economic growth.

Another improvement could be to iron out the administrative hurdles that the government has created to the housing supply. The first step in this direction would be to apply a less strict planning policy than in the past and make sufficient sites available for house-building: developers could then seek alternative sites reasonably quickly in the event of delays. New-build policy should be applied much more flexibly, to enable developers to respond appropriately to changing market conditions. The highly developed rules and regulations on quality assurance in the Netherlands could also be relaxed: at times of low demand it makes no sense for the government to set environmental and safety standards for new homes that are not appreciated by consumers.

Lastly, the unique position of the Dutch social rented sector could be used to apply an anti-cyclical building policy, as was the case prior to the 1990s: as already indicated, the social landlords in the Netherlands have enormous assets and by 2005 will own 35% of the housing stock. The surplus of 11 million euros calculated by the Central Housing Fund is more than enough to increase house-building output temporarily during periods of economic difficulty. Unlike in the 1980s, quality should not be sacrificed too much when building rented homes. The housing corporations could sell off the better-quality ones to owner-occupiers when the economy picked up. They would then recoup the unprofitable investments and presumably have opportunities to make a profit: this could then be used to improve the quality of the existing stock, which in many cases does not come up to the latest quality standards in times of economic prosperity. In this scenario, however, the politicians would have to make a fundamental choice in favour of a social rented sector that is accessible to the middle-income groups as well as marginalized sections of the population and targets broader social problems in the built environment. In my view the second option would be most appropriate for the prosperous economy that flourishes in the Netherlands. This would take full advantage of the unique position of the housing corporations, compared with the rest of Europe, so as to tackle important social issues such as liveability, social cohesion and safety.

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