

Why did Dutch economists get it so wrong?

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Abstract

As late as February 2010, at the time when it already had exploded, Dutch economists denied the existence of a 'housing bubble' in the Netherlands. The reasons for this denial seem to be an unwarranted trust in formalized economic models as well as econometric estimates, the neglect of basic historical, comparative and statistical information as well as a curious lack of knowledge about 'state of the art' ideas and models, let alone 'heterodox' ideas. This paper examines the failure of Dutch economists as a means of answering two transnational and ultimately theoretical questions:

1. Is it possible to develop a kind of analysis which enables us to identify housing bubbles in an earlier phase, and
2. Do economists when looking for housing bubbles look at the right variables and in the right way?

1. Introduction

Is there a housing bubble when, as happened in the Netherlands between 1986 and 2007 (data from Özdemir and De Ward, 2005 and Centraal Bureau voor de Statistiek (CBS), <http://statline.cbs.nl/statweb/?LA=nl>; <http://www.woningmarktcijfers.nl>):

- loan-to-value ratio's rise to unprecedented heights;
- loan-to-income ratio's rise to unprecedented heights;
- mortgage debt rises from about 100 billion euro in 1993 to over 600 billion euro in 2009 – and continuous to increase up to January 2010. November 2010 saw the first drop in decades;
- real house prices rise about 150% in 21 years (1986-2007);
- a fast increasing share of new mortgages consists of 'interest-only' mortgages or even 'top mortgages' of up to 125% of house value and even higher;
- 2009 mortgage debt per household is the highest in the world;
- 2009 housing costs are the highest ever and the highest in Europe;
- real house prices fall 8% in two years and continue to fall (October 2010);
- the number of transactions on the housing market falls about 40% compared with 2006 and continues to fall. October 2010: was minus 12% compared with 2009;
- cities like Amsterdam and Eindhoven run into major problems as they can't sell land-with-a-building-permits anymore – and have to introduce draconian cuts in their infrastructure budgets;
- 'Theoretical selling time' (number of houses for sale divided by average sales per month) increases to 48 months for more expensive houses and to 24 months for median priced houses;
- construction output falls 20% in a year;

Meanwhile nothing of the kind happens in neighboring Germany? According to Dutch economists there is and was, in spite of all these disturbing signs, no housing bubble in the

Netherlands. (Kranendonk en Verbruggen, April 2008; Geest en Heutz, May 2008; Brouwer, May 2008; De Nederlandse Bank, September 2008; Francke, February 2010; Commissie van sociaal-economisch deskundigen, April 2010; Donders, Dijk en Romijn, April 2010). While, at that moment, real turnover on the housing market had already gone down about 45%, professor Francke stated as late as February 2010:

“At the end of the seventies and in the early eighties there was a great overvaluation; at the time the real prices are significantly higher than the equilibrium prices. The last few years the differences between real prices and equilibrium prices are small. From the perspective of the ECM (the model, M.K.) there is no reason to assume that there is an overvaluation of the housing market at the moment. This conclusion is in line with the recent reports of research institutions like the CPB, IMF and OTB (Francke, 2010, p. 17)”.

Francke should have mentioned that other research institutions, which do not only look at the income and expenses account of households but also at balance sheet items and liquidity statements and which do understand the ‘changing circumstances’ drawback of the econometric models based upon historical data which are used by Francke and the economists he cites, do mention overvaluation problems:¹

“In the countries with the largest house price increases (Ireland, the Netherlands, Spain and the United Kingdom) as well as in Australia and New Zealand, these ratios (i.e. price to income and price to rents ratios, M.K.) exceed their long-term averages by 40% or more.” (OECD 2005, p. 42).

Also, the ‘household investment rate’ in the Netherlands has been quite a bit

Table 1. Household investment rate (% of gross disposable income)				
	1998	2002	peak	2009
Peak: highest level between 2006-2008				
Ireland	n.a.	17	27	8
Spain	n.a.	12	15	9
The Netherlands	12	11	14	12
France	8	8	10	9
Germany	12	9	9	9
Italy	8	9	10	9
United Kingdom	6	7	8	5

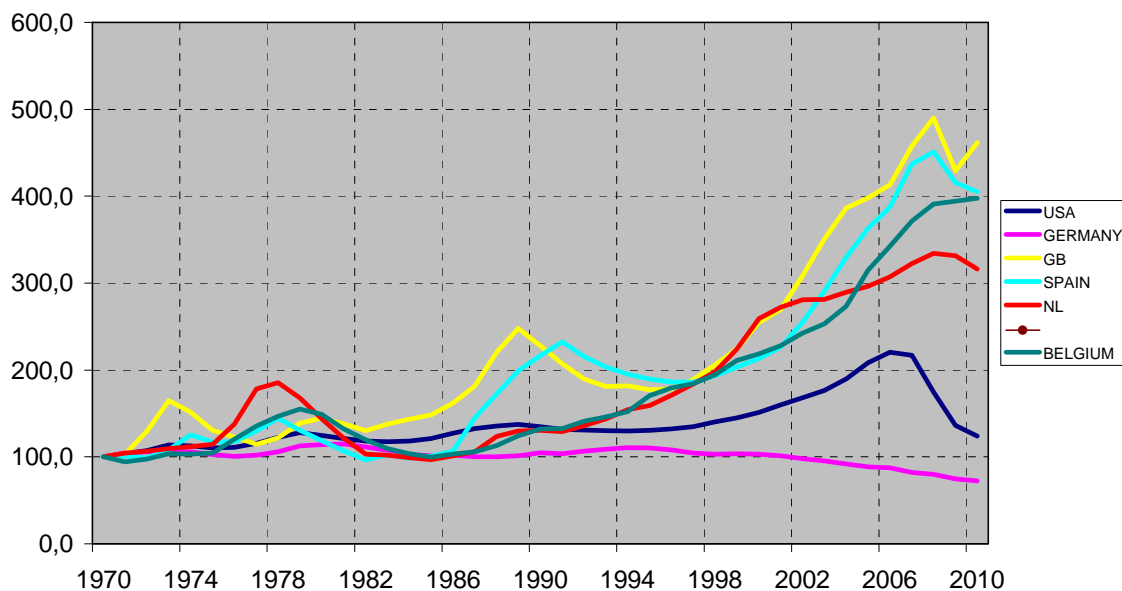
Source: Eurostat

¹ Francke also forgets The Economist, 2003, which predicted disastrous declines in house prices in Ireland, Spain, the USA, Great-Britain, Australia and the Netherlands, as there were big bubbles in these countries: *“People buy a home in the expectation that its price will continue to rise strongly over time. Such expectations lie at the heart of all bubbles. Given the boom in the property market over the past few years, at the very least house-buyers betting on further rapid house-price gains are likely to be disappointed. Worse, there is a risk that house prices will take such a tumble that they take whole economies with them.”* And contrary to the remark of Francke, the IMF also did warn: IMF, 2008.

below what it was in the building boom; the high level was mainly due to ever increasing house prices.²

When we look at prices, the same pattern shows (graph 1). This graph is based on the Bank of International Settlements eighteen countries real prices 1970-2006 dataset which is spliced to the new Eurostat house price data (released December 2010) and the Case-Shiller house prices index for the United States, whose data were deflated with Eurostat consumer price indices. The countries with the lowest and highest 1970-2010 increase were Germany and Great Britain. The Netherlands were fifth-highest. Especially the comparison with Germany (and believe me: people do not live in sheds over there) indicates that something curious is the matter with house prices in countries like Great Britain and the Netherlands – surely when (see below) building costs have not risen as much as house prices, if at all. Are economists looking at the right things when they state that there isn't any kind of housing bubble in the Netherlands?

Graph 1. Real house prices, 1970 = 100



Sources: data up to 2006: http://www.finfacts.ie/biz10/BISHOUSE_PRICE_DATA.xls. Data 2007-2010: USA: Case-Shiller home prices index (national data); all other countries: Eurostat, 2010. 2007-2010 data have been deflated with Eurostat inflation data, 2010 with the October 2010 figure.

This question is not confined to Dutch economists alone. The USA economist Dean Baker is somewhat embarrassed by the manifest failure of many USA economists to identify the USA housing bubble even after it collapsed – a bubble which he already explicitly identified in 2002 (Baker, 2002; Baker, 2010).³ This leads to the question why, despite the obvious and glaring information on tensions and risks, unsustainable developments and a severe implosion of the market (minus 45% in real terms and falling) do economists still not

² Compared with other countries, there is an exceedingly high mortgage and interest burden on households in the Netherlands: OECD, 2005, 131. Since then the burden has increased.

³ His main argument was the rise of the price/rent ratio, which indicates that the 'asset' aspect of houses started to outweigh the 'home' aspect in decisions to buy a home: people started to speculate in their own house. He calls the USA bubble the biggest bubble ever in the largest market ever. He's right about that. On a relative scale, however, the Irish bubble was much larger.

admit what happened – and to the more general and important question: Is it possible to develop a kind of analysis which enables us to identify bubbles in an earlier phase? In this paper I will try to answer that question and also: Do economists look at the right variables and in the right way?

2. What did Dutch economists recently say about the housing market?

Recently, prestigious think tanks, institutions, professors and advisory committees have published numerous studies on the housing market in the Netherlands (Verhagen en Wolters, 2001; Vries en Boelhouwer, 2004; Kranendonk en Verbruggen, April 2008; Geest en Heutz, May 2008; De Nederlandse Bank, September 2008; Francke, February 2010; Commissie van sociaal-economisch deskundigen, April 2010; Donders, Dijk en Romijn, April 2010). Some of these studies are excellent (Verhagen en Wolters, 2001; Vries en Boelhouwer, 2004). They investigate a number of different models, analyze which models are most apt to be of use and show acquaintance with recent as well as less recent theoretical and historical developments. They are, though economic in nature, written by non-economists. Other studies are not so good. The latter studies also do not mention the good ones.

Those of the Central Plan Bureau (CPB), the main economic think tank of the government of the Netherlands, are especially wanting. It's not exactly 'state of the art' economics to explain the development of average *individual* house prices with (among other variables) *total* wage income of households (Kranendonk en Verbruggen, 2008). As the number of households increases in a more or less stable linear fashion and as this 1%-a-year change is quite a bit lower than changes in total wages, changes in total wage income will almost always have the same sign and almost the same magnitude (though smaller on the down side and larger on the up side) as changes in wage income per household – and indeed, the variable is statistically significant. But it's a clear misspecification which affects the magnitude of the coefficients, which are therefore quite useless.⁴ A newer study uses the 'Representative consumer' to explain the housing market (Donders, Dijk en Romijn, 2010). But even when one accepts this kind of methodology, it's not acceptable to use it when one investigates choices between renting and buying (i.e. the choice between 'a little bit more/less of rent and a little bit less/more of ownership of the partly rented, partly owned house of the representative consumer). Low income groups do not have access to the mortgage market and therefore have, contrary to the assumptions of the model, little to choose.⁵ An implicit assumption of the model is also that low income groups are literally able to split off part off their (rented) house to make sure that richer people can have larger houses.⁶

⁴ This is a textbook example of what Ziliak and McCloskey call 'The cult of statistical significance' – as long as something is significant, you do not have to look at what it really means.

⁵ Representative consumer models with two consumers have been developed: for instance Mourougane and Vogel, 2008. Even when one accepts the 'representative consumer' methodology, the two consumer model should have been used, with one consumer not being able to buy. Much more important, of course, is that the very fact that the CPB model turns out to be outdated implies the imperative possibility that the newer model also might be less than perfect – results of models *always* have to be discussed, criticized and analyzed. This is a 'no-brainer' for the biologists and agronomists with whom I often work. Economists, however....

⁶ Using a 'representative consumer' literally leads to the conclusion that the poor have to pay more for smaller houses to make room for the rich, according to the study. As the rich have more money, a disproportional share of expenses of the 'representative consumer' are of course paid by house owners, which in a single consumer neo-classical model characterized by equality between prices and marginal utility almost inevitably leads to such conclusions.

Even worse, the authors use a 'Cobb-Douglas' utility curve, without explaining if such indifference curves indeed exists, without arguing if a Cobb-Douglas specification is the apt specification and without arguing if the parameters used to quantify the Cobb-Douglas function have any kind of empirical basis – it's all 'Brothers Grimm' economics. They also assume that owners demand a 5,7% return on total investment, even when empirical data show that it is less. A thorough investigation of the present situation is absent, historical analysis is absent, no attention is given to alternative models – the list of basic flaws goes on, and on. Again and again, the authors state: 'we assume', again and again they do not show acquaintance with either the historical record or recent literature – the least they could have done is to realize that proposing a 40% increase of rents, to enable higher taxable profits for people renting out houses, for a country where rents already are the highest of Europe (Özdemir and De Ward, 2005) is rather quaint.⁷ With regard to bubbles the model is straightforward: the assumptions rule these out. As the authors take the results of the model at face value and do not discuss these, they can't see a bubble – as there is no bubble (in the model).

Geest and Heutz (2008) and Francke (2010) do quite a bit better. Geest and Heutz do give an analysis of the present situation, using a wide array of data on, for instance, value to loan ratios and the historical development of prices. Francke also shows knowledge of recent theoretical developments and the international literature, while he also gives an insightful overview of the concept of house prices: as the 'goods' in question as well as the buyers and the sellers are unusually heterogenous, the market is quite 'fuzzy'. Information contained in a price paid by one consumer might be of little use to another consumer. To this may be added that, as is usual in secondary markets for assets, historical costs only play a small role when it comes to setting prices, which enhances the 'fuzzyness' of prices when it comes to information. Both studies however spoil their case when it comes to the model used. Unlike Geest and Heutz, Francke recognizes the importance of hysteresis – i.e.: the best prediction of this year's prices are last year's prices⁸ - and also shows that the effect of hysteresis withers away after some years. Unlike Francke, Geest and Heutz also pay attention to the balance sheet of households and analyze the (in their eyes: increasingly alarming) ratio's and increasing risks shown by balance sheet changes. The changes in the balance sheets are however not 'statistically significant' (at least not in the historical period they investigate) and are, therefore, not included in their regression models: Minsky moments defy statistical significance. And just like Kranendonk and Verbruggen, they extrapolate their regressions into the future, without even mentioning the chance of a 'regime change'. The results of their regressions are *not* discussed against the information they provide about balance sheet items, etcetera as well as common sense and a wide array of all kinds of literature and information: the future is a straight regression line which by definition excludes a crisis. As long as price increases are explained in a statistical significant way by past prices - there seems to be no bubble. This kind of reasoning by implication also changes our view of Dutch history: as seventeenth-century increases in tulip prices might be explained, in a

⁷ Their study boils down to a centrally planned rate of profit, which enables the state to tax organizations and persons renting out houses – squeezing the renters, to phrase this differently. Return on investment has to be high because this enables investors to build houses, while it's expensive to build houses as land prices have increased because house owners are allowed a tax deduction of mortgage interest. Phrased differently: squeeze renters to enable a tax subsidy to owners of houses and a windfall rent for land owners.

⁸ More precisely: when house prices in a certain period start to rise because interest rates drop and real household income rises, and interest rates continue to decrease for a period of five years while incomes continue to increase for a period of five years, while in year six interest rates and household incomes return to their original levels, house prices will after year five still stay quite high for some years.

statistical significant way, by earlier increases, there was no tulip mania – until the bubble exploded.

Studies of De Nederlandse Bank (DNB) are technically outstanding and investigate balance sheets of households and clearly mention all kinds of risks. These studies are however very cautious when it comes to a possible bubble (Brouwer, 2008; DNB, 2008). I do have the impression – which I can't prove – that the DNB is afraid to mention the 'bubble' word as this might lead to panic. To my knowledge, there are no recent statements of the DNB that suggest any kind of bubble might already have imploded.

The report of the 'Commissie van sociaal-economisch deskundigen' (CSED) of the Sociaal Economische Raad (Committee of social economic experts of the social economic advisory board) is a special case (CSED, 2010). The Sociaal-Economische Raad is the most prestigious board of advisors to the Dutch government. The report of its housing specialists starts with a balanced discussion of the situation and problems of the total housing market (owner occupied houses and rented houses) in the Netherlands. Problems start when solutions are proposed. They accept the CPB study (Donders, Dijk and Romijn, 2010) and solutions have to be consistent with this model and, therefore, the premise that real rents have to increase with about 40%. The report even states that rent increases have been slow and limited – a manifest falsehood born out by ignorance of the facts, as will be shown below. Some of the drawbacks of the CPB study have already been mentioned. These return with full force in the CSED study – it in fact reads as a textbook neo-classical model of monopolistic price setting where the monopolist – read: the government – sets prices at the point where marginal costs (read: investment costs of *new* houses including inflated land pricing and including a 5,7% net return on total investment) have to equal marginal proceedings (average rent on *all* houses, including old houses with a much, much lower balance sheet value). As investment costs for housing are based on present day land prices, which were at a historical high, as one of the main causes of these high land prices is a very generous tax deduction of mortgage interest, as this deduction is abolished in the CSED plan but as land prices are supposed to stay at their historical high (while they are, at the moment, already falling), the study is quite an inconsistent.⁹ The study has been published in April 2010, when house prices and prices of land were already falling while the number of transactions on the housing market had plummeted. The study does not take this into account. It does mention the criticism that the 'real world' rate of return in the 'real world' housing market is well below 5,7%. The authors however seem to prefer the 'centrally planned rate of profit'.¹⁰

Summarizing: economists trust their models – even when these contradict reality. The way these models are used in combination with the structure of the models exclude the possibility of bubbles. So, according to the economists, no such bubble exists. The DNB might be the exception to this – but for the moment we can't exclude the possibility that the DNB-people are afraid that crying wolf will awaken Fenrir, the mythological German Ragnarok wolf. Better models and ideas however exist. This will be the subject of the next section..

⁹ Already, the competitive position of the economy of the Netherlands is threatened by high prices of housing, as German houses prices did not increase. Increasing real rents by 40% will lead to higher inflation and higher wages and therewith to an eroding of the competitive position of the economy of the Netherlands - all this to secure rentier incomes. According to the CBS, in 2007, 2008 and 2009 increasing rents and energy costs were responsible for 37,5%, 20% and 33% of total inflation (CBS, Statline).

¹⁰ This, of course, reminds one of the idea of Kornai that neo-classical equilibrium requires a Stalinist central planner. The Dutch housing market is characterized by a multitude of companies, charities, corporations, individuals and governments who rent out houses – that's the real-world market. This real-world market does not work quite like the textbook market. 'Too bad for reality', according to the study.

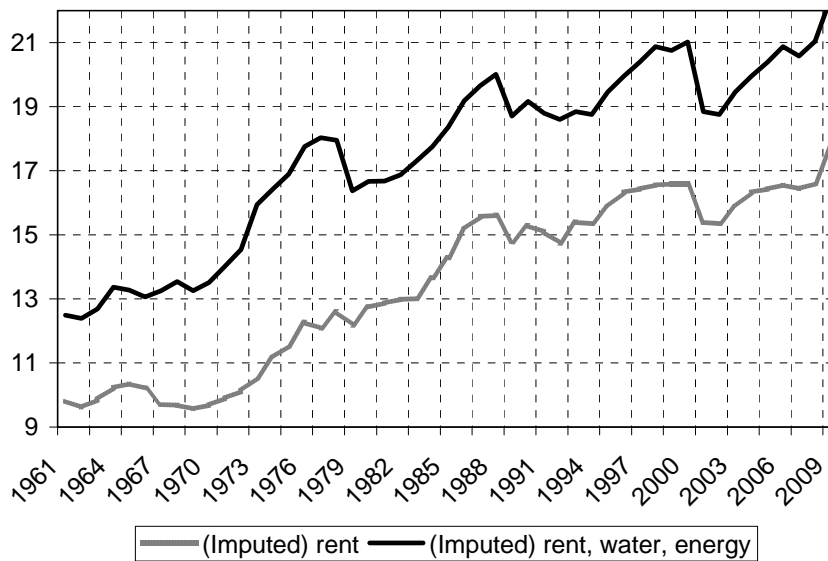
3. Whatever happened to the Dutch housing market? A non-general non-equilibrium approach

One of the main reasons why the studies mentioned above don't see a bubble is that they focus mainly on house prices. Building costs, turnover in the market, mortgages and the like are, when push comes to play, not taken into account. There are models that do pay attention to such variables. This paragraph will discuss some developments on the housing market with such models and ideas. A special characteristic of this analysis, rather distinct from the models mentioned above, will be the idea that people do not pay mortgage interest to buy a house, but to solve a liquidity problem: to obtain a mortgage. The mortgage is used to pay for the house.

3.1 The income and expenses account of households

A somewhat neglected characteristic of the long and even the very long term of 'modern economic growth' seems to be that 'the housing share of consumption spending' continues to increase (see, for the USA, Baker, 2002). The Netherlands are no exception to this (graph 1 and 2). Graph 1 is based on National Accounts data which have the advantage that these are part of a consistent estimate of the entire Dutch economy, a drawback of the housing data is however that the costs of owner occupied houses are not measured but estimated as 'imputed rents', taking rent of comparable houses as a measure. Graph 2 is based upon surveys. Surveys have the advantage that they allow a comparison between households owning a house and households renting a house, they however have the drawback that it is 'only' surveys and, therefore, have a margin of error. Maintenance is not included in data on owner occupied houses; paying off debt is included in costs of owning a house, though the share of interest in payments of mortgage owners has been dwindling for quite some time.

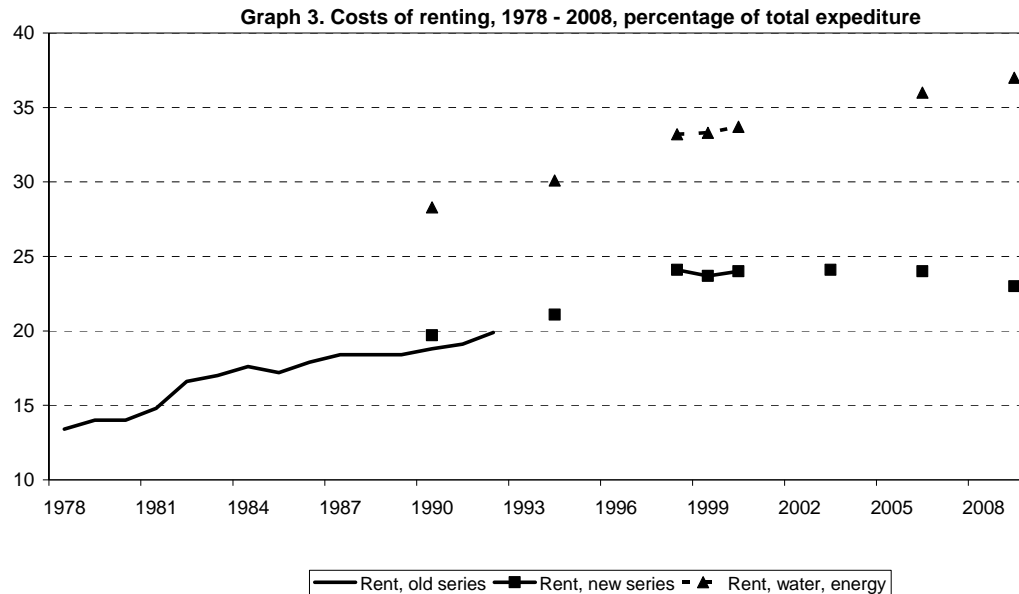
Graph 2. Housing costs, the Netherlands, 1961-2009. Percentage of total household expenditures



Source: National Accounts

Graph 2 indicates that housing costs have almost doubled between 1961 and 2009. When we compare owners with people renting a house it becomes clear that people renting a house pay a larger part of their income on housing than owners (all these data are net of tax

deductions and government subsidies, gross expenditures are even higher, Graph 2). Graph 3 shows the same thing for renters only. Owners generally have lower costs, though these too have risen, from 24% to 1986 to 25% in 2006 and 26% in 2009 (ABF-research, 2010, p. 50-51). Maintenance is however not included in the 'owner occupied' data, while mortgage costs include interest as well as paybacks.



Source: CBS, Statline; CBS and ABF research, 2010, pp. 49-49

The main conclusion from these graphs is that housing costs have increased (almost doubled) to an historically unprecedented level (Older data are at the moment not available. Considering pre-1961 rents as well as the share of food in pre-1930 budgets, it can be concluded that housing has never been as expensive as today). When we include furnishing and the like, this becomes even clearer. Remember, this is average costs. Looking at lower income groups, the share of housing in the household budget increases to about fifty and even sixty percent (CBS and ABF research, 2010, p. 51), net (!) of housing allowances.

There are of course reasons why housing has become so expensive. One is obvious from the graph 2 and 3: over the long haul, energy prices have risen. There are three other main reasons. One is the decreasing size of households. To state this otherwise: the house/per capita ratio has increased. Though the number of full time jobs per households hardly changed in the post 1970 period, this of course caused an increase in total housing costs. The other reason is price increases (graph 3). The increase of house prices is of course well known. In the Netherlands as well as in many countries – though surely not all, Germany, South-Korea and Japan are clear exceptions – prices of houses have shown a tremendous increase.¹¹ Less well known – and according to the statements in their report: unknown to the CSED economists (CSED, 2010, p. 32) - is the equally epic increase in real rents (graph 4).¹²Taking 1980 as 100 (or 1975 as 90, which is, by coincidence, also possible)

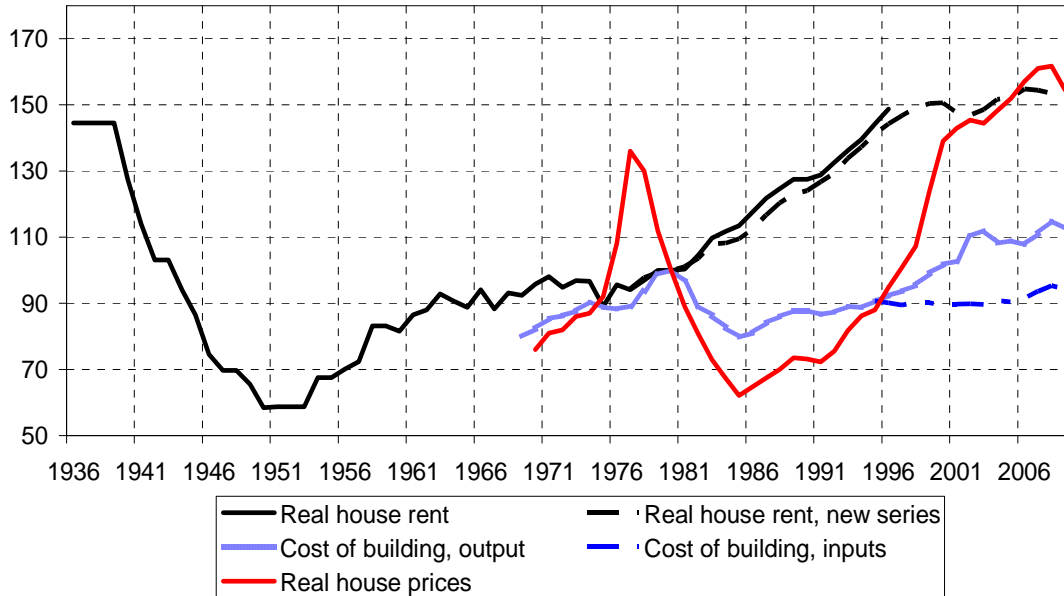
¹¹ Above, I've voiced some mild criticism of existing studies. Graph 3 is the background rationale for this. It's (albeit for a much shorter period) the Dutch version of the famous Shiller house prices/building costs graph, combined with the rent/house prices graph of (Baker, 2002). The Shiller graph has recently made it to macro economic textbooks and should, therefore, have been forged and used by the economists mentioned above. It has become orthodox economics.

¹² The committee consists of: Kees Goudswaard , Arnoud Boot, Lans Bovenberg, Harry Garretsen, Hugo Priemus, Leo Stevens, Job Swank, Coen Teulings and Pieter Winsemius. Coen Teulings is also

it shows that real rents, i.e. rents deflated with the consumer price index, have increased as much as real house prices.¹³

Why this rise? As the comparison with 'output' prices (i.e. prices of new houses) and 'input prices' (i.e. prices of new houses excluding land and profit) show, the price increase of either rents or houses can not or only to a limited extent be explained by increasing costs of building, which, after 1975, did not increase too much or even hardly at all.

Graph 4. Real rents, house prices and cost of building, 1936 - 2009. 1980 = 100.



Sources: CBS, Statline; *Statistisch Jaarboekje (various issues)*, own calculations

Rent increase after 1953 was, up till about 1990, a kind of catching up. Directly after the war the government pursued a low wage policy to boost exports but wanted, at the same time, to increase purchasing power of labor. The government squared the circle by limiting house rents to the pre-war level, which of course meant that building had to be subsidized. When, after 1953, economic growth accelerated rents were increased to make up part of the difference. The catching up lasted till about 1995, when the last subsidies were abolished – and at the moment of writing, the Dutch parliament is even talking about a 600 million Euro levy on building corporations, the main suppliers of social housing. The increase of building costs (including land) has been the main rationale behind ongoing increases of rents of (mainly) social housing after 1995. As new homes became more expensive, rents of all homes had to be increased. Graph 4 clearly shows that the increase in prices is not caused by input prices, but by the increasing price of land – which increases as owner occupied houses get more expensive.

The spike in prices of existing houses after 1975 was caused by high inflation and (very) low real interest rates. After 1980, the Volcker crisis led to a combination of high real

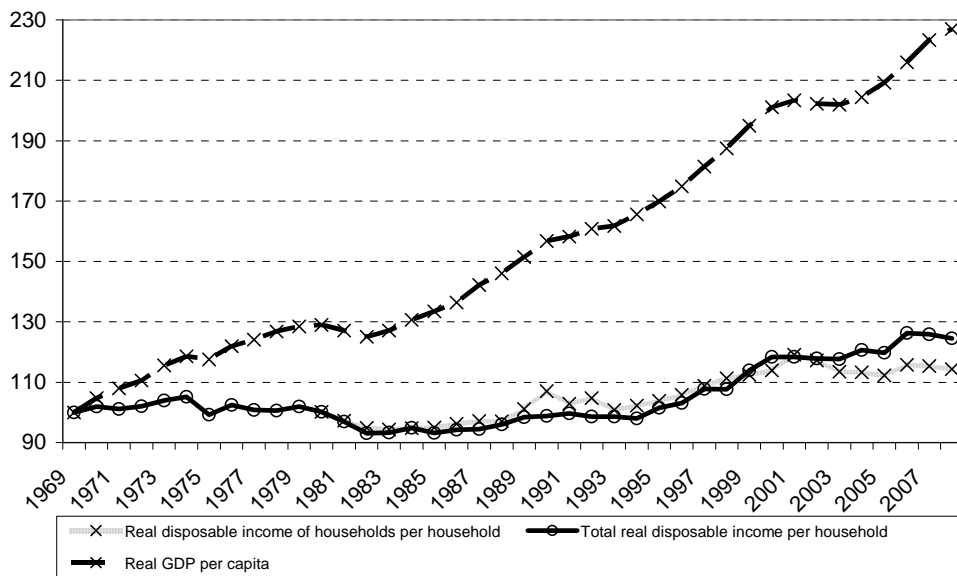
the head of the CPB, Bovenberg and Teulings are members of the board of advisors of Nyffer, which produced the Geest and Heutz study.

¹³ According to Eurostat, The Netherlands not only had the lowest rate of owner occupied houses without mortgage debt but also the highest rate of tenants living in houses at commercial rates. http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Housing_statistics

interest rates together with a large rise in unemployment – which predictably (though with a lag) led to a steep decline. Especially after 1992 declining interest rates in combination with increasing job opportunities and laxer rules of banks, like admitting interest-only mortgages and to-mortgages of 125% of the house prices led to an increase in prices, especially after international competitors like the Bank of Scotland entered the Dutch mortgage market. The increase in the amount of mortgage debt clearly causes the increased cost of owner occupied dwellings, especially when we take into account that an increasing amount of these costs consist of interest payments while paying-back accounts for an ever smaller part. Increasing quality of housing can not be ruled out, though it was only after 1990 that average size of new owner occupied dwellings increased over the pre-1946 average (CBS and ABF-research, p. 51).¹⁴

One of the variables used to explain real house prices is real income. This might be statistically significant, but it can't be that important: average real income per household hardly increased after 1969. Economists tend to focus on GDP per capita. This variable indeed did increase quite a bit (graph 5). But real income per household didn't, as the difference between gross and net increased, as the number of households increased quite a bit faster than the population, as the surplus of the current account increased and as an increasing part of disposable income did not go to households but to companies and the government. Real disposable income per household has in fact been decreasing since 2003, is now about as high as twenty years ago and only 10% higher than in 1969. This can't explain much of the house price increases. The regressions of Francke and Geest and Heuts do show large coefficients for real income – but when long term income change is zero, large coefficients do not explain anything in the long run.

Graph 5. Real GDP per capita and real income per household, (1969 = 100)



Source: CBS, National Accounts

3.2 The liquidity account of households

Real interest rates – which decreased after about 1984 - do explain quite a bit of the change, according to the regressions.¹⁵ This leads the authors to conclude that there is no

¹⁴ The report states 1946 but hardly any houses were built during the war.

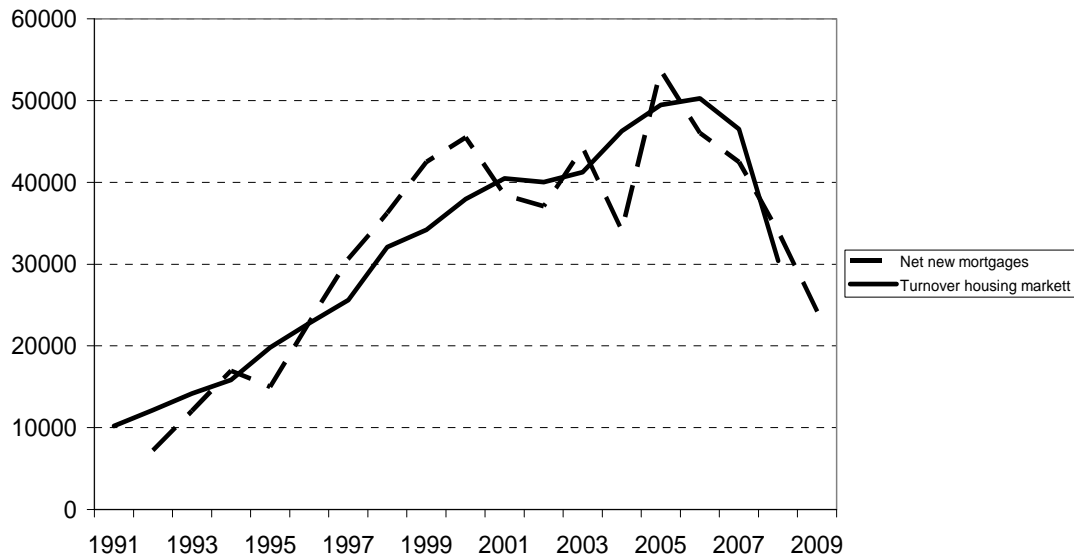
overvaluation of houses, as the rise is 'explained'. The fundamental misunderstanding is, however, that people pay interest on their home and not on their mortgage. Lower interest rates do have a statistically significant relation with prices, as a certain income can buy a higher mortgage debt. The size of mortgages indeed increased, which, as incomes hardly increased, has (and can) be explained by a combination of lower interest rates and laxer rules. Tax rules (mortgage interest deductions) in the Netherlands make it unprofitable to finance a house with savings. Almost all houses bought (new, existing) are therefore financed with mortgages (a balance sheet item) – but paid with money (a liquidity sheet item). This Mortgage-money is what I call 'local' money which can only be used for limited purposes – in this case: buying a house. All the paperwork and the solicitors have to ensure is that the money is not used for other purposes. This means that, on the housing market, the $MV = PT$ relation should hold, with V being one. Comparing the total amount of new mortgages with total turnover on the housing market we indeed obtain graph 6. The relation seems to hold (turnover one year delayed). As V is 1 (Mortgage-money is, in the Netherlands, only once used to buy a house), a change in M might lead in a change in P and/or a change in T . Between 1992 and 2006 (the peak of the housing market), both happened. Average price increased from 82.000 to 234.000, the number of houses sold increased from 124.000 to 210.000 (new houses as well as resale's). After 2006, however, when people suddenly postponed decisions to buy a house, the flow of M dwindled. Contrary to everyone's expectation, this only led to a limited contraction of P , but to a very large contraction of T , back to 128.000 (back to 1991) while prices changed to 243.000 (lower than in 2008, but still up on 2006). But that, for the moment, does not matter: in the Netherlands, turnover is constricted by the flow of mortgage-money. When prices increase, they do not increase because people want to pay higher prices, but because more money is available and the number of (new) houses is restricted: 'local inflation'. The increase and decrease in the amount of Mortgage money was facilitated by the banks, which especially after about 1993 became easier with their rules and more creative with their mortgages. In the end, the growth in Mortgage money is, however, a demand led process. In the end, buyers have to sign the mortgage-contract – the horse has to drink the water. And buyers want to drink less.¹⁶ At this moment, as house prices are quite sticky, this leads to a large decline in sales – and an increasing stock of unsold houses. In the end, many people however will have to sell – and prices will decline.¹⁷ To state this otherwise: interest rates might be called 'fundamentals', but just looking at the income account only gives part of the picture (as is explained in any introductory text on business accounts). Lower interest rates can only explain increasing prices as long as balance sheet or liquidity sheet considerations do not exclude this. To the extent that people expect to gain from future price rises – an expectation which did lead to the fast increase of 'interest only' mortgages – this indeed can be called a bubble.

¹⁵ Francke shows that hysteresis withers away after about three years, i.e. after about three years prices are fully adapted to lower (or higher) interest rates.

¹⁶ New, stricter rules are also imposed at the moment, due to 'Zeitgeist'. Even if the horse will start to drink again, there will be less water.

¹⁷ As mortgages are a 'leading indicator' for turnover, the most recent data spell disaster for the Dutch housing market.

Graph 6. Total new mortgage debt and total turnover on the market for houses, 1991-2009 (millions)



Source: CBS, Statline; own calculations.

3.3 The balance sheet

This however comes at the cost of increasing debts. Between 1992 and 2009, mortgage debt rose 500 billions to a level of about twice total disposable income of households – a clearly unsustainable rate. As long as house prices increase, this does not have to deteriorate equity: assets rise as much as liabilities. When house prices go down, equity will however decrease. Most people know this. When mortgage-money available

4. Discussion. Combining the lot: when can you call a bubble a bubble?

The IMF states that house prices have risen most in those countries (Denmark, Ireland, the Netherlands) which have the most ‘advanced’ mortgage-markets (IMF, 2008). The Economist states that bubbles are defined by asset prices which increase as people expect future price rises. Dean Baker states that an increasing house price/rent ratio is indicative of such a bubble on the housing market. ‘Advanced’ mortgage markets make it easier for people to increase the amount of mortgage-money which will increase turnover on the housing market. Lower interest rates will enhance peoples power to attain higher mortgages. When the supply of houses is inelastic, house prices will necessarily increase when Mortgage money increases, as people do want a ‘dreamhouse’ and as they will compete with each other for these houses; and price increases will fuel expectations of future increases, a well known characteristic of bubbles. Balance sheets of households will expand. Land prices will increase, as input costs of building seem to be rather stable in the long run. All these signs are sign of a bubble: a rise of prices fuelled by expectations of future price gains. Estimating and predicting an ongoing increase of rising real prices, as the Dutch economists do, is estimating a bubble. When the estimates are statistically significant, this is a statistical significant estimate of a bubble, especially when a discussion of the results of an estimate indicates that there are other ‘red signs’ on the way. The Dutch economists state that there was no bubble – but they estimated the very opposite.

5. Practical suggestions

Economists do a bad job when identifying housing bubbles. A shortcut to identification of a housing bubble might be an investment rate over 10% or an increase of the investment rate of more than 3% or 4% in two years (graph 1). House price increases which for a prolonged period of time are much higher than in comparable neighboring countries are also suspect. Economists do have to (re)learn about the difference between land and houses and the difference between labor income (wages, profits) and rent income (Foldvary 1991 might do well). Economists do have to learn that the plain results of models and estimates always require a thoughtful, scholarly discussion. (Shiller, 2005, for starters). With regard to economic policy: the Dutch housing market needs some 'Georgist' reform, restricting rentier incomes, while Banks have to carry more risk and apply stricter rules when lending out Mortgage money. Net tax deductions of mortgage interest (i.e. after subtracting the at present very low estimate of imputed rent income of the owner) have to decrease. 'Internal devaluation', which as the Netherlands do not have an own currency anymore might become necessary in the future, should not be restricted to wages but should first be applied to debts and rents – which was in fact characteristic of post war economic policy of the Netherlands. We have to prepare for a shrinking of the banking sector.

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