

**The UK Housing Market: Study of Why and to What Extent
Was the UK Housing Market Over-Valued and Was There a
Bubble Present in the Beginning of the 21st Century.**

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Formal Research Proposal

Comparative analysis of Finland and the United Kingdom: Why were housing prices over-valued and why did the housing markets react to the financial crisis in different ways?

The aim of this research is to do a comparative analysis of the housing markets in Finland and the United Kingdom. It concentrates on the effects of the current financial crisis on the housing markets in these countries and why the housing markets reacted in different ways to it.

In order to do this research I have to look at various factors that lead to first of all in the creation of the housing bubble and later how the concept of sub-prime loans burst that bubble. Important questions I need to try to answer are why the house prices were over-valued and how were they overvalued. How can we measure the over valuation of house prices? This is one of the most important aspects that I need to concentrate on. There are several indices that attempt to measure the value of the housing markets and it is important to analyse these in order to understand how the market is valued.

Once I have looked at the overall situation of the financial markets I will concentrate on the individual markets of Finland and the United Kingdom. I want to see how these two markets have reacted to the crisis and why is it that the reactions have been different. To look at specific countries I have to examine the sizes of the markets, the portion of rentals to home ownerships and the typical culture and behaviour of the markets. In this section I will, in more detail, compare and contrast the two countries and their behaviours.

The way in which the research will be constructed is so that it will first focus on the theoretical aspects concerning the topic and later go into detail with the specific countries in question.

Because this is a relatively current issue, the main source of information will be journals, news paper articles and different academic documents.

The research method will be secondary research because the topic I have chosen does not allow me to do much primary research. Secondary research allows me to get a deeper understanding to the topic and to analyse the data available. There is a variety of online publications, journals and articles to allow me to build a solid dissertation.

I need to find data that helps me determine why the house prices were overvalued in the first place and how can we measure the over valuation of the house prices. I also need to look at the two countries in more detail. I have several articles and publications that will help me to do this.

I will also look the sizes and structures of each of the housing markets as this will help me to evaluate better why the countries reacted in the way they did to the crisis. Other issues that I need to address are concerned with regulations of the housing markets and mortgages in the two countries, interest rates and income levels and how they contributed to the creation of the housing bubble.

I need to build a literature review but in order to do that I have to go through the data and sources carefully and assess their importance to this research. The literature review will focus on the main sources of information and will consist of careful evaluation and analysis into the topic.

Abstract

This dissertation critically examines and evaluates the UK housing market boom in the last decade. It looks at issues with the housing market in regards to demand and supply, the mortgage market and house price inflation. The main purpose of this dissertation is to determine whether there was in fact a bubble in the market and how can that bubble be determined. It also concentrates on the over-valuation of the housing market. The issues of housing markets have been widely discussed in the media and it is a common notion that house prices have been over-valued in the last few years. This study attempts to explain why the markets were over-valued and how can it be measured.

The UK housing market can be said to quite volatile which makes it vulnerable to house price booms and busts. This volatility is mainly caused by the structure of the mortgage market. Most of the mortgages issued in the UK are variable rate mortgages where the mortgage payments are depended on the Bank of England's base rate.

There are several factors that have affected house prices in the last decade and that have contributed to the housing bubble. The demand for houses has increased enormously due to increases in peoples' incomes, interest rate cuts, consumer confidence, availability of mortgages, demographic factors and unemployment. The housing supply has failed to keep up with the rapid increase in demand which in turn led to house prices increasing rapidly as well.

The conclusions made based on the analysed literature clearly show that there was in fact a bubble in the market and during the peak of the house prices in 2007 prices were over-valued by 31 per cent.

Key words: Housing Market, Housing bubble, Mortgages, Demand, Supply

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1 Introduction

House prices are something that affects all people at some point of their lives. When looking at house prices and housing markets in general it is important to realize how the prices are determined and what the effect of them in people's lives is. The last housing market crash in the UK took place in the early 1990's and since then the prices have been climbing up again, until they finally reached their peak in 2007 and started to collapse.

The housing markets in several countries have come under scrutiny over the past few years. House prices have increased in a fast pace and in many countries the prices have been over-valued. This over-valuation of house prices had enormous consequences to people who were trying to buy property. People were forced to take out bigger mortgages and many were re-mortgaging their houses to have more money because they thought the prices would keep increasing and they would be able to get bigger returns eventually.

There are many factors that have affected the increase of house prices, from demand side factors to supply side factors and in large part also mortgage lending. All of these factors that affected the increase also contributed to the collapse of the housing market. In other words, the collapse of the housing market in 2008 was a result of poorly managed markets and miscalculations of financial lenders.

1.1 The aim of the research

This research concentrates on the effects over-valuation of housing prices in the housing market in the United Kingdom. The aim is to determine to what extent were house prices over-valued in the recent years, why were they over-valued and what was the effect of it on the overall housing market and the collapse of it during the financial crisis. In order to do this research I have to look at various factors that lead to first of all in the creation of the housing bubble and later what were the factors that led to the bursting of the bubble. Important questions I need to try to answer are

why the house prices were overvalued and how were they overvalued. How can we measure the over valuation of house prices?

The way in which the research will be constructed is so that it will first focus on the theoretical aspects concerning the topic then based on the theory analyse whether there was a bubble in the market and how can the over-valuation of prices be measured. Because this is a relatively current issue, the main source of information will be journals, news paper articles and different academic documents. The theoretical aspects will include theory of demand and supply, the role of mortgage financing and interest rates and regulations on lending and borrowing.

2 Literature and Theory Review

House prices have been increasing at a very fast pace the past decade. There are several views to this topic that attempt to analyse and criticise the changes in house prices and the volatility of the market environment. The following section will critically review the relevant literature available. This review will assess the general issues of the housing market as well as look at the more specific issues that lead to the increase of house prices.

The issue of the housing crisis is a very recent topic therefore the main source of literature is newspaper articles, journals and statistical information. To conduct an effective literature review I will look at the information sources as a whole and evaluate what the main theories concerning this topic are and what are the explanations offered by analysts to understand the changes in the prices of houses and the housing bubble.

2.1 Volatility of the housing market

Gavin Cameron from the Department of Economics in University of Oxford argues in his paper *The UK Housing Market Economic Review* that the house price boom is largely due to the volatility of the housing market in the UK. Most of the mortgages in the UK are variable interest rate mortgages where loan-to-value rates tend to be high and re-mortgaging is relatively easy. The volatility of the market can be explained by the trend of mortgages. In the short-term, interest rate fluctuations are important in the UK market because of the variable interest rate loans.

The paper also evaluates the effects of changes in the housing markets to the economy. The effects on individual households are the most obvious ones. As house prices increase it makes households feel wealthier and consume more. They also have more collateral to borrow against. The effect of rising house prices can be seen as good economic performance (Cameron, 2005).

Another issue that the review acknowledges is how housing supply has had an effect on the prices as well. The responsiveness of housing supply has fallen over time and because of the lack of supply to correspond to the increasing demand, prices have increased. According to the

review, when comparing the 1980s housing boom with the one in the early 2000, we can see that between 1985 and 1988 the number of private dwellings completed every year rose by 30 per cent, where as between 1999 and 2002 they only rose by 2 per cent (Cameron, 2005). It is important to get the supply to respond to demand better in order to keep prices from increasing too much.

2.2 The measurement of house prices

Gregory Thwaites and Rob wood explain how house prices can be measured and what the different concepts of house prices are. The measurement of house prices is problematical both conceptually and practically. There are so many ways of measuring house prices and they can give conflicting or misleading information about the levels of or changes in house price inflation. The reason why house prices are so complicated to measure is because no two dwellings are the same so it is hard to reliably predict the sales price of a given dwelling from the price of another. In addition, it is not easy to observe the market price of a given dwelling without it being sold.

Measuring house prices can be difficult so there are constant-quality measures of house prices that attempt to standardise and make them comparable over time. Three methods are used for this and they are hedonic regression, mix adjustment and repeat-sales method. Hedonic regression assumes that the price of houses depend on their location and physical characteristics. It estimates the value that the market places on these attributes. The estimates are then used to construct a price for a synthetic house with a representative amount of each characteristic. Mix adjustment groups house price observations into sets or 'cells' of observations on houses with similar location and physical characteristics. When all the data in the sample has been allocated to a call, the mean price in each cell is calculated. Repeat-sales method observes to sale prices of a given house at two points in time and this will give an estimate of general house price inflation between the two transactions. This method can help to estimate yearly house price inflations. No repeat-sales indices are present in the UK at the moment but they have been used in the USA (Thwaites and Woods, 2003).

There are several house price indices in the UK but the most commonly used ones are Nationwide, Halifax, CLG (Communities and Local Government, which was formerly known as the Office of the Deputy Prime Minister) and Land registry (Thwaites and Woods, 2003). Despite there being slight differences in them it can be said that all of them are quite unanimous in the general path of house price growth presented over time. These indices will be used in latter parts of this dissertation to show house prices and other data related to house prices. They will also be used in the analysis of the current housing climate.

2.3 Housing Market in the UK

Housing markets in general are quite peculiar for a number of reasons. Houses take time to build so when demand rises, supply cannot respond to it as fast as it should. Houses are also assets that pay an income, the amount of rent that the owner saves by owning a house, so the value of the house should reflect expectations about future rents. House ownership in the UK is high so the house is most people's most important asset. However prices can down as well as up so households are exposed to high risks. The UK housing market is very distinctive in several ways. The structure of the market and the mortgage market make it easy for housing booms to occur. However it is important to realize that prices cannot simply increase continuously but they will eventually come down causing a crash in the housing market (Cameron, 2005).

The recent housing boom and crash is not unusual for the UK. The previous boom took place in the 1980's when the market saw a 40 per cent rise in house prices relative to incomes in 1981-1989 (Anonymous, 1997). This boom in 1980's was possible due to several factors:

- Initial debt levels and house prices were low before the start of the boom which allowed both of them to rise
- There was relatively high income growth
- The liberalization of mortgage lending made it possible for households to borrow more than before

- There was a strong population growth in the key house-buying age group
- Supply of housing grew slowly than the demand

In the 1990's the housing boom came to an end, which resulted in great falls in the house prices relative to income.

Looking at the historical cycle of the UK housing market, it is clear that the latest housing boom and crash bears major similarities to the last housing crisis in the 1980's and 1990's.

In order to fully understand how the UK housing market works, it is important to look at the size and structure of the market.

	Owner-occupied		Socially rented		Privately rented		Total dwellings
	m	%	m	%	m	%	m
1981	9.9	57	5.5	32	1.9	11	17.2
1991	13	68	4.4	23	1.8	9	19.3
2001	14.4	70	4	20	2.1	10	20.4
2002	14.6	70	4	19	2.1	10	20.7
2003	14.7	71	3.8	18	2.2	11	20.7
2004	14.7	71	3.8	18	2.3	11	20.8
2005	14.8	71	3.7	18	2.4	12	20.9
2006	14.8	70	3.7	18	2.6	12	21.1
2007	14.7	70	3.8	18	2.7	13	21.2
2008	14.6	68	3.8	18	3	14	21.4

Figure 1: Distribution of dwellings, by tenure – England and Wales, 1981-2008 (Mintel, 2009)

The above table shows the growth of dwellings in England and Wales from 1981 to 2008, as well as the division of the types of dwellings. It can be seen that owner occupancy is very dominant in the economy. The housing market in the UK has always been largely dominated by owner occupied housing. In the recent years, around 70 per cent of the total dwellings were owner occupied. The structure of the UK housing market can explain some of the tendency for booms

and busts in the house prices. Majority of people are dependent on mortgage lending in order to finance their accommodation needs.

There are four most commonly used house price indices in the UK. These are Nationwide, Halifax, CLG and Land Registry indices. Even though there are slight differences in them it is clear that all of them present similar data in the changes of house prices.



Figure 2: UK Annual House Price Growth 1984-2008 (Chamberlin, 2009, p30)

The above figure shows the house price inflation over the past 25 years, from 1984 to 2008. It shows clear increase in the average house prices until 2007, despite a few declines in the market. After that house prices started to decline rapidly which resulted in a crash in the housing market.

House price index	Percentage change	
	1998 Q1 to 2007 Q3	2007 Q3 to 2009 Q1
Nationwide	192.7	-18.7
Halifax	182.5	-19.3
CLG	168.3	-13.0
Land Registry	171.0	-15.2

Figure 3: UK House Prices - Boom and Bust Percentage Changes (Chamberlin, 2009, p30)

Between 1998 and 2007 prices rose very quickly and for a sustained period of time. Figure 3 shows percentage changes in the prices according to the different indices. Even though all of them have slightly different figures, it is clear that the house price inflation during this period was spectacular, with even the lowest change from CLG figures stated as 168.3 per cent.

The actual house prices changes are shown in the graph below. It shows Nationwide's house prices from 2002 to 2010.

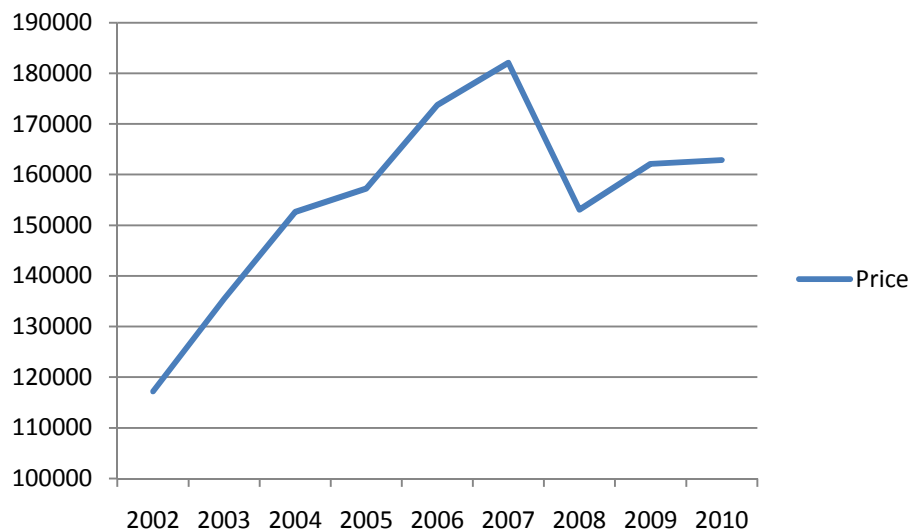


Figure 4: Average UK House Prices 2002-2010 (Nationwide House Price Index, 2002-2010)

Figure 4 shows the clear increase in house prices over the past 8 years. Prices were increasing with a very rapid pace until 2007. After that they began to decrease just as rapidly as they had increased, reaching the lowest point in 2008. Since then the prices have started to increase again and are still increasing.

House price to income ratios can give some indication on the affordability of housing. It measures the how much more is the price of houses in relation to average incomes.

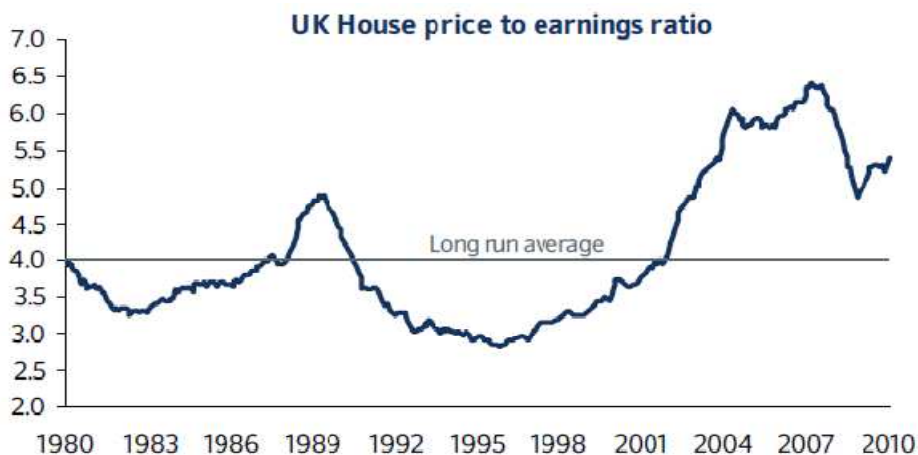


Figure 5: UK House Price to Earnings Ratio 1980-2010 (Nationwide House Price Index, 2010)

Figure 5 shows the average house price to earning ratios from the Nationwide index. It shows that the ratio has been steadily increasing since 1998 and reached its peak in 2007. This data can be used to evaluate to what extent were house prices over-valued in the UK.

2.3.1 Housing Bubble

The full cycle of a housing bubble is approximately six years long. A typical housing bubble involves a 50 per cent increase in real prices over a period of three years, followed by a 25 per cent decline over the following three years. At the end of the crash housing prices are roughly 10 per cent higher than where they started (Cecchetti, 2003).

Home prices were over-valued in many countries. This can be shown by looking at the diverging relationship between house prices and rents. The ratio of prices to rents is a sort of price/earnings ratio for the housing market. House prices have hit record levels in relation to rents in Britain. They are also at record levels in relation to incomes in the UK. Rental yields fell below mortgage rates making it hard for landlords to make money. This resulted in a large portion of properties being bought for investment purposes. Investors were prepared to buy houses and rent them out with a loss because they thought the prices will keep rising – the definition of a financial bubble (The Economist, 2005).

The global boom in house prices has been driven by two common factors: low interest rates have encouraged home buyers to borrow more money and households have lost faith in equities after stock markets plunged, making property look attractive. Already in 2005 Britain's housing market had started to cool rapidly, increasing by only 5,5% (compared to the nearly 20% it increase in 2004) (The Economist, 2005).

The demand and supply of properties had a major effect on the formation of the housing bubble. Before the recession, the demand for houses was far greater than the supply of them (BBC, 2003).

The way in which this affected the creation of the housing bubble is that when the demand of houses started to increase it simultaneously pushed up the price of houses. However the market could not react to this increased demand with the same speed as the demand increased creating a supply shortage in the market.

2.4 Theory of demand and supply

The theory of demand and supply is used in this research to analyse the data and explain how the findings have affected house prices. The level of demand depends on several factors that work together at the same time. Demand is determined by the amount consumer desire to purchase at a certain price (Parkin, p59). The supply of a product is concerned with the producer, in this case the components of the society that deal with building houses. Producers combine land, labour and capital to make output that they wish to sell (Parkin, 64). The quantity of housing supplied depends on several factors as well.

In the recent years there has been a shortage of housing supply due to the fast increase of demand. Shortages occur when the producers are unable to react to the changes in demand. The best way to understand how shortages work in a market is by using a demand / supply curve to demonstrate the shortage in the housing market.

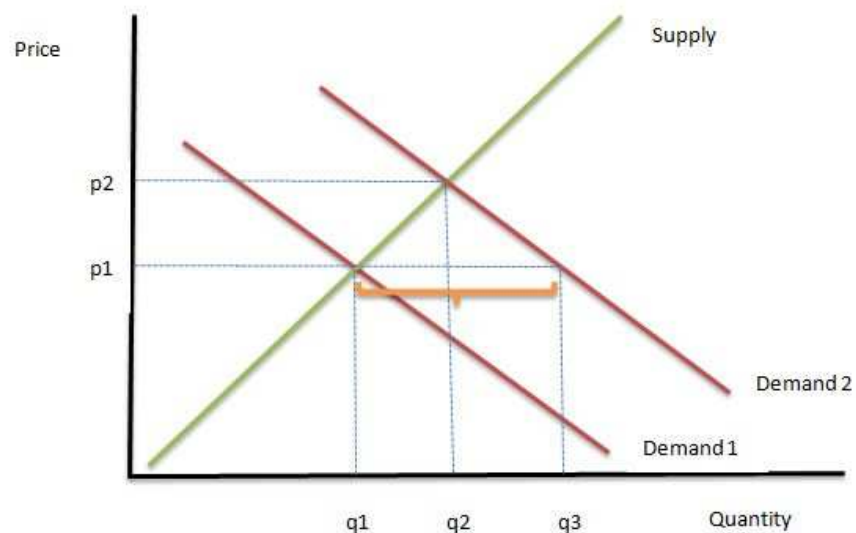


Figure 6: Demand and Supply Graph: Supply Shortage

Figure 6 shows how shortages get created in the market using demand and supply curves. The original equilibrium point for the demand and supply is where demand₁ and supply curve meet, making the price of houses p_1 and the quantity q_1 . However, because there has been growing demand in the market, the demand curve has shifted to a new position, raising the price to p_2 . The quantity should have increased to q_2 , however the supply side is slow to adjust itself to the rising demand, therefore keeping the quantity at q_1 . Q_3 represents the quantity that customers would demand if the price stayed at p_1 . The supply shortage therefore is shown by the difference $q_3 - q_1$.

2.4.1 Factors affecting house prices

There are both demand and supply side factors that have an effect of the prices of houses. These factors combined have resulted in the creation of the housing bubble.

2.4.1.1 Demand side factors

When the demand for houses increases, this increases the price of them as well. There are several factors that affected the demand of houses during the boom years. These are economic growth / real income, interest rates, consumer confidence, availability of mortgage finance, demographic factors, speculation and unemployment.

Income

People's incomes have an effect on the house prices because the more money people have the more likely they are to take out mortgages and buy houses. Household income is usually measured using GDP data. House prices seem to move strongly with GDP, although with a slight time lag.

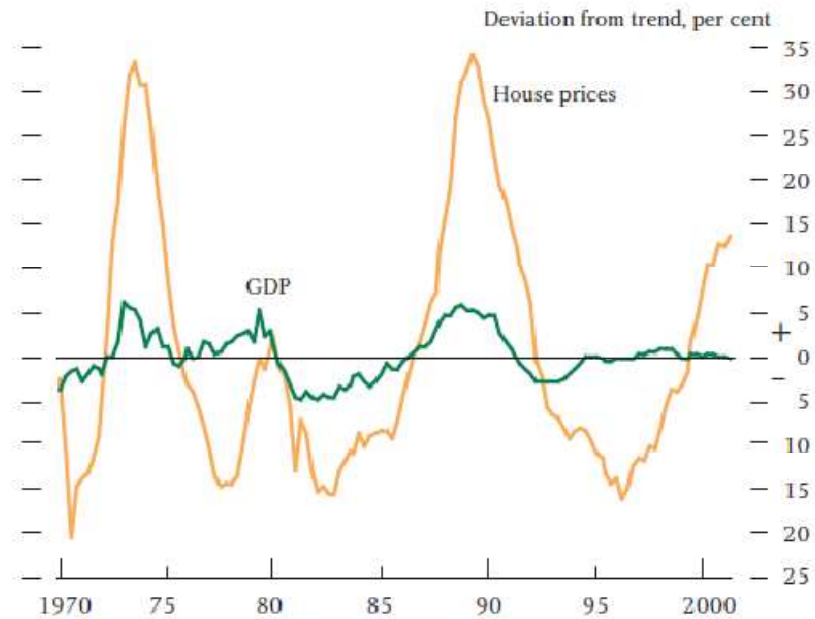


Figure 7: Correlation between GDP and House Prices (Aoki, 2001, p462)

Figure 7 illustrates the correlation between GDP and house prices. It is clear from the graph that the changes in GDP are closely related to the changes in house prices. From this data it can be said that as peoples' incomes increase, they will be most likely to purchase a house, pushing up the demand for houses.

Interest rates

Interest rates affect people's willingness to take out mortgage loans. When interest rates are low, people are more likely to take out loans but when interest rates are high people are less willing to take out mortgages.

Year	Rate
2009	0.50%
2008	2.00%
2007	5.50%
2006	5.00%
2005	4.50%
2004	4.75%
2003	3.75%
2001	4.00%
2000	6.00%
1999	5.50%
1998	6.25%
1997	7.25%
1996	6.00%
1995	6.50%
1994	6.25%
1993	5.50%
1992	7.00%
1991	10.50%
1990	14.00%

Figure 8: UK Interest rates, 1990-2009 (Houseweb, 2009)

Since 1990 interest rates in the UK have been falling, making people take out more mortgages since there is no actual worry about mortgage payments becoming unaffordable. It has been the fall in interest rates that has kept the affordability of houses reasonable despite the rapid increase in price of housing (Houseweb, 2009).

Consumer Confidence

One of the main reasons for measuring consumer confidence is to see the relationship between confidence and household consumption growth. Stuart Berry and Melissa Davey analyse the effect on consumer confidence on the overall markets in their report *How should we think about consumer confidence*. They look at the relationship between consumer confidences to the overall consumption levels. Figure 9 illustrates the general connection between consumer confidence and consumption.

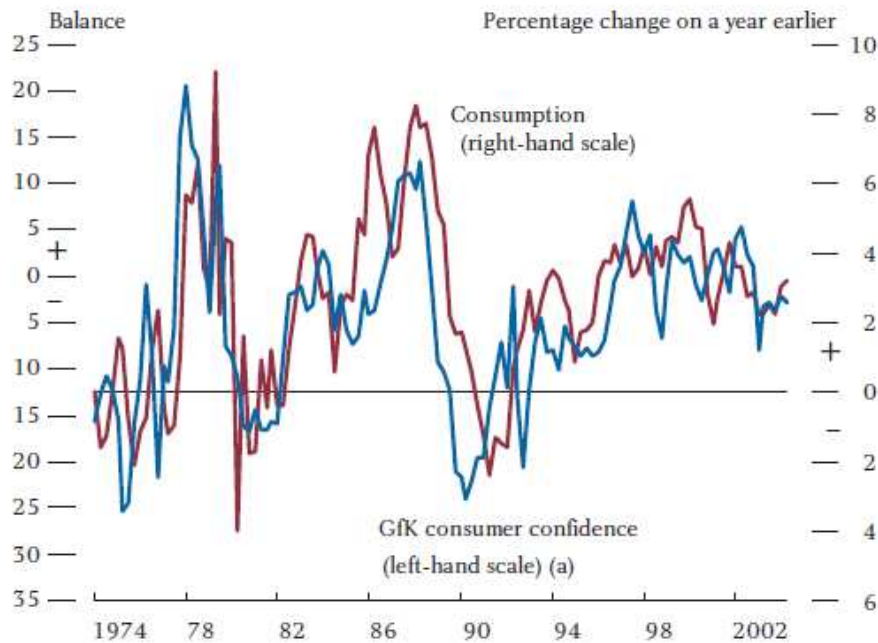


Figure 9: Consumer Confidence and Consumption (Berry, 2004, p282)

It shows that movements in confidence have been a close relationship to annual real consumption levels over the past 30 years. This information is useful when looking at how consumer confidence affects house prices.

Consumer confidence can have a significant impact on prices of houses. When consumer confidence is high people have high expectations about the market as they believe that the market will keep increasing as it has done (Berry, 2004). This makes them more willing to take out riskier mortgage loans. In the early 2000's people were optimistic and consumer confidence was high so they took out mortgages with a higher debt to income ratio. As house prices were increasing in a steady pace, people were certain that the prices would keep increasing. They could afford to re-mortgage their houses in order to pay for other things because of the notion that prices would keep going up and the value of their house would keep increasing so they would be able to afford to pay back the mortgages.

Demographic factors

The demographic factors that affect the demand for houses are increased divorce rates, increased immigration, increased life expectancy, children leaving home earlier and fewer marriages.

Divorce rates have increased in the UK since the 1970's. The graph below show the divorce rate in the UK since 1971 and it can be seen from it that in the early 2000 there was a significant increase in divorce rates.

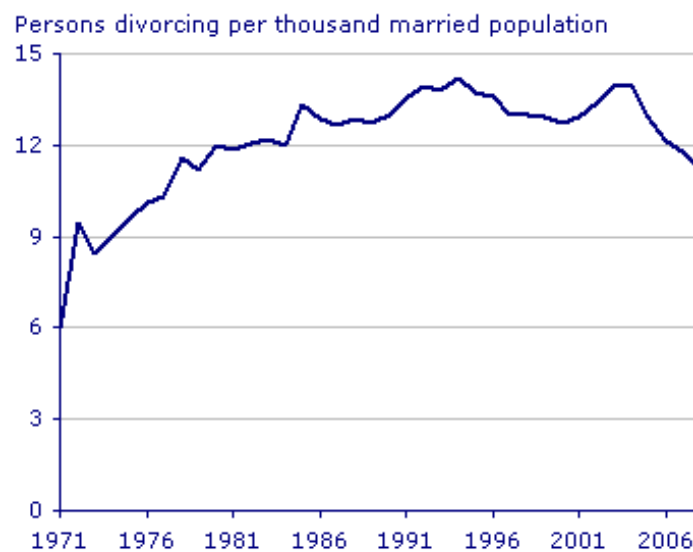


Figure 10: Divorce Rate: England and Wales (Office for National Statistics, 2010a)

This spike in the divorce rates in the early 2000's can partly explain why the demand for houses was increasing. Increased divorce rates result in higher demand for houses because people will be forced to look for alternative accommodation after departing with their partners.

Whereas divorce rates have increased, the number of marriages has decreased in the recent years. With fewer people getting married, there are more single person households that increase the demand of houses.

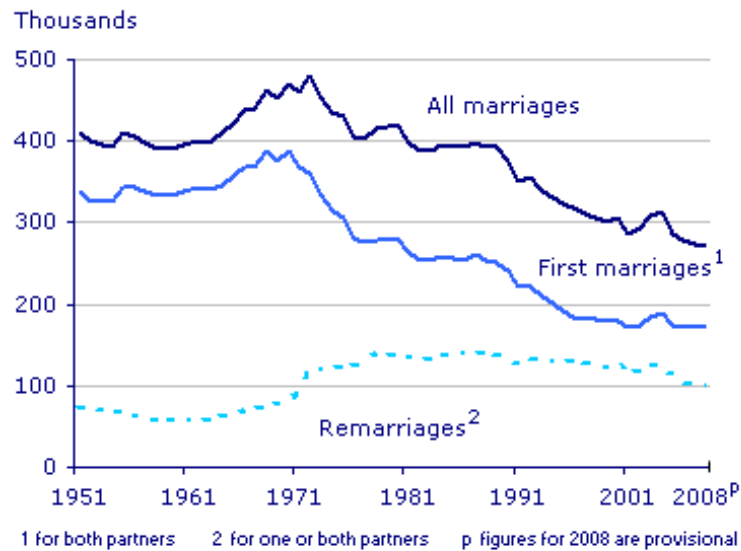


Figure 11: Number of Marriages (Office for National Statistics, 2010b)

From the above graph it can be seen that the number of marriages since 1970's have decreased rapidly. This also has an effect on the types of houses needed in the market. With more single people, the housing needs are often more smaller apartments and often they are rented.

High levels of immigration have put a strain on the UK housing market. With more people coming into the UK there is a greater demand for houses. Since 1990's immigration has increased with a steady pace. The EU-25 expansion in 2004 saw immigration to the UK from the Accession Eight countries increase significantly. Figure 12 below shows the total international migration to and from the UK between 1999 and 2008. In general the migration immigration figures have been increasing with a steady pace and even though there has been an increase in emigration as well, the net migration is still positive, with more people coming in to the UK than leaving.

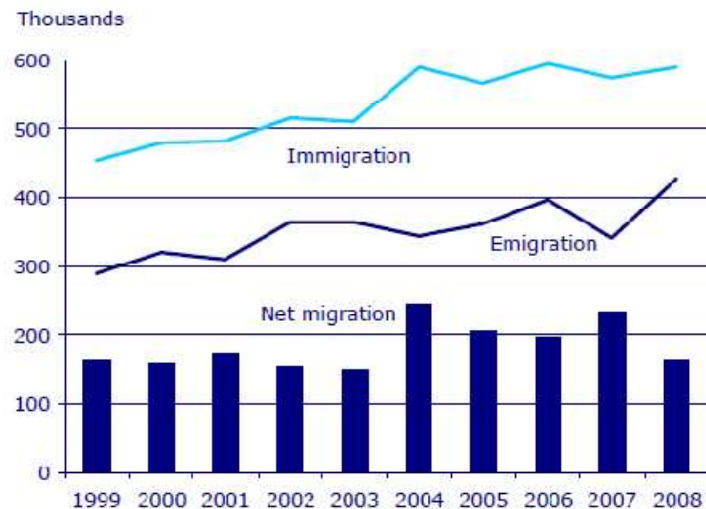


Figure 12: Immigration, Emigration and Net Migration 1999-2008 (Office for National Statistics, 2009)

According to the UK government figures, five million new homes will be needed in Britain over the next 20 years because of high levels of immigration (Workpermit.com, 2006). This can be seen as a huge problem because the supply side of the housing market is unable to respond to such high levels of demand fast enough. If we look at figure xx we can see how between 2003 and 2005 there was a rapid increase in the house prices in the UK. Then if we look at the net migration figures above we can see a correlation between the two. It is clear from the statistics that immigration has had a big effect on the demand of houses.

Speculation

Speculation can be said to have an effect on house prices. A large portion of the properties bought in the recent years have been for buy-to-let purposes. This means that investors buy houses in order to make capital gains and get income through rent. The investors will buy houses when the prices are increasing and sell them when the market seems to turn. This makes the market very volatile because the investors will buy in boom and sell in bust.

Unemployment

Low unemployment figures are associated with rising demand for houses. When unemployment levels are low more people are working and can therefore afford to take mortgages and buy houses.

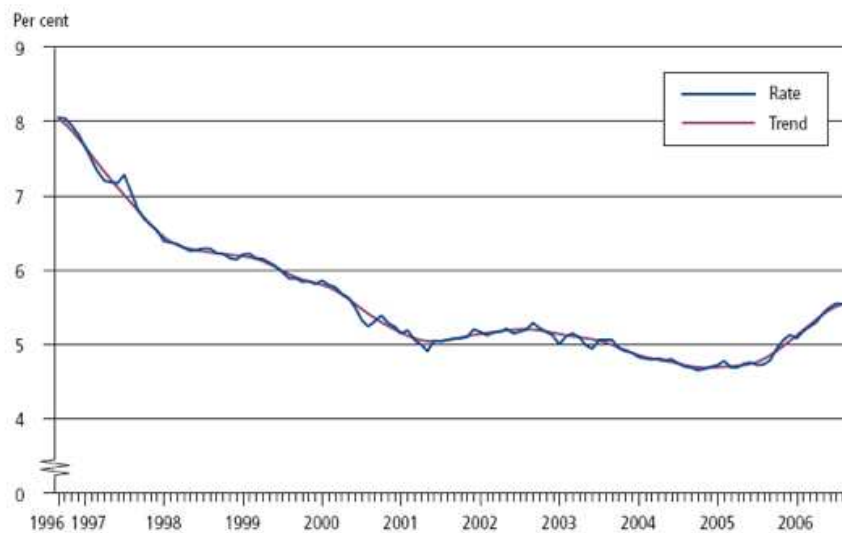


Figure 12: UK Unemployment Rate 1996-2006 (Goodridge, 2006, p.401)

It can be seen from figure 13 that the rate of unemployment has been steadily declining since 1996, from a figure of around 8% to as low as 5% in the mid 2000. During the housing boom years the rate of unemployment was very low, which would have an effect on the housing demand.

2.4.1.2 Supply side factors

There are only a few short term supply side factors that would affect house prices because building more houses takes time. This is the reason why it can be said that there is a supply shortage in the market; the supply side is unable to respond to the growing demand of houses in the market. However, there are few long term factors that can have an effect on the prices. These are availability of resources, costs, government legislation and subsidies (Economics Online). The supply of houses available is also affected by the number of people willing to sell their homes at a given point.

The house building depends upon the availability of land and labour. Land especially can be very limited in the short run. Availability of labour is also important. Geographically UK is a very small country and has a very condensed population. It can be difficult to find space to build new houses and keep up with the growing demand.

Building costs can be very high which in return will push the prices up as well. The costs include raw materials and labour costs.

Government legislation can affect the supply of housing a various ways. There are strict requirements for planning permission for new houses that might hinder the building process.

Governments can give subsidies to house builders and this is likely to encourage supply.

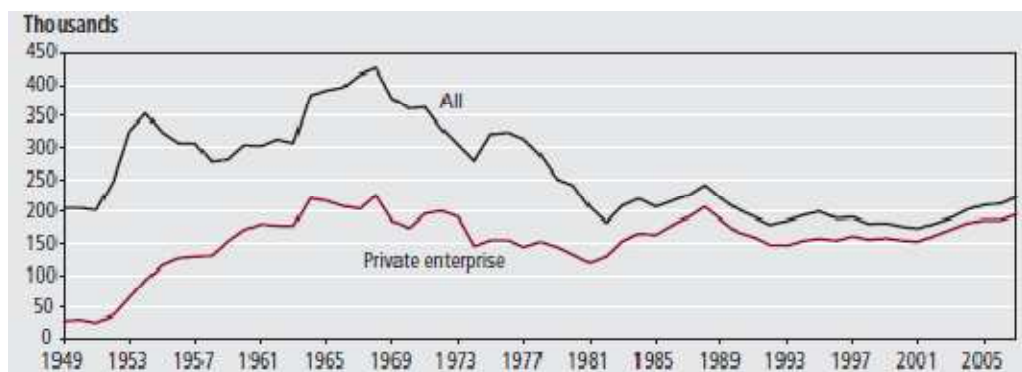


Figure 13: Permanent Dwellings Completed in the UK 1949-2005 (Chamberlin, 2009, p.36)

Figure 14 above shows the permanent dwellings completed in the UK. Even though it shows that building picked up slightly in 2001, it still remains relatively slow when compared to the historical levels. The poor response of housing supply to price signals can be said to be a reflection of an overly complex planning system. Building houses takes a lot of time and money and this tends to favour large companies that have the necessary resources. This in turn reduced competition in the market.

2.5 Mortgage Lending

The range of flexibility in the mortgage market has increased and the availability of different mortgages had an effect on the housing market. New types of mortgages were introduced and mortgage lending regulations were relaxed. The riskier mortgage finance has also contributed to the housing bubble. Buyers were allowed to borrow more with little or no documentation of their assets, employment or income. They assumed that prices would continue to rise rapidly, making it possible to sell the home with a profit or refinance before any principal has to be repaid.

In general the UK mortgage market has been largely dominated by variable rate mortgages. This can partly explain why the market is so volatile. The graph below shows the proportion of mortgages in the UK in 2003.

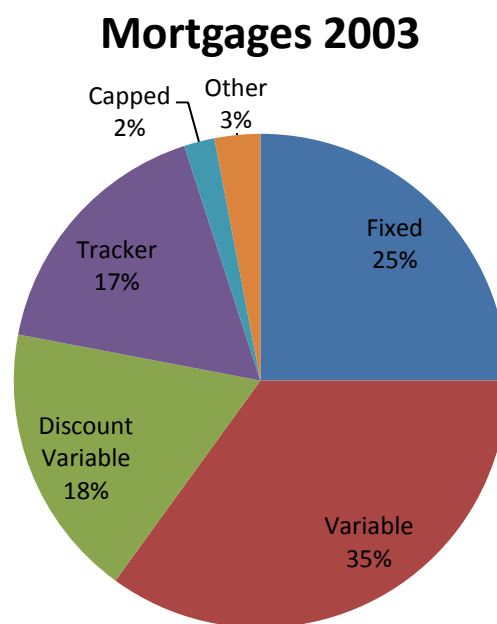


Figure 14: Types of Mortgages in the UK 2003 (Miles, 2004, p6)

Because of the structure of the mortgage market, the UK housing market is more dependent on interest rate changes than markets in countries where fixed rate mortgages are preferred.

A variable rate mortgage is one where the mortgage payments change according to interest rates. The rate may be attached to the bank of England's base rate. It can also be fixed to another

variable rate, such as the lender's standard variable rate. There are several different variable rate mortgages available.

- Tracker mortgages follow the base rate at a margin above. So it uses the bank of England's base rate with a certain percentage added to it. They are available over different terms. The term can be determined to be a certain amount of years and after it is finished the mortgage will usually be switched to the lender's standard variable rate. They can also be lifetime trackers, where instead of the term being specified, the margin above the base rate will be the same until the mortgage has been paid off (Credit Choices, 2010a)
- Discount mortgages are slightly different because they are tied to the lender's standard variable rate instead of the Bank of England's base rate (Credit Choices, 2010a)

70 per cent of the UK mortgages are variable type mortgages. The problem with the variable type mortgages is that if the Bank of England's base rate fluctuates, the monthly repayments fluctuate as well.

Buy-to-let mortgage is a type of mortgage for private investors to purchase property in order to rent out accommodation to tenants. The property is an investment asset on which they can earn rental returns and achieve capital gains as house prices rise over time (Ball, 2006).

The buy-to-let model was created in 1996. The scheme provided cheaper and easier access to finance, opening the market for the masses to get in the privately rented market (Intel, 2009). Since its introduction, buy-to-let mortgages have grown to over 991,600 by the end of September 2007, with a value of over £116 billion (Council of Mortgage Lenders, 2010). The growth of the buy-to-let mortgage market has coincided with a large increase in real house prices and this has prompted speculation that it has added to house price inflation (Taylor, 2008)

Since 2000 the buy-to-let market in the UK has been steadily rising. This means that properties are bought by private individuals with the purpose of letting them on immediately. There are about 3.7 million residential properties in the UK and of them an estimated of one third are buy-to-let.

Year	Number of loans outstanding (000)	Buy-to-let as proportion of total mortgage market (%)
2000	120	1.1
2001	185	1.6
2002	276	2.4
2003	418	3.6
2004	526	4.6
2005	702	6
2006	850	7.1
2007	1,026	8.7
2008	1,156	9.9

Figure 15:: Number of buy-to-let mortgages outstanding, 2000-2008 (Mintel, 2009)

It can be seen from the table how the number of buy-to-let mortgages has increased since 2000. Until the credit crunch hit, buy-to-let market had been flourishing. New business levels had been rising year on year, and increased competition had pushed up LTVs, reduced fees and brought down interest rates to near standard mortgage rates (Mintel, 2009)

In the early 2000 banks were confident that the boom would continue and relaxed mortgage lending. New types of loans were introduced and the availability of mortgages was made easier. In the height of the housing boom, mortgage lenders introduced new types of loans that were available for house buyers. Traditionally lenders have required that borrowers saved up a deposit before lending money to buy property. However, since house prices were increasing in a steady pace lenders became confident that the trend would continue and started issuing 100% mortgages. In these types of loans the borrower did not need to produce a deposit for the loan

but could instead borrow the entire value of the property. This was possible because as house prices continued to increase, the value of the property obviously increased as well. So lenders would be confident that in a short period of time the value of the property would be increased and they did not have to worry about repayments (Credit Choices, 2010b).

Other new types of loans made available for the borrowers were sub-prime loans. These mortgages were made available to customers who would typically be turned away by banks because they were ineligible for prime loans. This new system resulted in crises that eventually led to the collapse of the housing market. The sub-prime crisis was the result of the change in how mortgages were funded.

In 2005 the sub-prime mortgage market in the UK was estimated to be worth between £25bn and £30bn. Sub-prime mortgage lending rose 9.1% in 2004 while the mainstream mortgage market lending grew only by 4.1% (BBC News, 2007a). Even though sub-prime loans were highly risky and expensive they increased in popularity because people were finding it difficult to get on the housing ladder and were therefore prepared to take high-cost loans to buy their own homes (Telegraph, 2007).

Sub-prime loans are types of mortgages that lending institutions offer at a rate above prime to customers who do not qualify for prime rate mortgages. Sub-prime borrowers are often turned away from traditional lenders because they have poor credit ratings or there are other factors that might suggest that they might not be able to meet their debt payments. In the United States, subprime mortgage activity grew an average 25% a year from 1994 to 2003 (Kirchhoff, 2004).

Traditionally banks have financed the mortgage lending through deposits received from the customers. However in the recent years there has been a shift from this traditional mortgage lending to a system called sub-prime lending. It means that the banks sell on the mortgages to bond markets. Whereas before there was a limited amount on the mortgage lending, now it was

possible to more easily fund additional lending. These loans were given to people without conducting proper background checks. This meant that people with bad credit histories and weak documentations of income were allowed to get loans (BBC News, 2007b).

This system started to collapse very quickly because the payments were fixed for two years and then started to rise. People who had been given sub-prime loans were unable to pay them back and faced repossessions of their properties. The fast increases in repossessions caused the first national decline in the housing market since 1930s (BBC News, 2007b).

2.6 Summary

This literature review has utilised several journal articles, studies and news paper articles that have tried to analyse the current situation. It touched areas that are concerned with the general structure of the housing market, house prices and factors that have affected the increase of house prices. From the review is it clear that there is need for further research into how to make markets less volatile and how to deal with the rapid increase of house prices.

3 Research Methods

The following chapter evaluates the research methods that were used in this study. It also describes how the data was gathered and analysed. The aim of this chapter is to provide the reader with a full understanding of how this research was conducted.

3.1 Justification of the topic

There are many justifications for conducting this research from an economic perspective to a personal one. This research aims to collect, analyze and summarise existing literature about trends in house prices, the housing market in the UK, mortgage lending and the effect of all of them combined. The main concern of this report is house price increases in the past few years and to what extent can we say that there was a housing bubble in the market. The topic of house prices has been a widely discussed issue in all types of media. It is something that will eventually affect most of the people in the UK. House prices not only affect individuals but they also have a big impact on the economy as a whole.

When the global financial crisis hit the world it became clear to most people that there was a problem in the market and a change is needed in order to avoid such a situation in the future. House prices have increased with a dramatic pace since 1998 and after the global crisis people started to realize that they could no longer afford to obtain mortgages as they had in the past years.

Because this is still an on-going issue it will be difficult to make recommendations about the future course of action but after analysing all the available data some form of a conclusion can be made.

3.2 Documentary Evidence

The documentary evidence used in this dissertation is presented in the literature review section. The information used is based solely on secondary data sources including news paper articles, journal articles and statistical data.

3.3 Research Strategy

This research is based on secondary data that has been collected from a variety of external sources. The decision to use only secondary data is based on its advantages such as availability of high quality data sources, time saving and ethicality. It also allows coverage of wider selection of information and the conclusions that are made can be wider as well. The topic of the study also does not allow much preliminary research to be conducted as it is quite a complex issue as calculating house prices requires a vast amount of resources and technology. All the statistical data used in this research would also be impossible to gather without the use of secondary data.

This is a theory based research that aims to criticise and analyse different perspectives related to the UK housing market and the house prices. The focus is on others' ideas with the addition of the researcher's own developments. The discussion part of this dissertation tests some of the theories with reference to the evidence presented in the literature review.

4 Discussion

This section attempts to analyse the extent of the housing bubble in regards to the literature review provided in section two. It will try to critically evaluate whether there in fact was a bubble in the market, how can we measure the extent of the bubble and also how can we say that the housing markets were over-valued. It will also give possible solutions to what could be done in the market to prevent such housing crisis in the future.

Referring back to figure 4 that shows the house prices changes in the UK it can be said that house prices have increased considerably in the last decade. But to what extent can it be said that there was a housing bubble in the market? The definition of a housing bubble, as given by the National Institute Economic Review:

A typical housing bubble involves a 50 per cent increase in real prices over a period of three years, followed by a 25 per cent decline over the following three years. At the end of the crash housing prices are roughly 10 per cent higher than where they started (Cecchetti, 2003).

Using this definition the extent of the housing bubble can be roughly estimated. In order to do this, the first thing to do is to determine the time scope of the study and then data about actual house prices. House prices kept increasing rapidly until the third quarter of 2007. So in order to utilize the given definition, house prices for three years until 2007 will be used (from quarter 1 of 2005 to quarter three of 2007) and then the expected declining years from 2007 to 2009. The calculation will use statistics provided by Nationwide for the sake of simplification.

Year	Price (£)
2005	154,107 ¹
2007	184,131 ²
2009	162,116 ³

Figure 16: Average House Prices in 2005, 2007 and 2009

House prices increased by £30,024 between 2005 and 2007. This amounts to a percentage increase of 19.5 %. From 2007 to 2009 house prices declined by £22,015, which accounts to a 12% decline. If the figures from Nationwide are compared with the definition of a housing bubble, it can be said that even though there has been a significant increase in house prices, it is not enough to be accounted for as a housing bubble. In order for the definition of a housing bubble to be true house prices should have increased in the first three years to £231,160 and declined again by 25 per cent to £173,370.

However, looking at the statistics of house prices it is visible that the situation in the UK has been going on for longer than the six years that the current definition offers. The definition can be modified slightly to fit the current situation. House prices were increasing already since 2001 and hit their lowest point in 2008. Because of unavailable data, the calculation will use quarter one of 2002 figure as the base year.

¹ Nationwide House Price Index, 2005

² Nationwide House Price Index, 2007

³ Nationwide House Price Index, 2009

Year	Price (£)
2002 (Q1)	95,356 ⁴
2007	184,131 ⁵
2008	156,828 ⁶

Figure 17: Average House Prices in Q1 of 2002, 2007 and 2008

Using the figures above it can be calculated that the increase between the prices from 2002 to 2007 is 93 per cent and the decline from the highest peak of prices to the lowest is 15 per cent. Looking at these figures it can be concluded that the price increase during the 5 years is enough to be considered as a housing bubble. The decline is still smaller than the definition would allow but since house prices have started to increase again, the final slump might still be ahead.

One of the main aims of this research was to try to evaluate how to measure if house prices were over-valued and by how much were they over-valued. This can be done by looking at the house prices to income ratios. The previous calculations used statistics from Nationwide so in order to stay consistent this one will too. To evaluate how much house prices were over-valued the first thing to do is to calculate the long term average house prices to income ratio and compare it with individual years to see how much they differ from the average. This allows the examination how much the ratio has increased in the recent years. The figure xx in the literature review shows the house prices to income ratio from 1980 to 2010. For this calculation I will use the years of 1983 to 2007 to establish the long term average house price to income ratio that will be used as the base for which all the individual years will be compared to. It can be seen from the graph that in 1983 the ratio was approximately 3.3 and in 2007 it was 6.25. This gives an average house price to income ratio of 4.77. The peak of the house prices came in 2007. During this time the house price

⁴ Nationwide House Price Index, 2002

⁵ Nationwide House Price Index, 2007

⁶ Nationwide House Price Index, 2008

to income ratio was 31 per cent higher compared to the long term average. This shows how much house prices were actually over-valued. The lowest point of house prices came in 2008. In 2008 the ratio was 6.1 and even then the market was still over-valued by 28 per cent. The ratio kept decreasing until 2009, after which it began increasing again. In 2009 the ratio was 5 and the market was still over-valued by 4 per cent. From the gathered data it can clearly be said that the UK housing market has been greatly over-valued in the recent years. At the height of the house prices it was over-valued by 31 per cent.

The data in the literature review shows that the UK housing market is relatively volatile and this can be harmful both to the economy and the households. The major reason for the volatility is the structure of the mortgage market. Most of the UK mortgages are based on variable rates which make them quite risky for the buyers and even if UK borrowers take out fixed-rate mortgages they tend to only be fixed for a limited period. To decrease the volatility in the market the share of long-term fixed rate mortgages could be increased. This would help to stabilize the market by making household cash flow less sensitive to the Bank of England base rate (Cameron, 2005)

Another way to reduce the volatility of the market would be to increase the responsiveness of housing supply to demand, which seems to have fallen in the UK over time. During the 1980's housing boom 175,000 private dwellings were completed in England, whereas in 2002 only 125,000 were built. This seems strange when taking into consideration how the population and need for houses has increased since the 1980's. The number of total dwellings completed between 1985 and 1988 rose by 30 per cent every year, whereas between 1999 and 2002 they only rose by 2 per cent. There is a lack of available land in the UK and the planning system makes it quite difficult for the builders to respond to changes in

demand. There is a clear need for a policy change to make it easier for the supply to respond to demand (Cameron, 2005)

5 Conclusion

This chapter will present the conclusions of this research in the light of the literature review as well as the discussion about the topic. The aims of this research were to critically observe the reasons for the house price inflation, to determine whether there was a bubble in the market and how can the market be said to be over-valued.

The issue of the housing bubble in the market is still on-going. UK house prices showed a strong increase between 1998 and the third quarter of 2007 before they started to decrease due to the current recession and financial crisis. However since prices hit their bottom level in 2008 they have started to increase again. Even though house prices are still 10 per cent below what they were during the October 2007 peak, there is evidence that prices have started to increase at a strong pace once again. The increase in house prices has hit double digits again, for the first time since 2007. Prices on April 2010 were 10.5 per cent higher than the previous year (Nationwide House Price Index, 2010). This new increase can be seen as quite worrying. The house price to earnings ratio has constantly been high, so if house prices keep increasing at the current pace it will become very difficult for people to afford to buy houses.

The review of the relevant literature to this topic formed the theoretical framework for this study. The volatility of the UK housing market can be said to be one of the reasons why prices can keep increasing as they have. The structure of the mortgage market, the increased availability of mortgages and increased demand allowed the market to grow at a fast pace. The low interest rates have kept the ratio of mortgage payments to income at a lower level. This has encouraged more people to take mortgage loans which in turn make the ratio more sensitive to smaller changes. The literature review showed that the supply side of the housing market has been inadequate in regards to the rising demand. There is clearly a need for better housing supply in order to keep the prices from growing to astronomical figures.

6 Limitations of the Study

The research does bring about some limitations, most of which have to do with data collection and accuracy. This research is based solely on the use of secondary data which present some problems. One of the main problems is the accuracy of the data. Since the spread of internet, finding data has become easier and less time consuming but the quality and accuracy of internet sources can be questionable. It is important therefore for the researcher to be aware of these problems and analyse the accuracy of the sources. Another weakness of using only secondary data is that the data gathered cannot be followed up with additional questions that would be of assist when analysing and concluding the findings.

Additionally in the discussion part the analysis is made only by using one of the indices out of the four available ones. This was done in order to simplify the information. However other indices present different data that would give different results.

The limited amount of time in relation to the available information is another limitation. Since the topic is still on-going and there is a continuous increase of supply of information has forced the researcher to use her own judgement when selecting information that would be most relevant to the topic. Therefore there is a risk that some important information might have been excluded from the research.

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