

# **University of Macedonia**

Department of Balkan, Slavic and Oriental Studies  
MA in Politics and Economics of Contemporary Eastern and  
Southeastern Europe

## **Real Estate Turbulences as a source of Banking Crisis**

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## **Introduction**

The real estate market has an important impact, not only to the economy, but also in peoples' life. This happens because the property market can satisfy two special needs; the first one is the ability to stay or to live somewhere and secondly the potential profit from the Real Estate investments. Investment is the procedure of purchasing an item or an asset, hoping that it will create income or appreciate in the future. In an economic sense, it is the purchase of goods which will not be consumed today but they will create wealth in the future. This wealth of course does not have always financial value but also psychological and vital importance for our everyday life. In a finance sense, it is a monetary asset which will provide a future income or be sold at a higher price after the appreciation. Therefore, the nature of Real Estate is complicated, and it depends on many factors. Some of them can be predictable, and some others not. In today's climate of globalization and international competition, investors have to focus on the opportunities that will become a step for the survival of the business, but also a chance to increase the limits of expansion and transform a portfolio into a multi asset source of profit with less risk as possible. On the other hand, the priorities are not the same when we analyze the countries.

We shall provide information, and analyze the economic cycles, and some of the factors that might affect the Real Estate market, such as the rental values, types of rents, other subsectors, risk and profit, alternative investment methods, the transparency rates, and how they relate to investment, development market and the wider economy. We shall also be discussing the property market of many countries and regions, such as the United States, China, the United Kingdom, Dubai, and some other Asian countries during the crisis. In conclusion we shall try to understand the reasons behind the banking crisis and the dysfunction of the system.

# Literature Review

## Real Estate

In the beginning we have to refer the factors that cause the real estate turbulences. Afterwards we will observe the real estate characteristics of some specific regions around the world such as the United States, United Kingdom, Asia and China.

As Awilda Reyes (1998, p.2) considers, Real Estate is the land and everything that is a permanent part of it, over or under it, like buildings, constructions, trees, oil. The significance of the real estate market in the US is essential, and this comes from the fact that real estate professionals have the seventh largest receipts of all nonmanufacturing and service industries, closely 75 billion USD in 1992.

According to Eddie Chi-man Hui and Xian Zheng(2012), Real Estate is a commodity which can be analyzed as a consumption good or as an investment vehicle. Rental determines the value of real estate price. For this reason, real estate prices and rentals have to keep a long-run equilibrium relationship, like the stock prices and dividends (Gallin, 2004).

Eddie Chi-man Hui and Xian Zheng(2012) also claim, that the international investors-managers desire to create a portfolio of high diversification with relatively low risks in order to have high returns. They combine a variety of investment methods such as stocks, bonds and shares, or investing money on different sub-markets of real estate. The affectivity of real estate portfolio requires a good knowledge and control of the correlation between returns and risks, but also the cross-correlation between them.

We have to emphasize the difficulties of the Real Estate ([www.vision.hw.ac.uk](http://www.vision.hw.ac.uk)), because the property market has some special characteristics that create an environment full of risk and uncertainty. The property market is characterized as

1. Immobile
2. Indivisible
3. High transaction costs
4. Other costs(eg taxes)
5. Government intervention
6. Market imperfection
7. Heterogeneous
8. Durable
9. Inelastic supply

Furthermore, what is a banking crisis and how can we define it? In the book of Reinhart and Rogoff (2009, p.11) a banking crisis is divided in systemic (or severe) mode and in financial distress (or milder) mode. The first one is happening when a bank actually runs that lead to the shutting down and we have the intervention of the

public sector. The second one is happening when we have no runs but the assistance of government to a really important financial institution leads to the assistance to some other institutions too.

The connection of the Real Estate market and the banking system can be observed on the figure 1 below, where it is obvious that the supply of the housing finance is a result of four main groups, lenders' resources, lenders' criteria, borrowers' income and borrowers' capital.

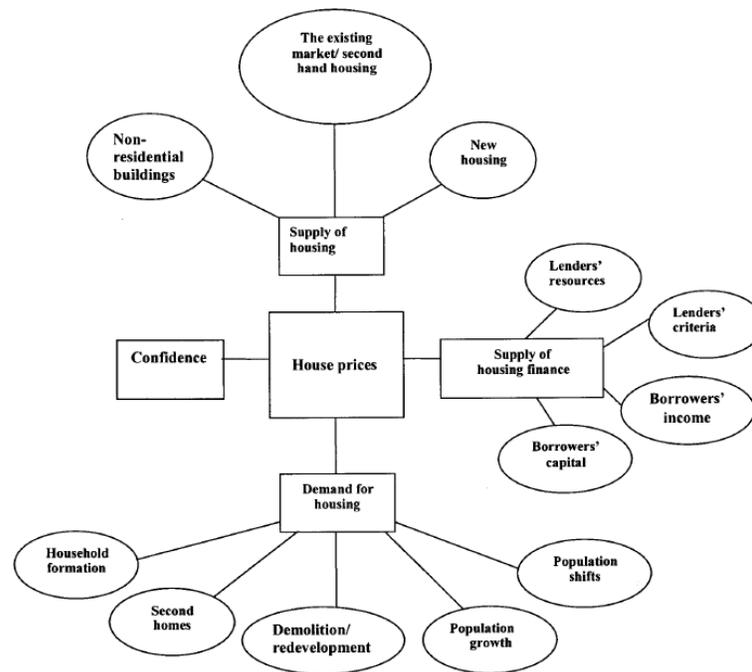


Figure 1

According to Meikle (2001, p.261) the factors that affect the housing market are the significance of the location, the timing of the transaction, the marketing of the Real Estate market and the confidence of the potential investors but an important factor is also the supply of the finance in the market which we will see later how it reacts and how correlated is with the Real Estate market.

### Analyses of property market

Glenn Curtis (2011) claims that as Real Estate professionals, it is important to analyze the current price trends in the area that the investors want to choose. It is very important to find out the acceleration of the home prices and to understand the demand of every specific area. This will also provide more details about how “fair” they are some properties and which of them are overpriced. This information can be found from the internet, local newspapers or the town hall which may keep a record of sale prices. In addition, very central is to find the present or the future infrastructure

of the area in order to find out an increasing development, for example new roads, schools, shopping centers, new traffic lights, the installation of turnaround lanes or even inferior roadways, which means that it has to be a construction to satisfy the new buyers. Schools are also a sign of investment. Parents-investors sometimes take a look in school ranks because they want an access to high standard education for their children, so top listed schools are desirable for the parents. Without doubt, another sign of new real estate investment opportunity is the area with the lower property taxes. It is very necessary to explore many areas and compare which has more advantageous tax offer on the grounds that this area usually is more in demand. We can see that the Real Estate turbulences are everywhere, because the factors that affect our final decision are limitless.

### **Types of rents**

A factor that could change the future value of a Real Estate property is the rent. Geltner and Miller (2001), claim that there are 5 types of rents which have different characteristics. The purpose of these rents is to satisfy the lessor or the renter for example from inflation, and to reflect in the price of the rent all the changes that happened in every specific commercial area. Moreover the multiple choices of rental types can provide to the lessor the opportunity to gain from the operating profits of a company. These 5 types are:

1. Fixed rent, this is a rent in which there are no fluctuations of the rental price during the lease period.
2. Steadily adjusting rent, in this case there is an agreement between two parties about the rent and its increases.
3. Newly negotiated rent, this type of rent is similar to the steadily adjusting rent, but the difference is the lack of price about the increases which are already time agreed.
4. Rent connected with the inflation. They define that rents will be adjusted according to the inflation.
5. Percentage increase of the rent, it is a type that offers the opportunity to adjust the rent as a percentage of the revenues. Usually this type of rent belongs to the retail market.

Even from the type of the rent it is easy to understand that rental volatility can be affected from the choice of the renter and the lessor, because every decision can determine the sustainability of the retail, office and industrial investment.

### **Determinants of the rental value**

Geltner and Miller (2001) also suggest that there are many factors in the market that determine the value of the rent. The point is for every investor to find the strategy that combines a “fair” rent with high yields. The first factor is the location of the product, on the grounds that the distance from the city center or the vicinity in low or high value locations is an essential factor for development and progress. This factor

includes also the architecture of the building, the size and the scheme. For instance two similar offices in contiguous locations can have different rents because of their size and design. In addition the type of the renter, his personality and his financial status can affect the choice of the lessor. One more important factor is the duration of the lease because the beginning and the ending of it could have multiple advantages or disadvantages for the owner. Without doubt, the rent itself is very important, and determines the desire for an investor because usually has limited resources, the offers from the lessor as a discount to the renter in order to persuade him for an agreement. Furthermore the rental value can be affected by the terms between two parties, the rights and the obligations they have to deal with. In other words, it is understandable that the complicated rental value is an important issue for an investor.

The elasticity of rental value (Geltner and Miller, 2001) is also a total result of the expectations for the future rental prices of the commercial market, the expectations of the renters for their future needs and the opportunity cost of the owner. The expectations for the future rental prices tend to affect the choice of the renter and the lessor because they try both to analyze and predict the downward or the upward movement of the rents. For example if someone believes that the short-term rents will rise, then also the long-term have the same orbit. Because of this situation both sides have to discuss their options and their actions in order to find a final offer. Moreover some renters know before the agreement that they want for example a specific rental period of three years deal, others not, so the rental volatility depends also from the uncertainty of the renter. Finally during the leasing, the lessor is forced to respect and accept the terms of the agreement and it is more difficult to demolish or expand his own property, so he has to choose between rent profits or the opportunity of direct and free from intervention decisions on his own complex.

### **Nature of the property market**

According to Brian Bloch (1997) history confirms that property market has an inevitable and fundamental volatility. The majority of households topped house market on their needs and desires, and this is why property is criticized financially and emotionally. Many times, limited supply of land means that the more desirable the location, the more liable to upward volatility. Wood (1989, p.142) refers that property is such an emotional investment that people do not want to sell, even if they have to wait desperately for an upturn.

McNamara (1993) and Vos (1993) claim that property market is a risky investment because of volatility and for this reason they recommend as a solution substantive international diversification as a risk reduction method. Indeed institutions in the industrialized economies have cut down their exposure to property in comparison with the mid-1970s level nearly two thirds.

As Galal and Razzaz (2001, pp.10-14) point out, real estate markets are fixed in location, which means that we create permanent improvements on the land. This of

course has positive and negative externalities and the final result depends from many factors such as the government. Moreover heterogeneity comes from the fixed location of the land which automatically makes every property and building unique. Another point is the importance of bulky investment. Households require resources from their savings and their annual income. The derived demand also means that as the demand varies, then the market conditions vary as well.

### **Subsectors**

IPD Rural Property Investment Index (2011 pp. 2-3) notes that there is a positive confidence in the UK agriculture on the grounds that many investors want to diversify their portfolios, there is a large demand for land from farmers, investors and residential buyers, tax advantages of agricultural land are a significant benefit and also there is a strong support through the Common Agricultural Policy. So their opinion is that the medium term outlook for the sector is positive, both for income and capital growth.

Yao (1996) noticed that in China the better allocation of household to non-agricultural sectors was allowed by the increase in transferability of land.

Gabriel A-Petersen (2003) review the performance of office, retail, apartment, industrial and hotel real estate subsectors over a 20 year (historical) period in order to analyze the importance and the impact of the hotel subsector in a multi asset portfolio. The scope of diversifying the portfolio is to eliminate or minimize the risk, which comes from each subsector separately. Through the years from 1982 to 2001 all subsectors presented periodic cycles of growth, decline, stagnation and recovery. To sum up, when using this data the diversification benefits by including hotels as a subsector in a multi asset portfolio.

### **Risk and return**

Matthieu Dulguerov (2009, pp.278-279) concludes that the direct real estate investment is a better portfolio diversifier but only for low-risk investment portfolios, while securitized real estate has an important diversification role for medium portfolios, but also the high-risk. Moreover taking separate the impact of direct and indirect real estate, he claims that securitized real estate makes better diversification of a portfolio from direct real estate.

Hoesli, Lekander & Witkiewicz (2004), using portfolio allocation models in a mean-variance framework, proved that the summary of real estate in a multi asset portfolio enables the deviation of portfolio to be reduced by 10-20%. Additionally, according to Chaudhry, Myer & Webb (1999), 'stocks tend to have an inverse long-term relationship with real estate using co-integration techniques'.

## **Market transparency**

According to Hauser (2012, p.4) ‘the fourth key message is that no transparency method can be a panacea for regulators. There is a big difference between gathering large amounts of data and using it effectively to reduce financial stability risks’. Jones Lang LaSalle’s Global Real Estate Transparency Index (2010, pp.2-22) claims that Australia is the world’s most transparent market, followed by Canada and the UK in the second and third position respectively, which also means that the United Kingdom heads Europe’s ranking. On the other hand, the United States of America and the United Kingdom have full information on CRE debt market but they are both of them inside the global financial crisis. This result shows that more information and data leads to more financial engineering, which has an impact on volatility in real estate markets.

Chart 1: Highly Transparent Markets

2010 Composite Rank	Market	2010 Composite Score	2010 Composite Tier
1	Australia	1.22	1
2	Canada	1.23	1
3	United Kingdom	1.24	1
4	New Zealand	1.25	1
4	Sweden	1.25	1
6	United States	1.25	1
7	Ireland	1.27	1
8	France	1.28	1
9	Netherlands	1.38	1
10	Germany	1.38	1
11	Belgium	1.46	1
12	Denmark	1.50	1

Note: Scores shown rounded to two decimal places; rankings are based on unrounded scores.  
Sources: Jones Lang LaSalle, LaSalle Investment Management

Chart 15: Composite Index Europe

Transparency Level	2010 Composite Rank	Market	2010 Composite Score	2010 Composite Tier
Highly	3	United Kingdom	1.24	1
	4	Sweden	1.25	1
	7	Ireland	1.27	1
	8	France	1.28	1
	9	Netherlands	1.38	1
	10	Germany	1.38	1
	11	Belgium	1.46	1
Transparent	12	Denmark	1.50	1
	13	Finland	1.53	2
	14	Spain	1.58	2
	15	Austria	1.71	2
	17	Norway	1.75	2
	19	Portugal	1.82	2
	20	Switzerland	1.87	2
	21	Italy	1.89	2
	22	Poland	1.99	2
	23	South Africa	2.09	2
	24	Czech Republic	2.15	2
Semi	27	Hungary	2.33	2
	28	Israel	2.38	2
	29	Greece	2.60	3
	30	Slovakia	2.61	3
	31	Russia Tier 1 Cities	2.64	3
	32	Romania	2.68	3
	35	Russia Tier 2 Cities	2.86	3
	36	Turkey	2.90	3
	40	Bulgaria	3.03	3
	43	Russia Tier 3 Cities	3.12	3
Low	46	Ukraine	3.14	3
	53	Slovenia*	3.33	3
	61	Croatia	3.59	4
	70	Kazakhstan	3.93	4
	78	Belarus	4.48	4

\* Denotes new market added in 2010.  
Note: Scores shown rounded to two decimal places; rankings are based on unrounded scores.  
Sources: Jones Lang LaSalle, LaSalle Investment Management

## Alternative property investment methods

Robert A. Jarrow (2012) concluded that because of market liquidities and transaction costs, the hedging costs are reduced. This task is accomplished by the hedging using the most liquid derivative on the similar underlying. In addition, when holding a constant for the market illiquidity or transaction costs, it is better to use one of them as a hedge “like” derivatives with “like” derivatives.

Adair, McGreal and Webb (2006) demonstrated that real estate diversification may be analyzed from the perspective of different assets in different locations, or dissimilar assets types or using both of them. To sum up, real estate diversification has two dimensions, geographic grouping and property types.

*“In Europe, regulatory fragmentation has given much more but also smaller funds, 32.000 in total which are four times more than USA has, even though the fund market in the United States is larger. The data showed that funds domiciled in smaller countries tend to have a greater impact on international distributions”* (Cumming, Eddine and Schwienbacher, 2012 pp.3-4).

REITs according to Paskelian, Hassan and Huff (2011) enjoy a reputation as low risk investments in comparison with other types of investments, they were believed to be free of speculation, and for this reason the REIT market should protect its own reputation by providing rules and restrictions and decide which properties should be available through REITs.

Levin and Wright (1997) argue that there is a bubble behavior in the UK market, and the house prices are affected by the speculation methods during their study’s time-frame. Moreover, Jirasakuldech et. al. (2006) claim, that REIT markets might be more vulnerable to speculation on the grounds that investors cannot short-sell efficiently.

Finally, Collyns and Senhadji (2002, p.20) concluded that:

- i. The effect is considerably stronger in the real estate market than in the equity market
- ii. The response of property prices was significantly stronger before the crisis
- iii. The response of property process to credit is asymmetric in the sense that the response during periods of rising property prices is three time the response during periods of declining prices

Asset returns in the property market are highly correlated to asset returns in the overall market

## Economic cycles

According to the paper of Barras and Ferguson (1985) the property market belongs to four different economic cycles with different forms of interaction each other which are:

- Short cycles of 4-5 years, they are a result of the classic business cycle.
- Long cycles with a length of 9-10 years which are made from the long production lags.
- Long swings with duration of up to 20 years. These swings are generally associated with building booms. They are capable of creating new urban development and also they are speculative in nature.
- The fourth economic cycle is long wave which lasts as much as 50 years and it is an analysis of long lasting periods in which there are under observation great changes in the production methods and the technology tools such as electricity or electronics.

## How the building cycle works

Between the building booms that were generated in the postwar period two of them dominated the commercial property market, these are the early 1970s and the late 1980s. Building boom (Barras, 1983) comes from the interaction between three major factors, real economy, property market and money economy.

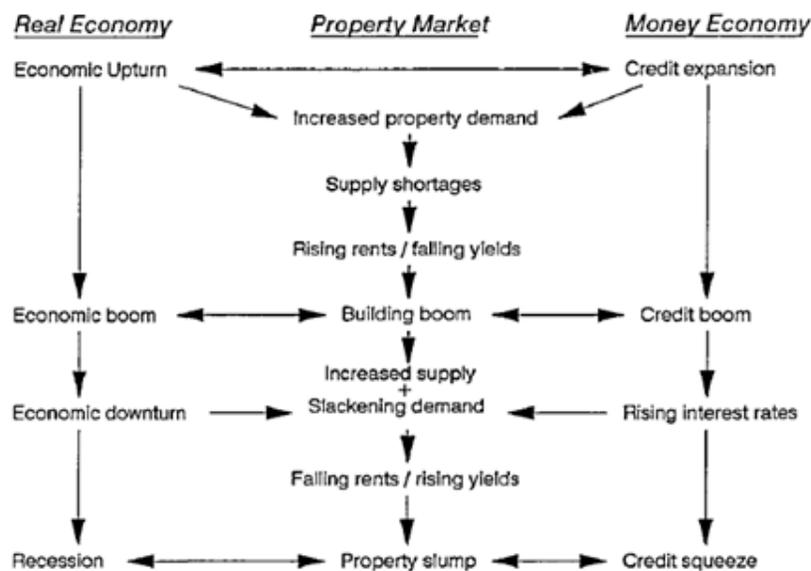


Fig. 1. How the building cycle works

Figure 2

1. The starting point of the building cycle is business upturn with a relative shortage of property supply.
2. As the demand rises and the restricted supply cannot satisfy all the needs of the market, a new wave of building starts.
3. The credit expansion during the building cycle's upturn keeps rising and after that the banks try to find funds for a second building wave.
4. At the next point, rents and values keep turning up, although there is a slow development process because of the inherent lags.
5. After this period the business cycles start falling with restriction of money supply and other symptoms such as an increase in interest rates because of the previous economic boom.
6. The demand of property weakens, building construction reaches its peak and this leads to lower rents and values and higher stock of building floorspace.
7. During this period, the economy crashes, there is a new recession in rents and values, credit squeeze cause survival issues in property and construction companies. Thus the final result is depressed values, high vacancy and a bankrupt property sector.

### United Kingdom

In order to understand more the interactions in the complicated economy of the UK, it is essential to analyze the impact of growth in the real economy. Figure 3 (Barras, 1994) presents the average rate of GDP growth between 1952 and 1992. In this 40-year period there are 8 short cycles with an average period of five years and there are two specific periods whose limit is in the early 1970s. On the first period there is a UK average growth of 3% per annum. This was the postwar period which was characterized by expansion in growth and a sharp rise in new technology and methods of production, using electronics, oil and new industrial productions. But after the early 1970s, the Oil Crisis of 1973 causes a review in the way the economy works, there is a slower economic growth and the dynamics for more expansion change rhythm and tempo.

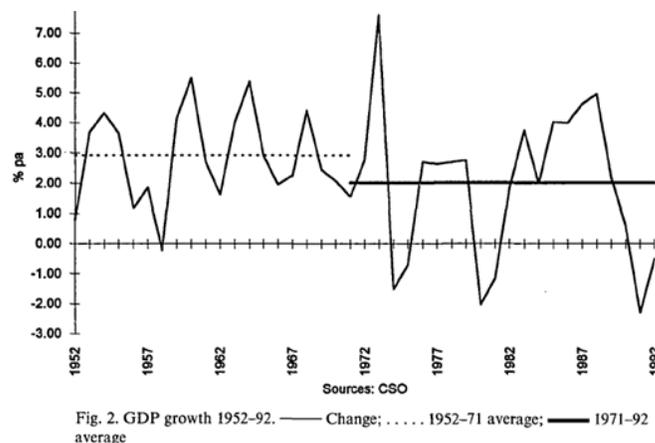


Figure 3

Next Figure 4 (Barras, 1994) presents the relation between the trend in new building orders and the trend of bank lending. New building orders are retail and office sectors. On the other hand, the industrial sector is more influenced by the sort cycle rhythms (Barras and Ferguson, 1985).

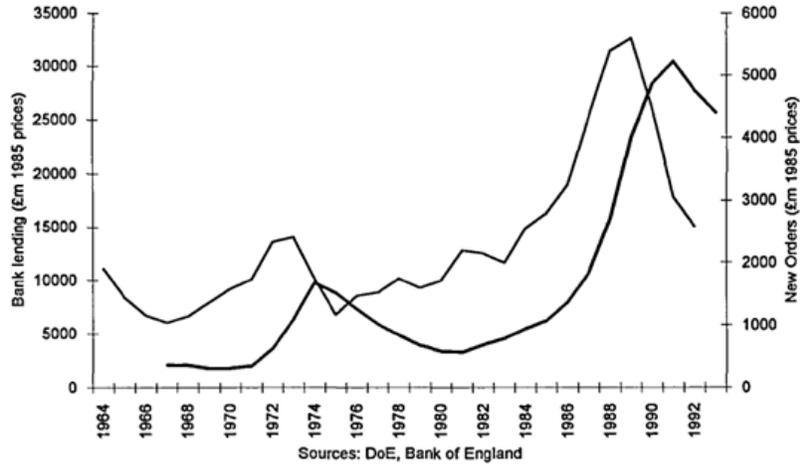


Fig. 3. Commercial development and bank lending. — Bank lending; — Building new orders

Figure 4

In Figure 4 there are 4 peaks of construction in 1964, 1973, 1981 and 1988-1989. These in early 1970s and late 1980s were more important on the grounds that the economic boom was more intensive and more classic. These two economic booms were forced by politics, and they create an environment in which there is more supply from the market and more credit from the money market, creating a mix of speculative development, capable to boost the economy.

From the Figure 5 (Barras, 1994), it is clear that there is a market instability caused by extreme building booms of the early 1970s and late 1980s.

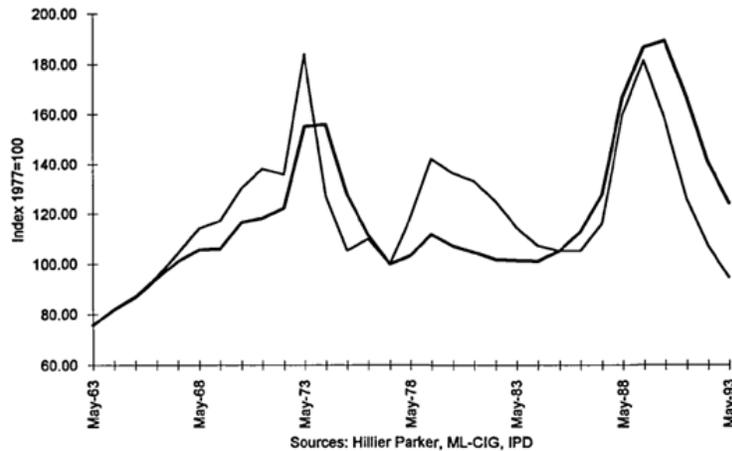


Fig. 4. Real rents and capital values; — Capital values; — Rents

Figure 5

Barras (1994) present in Figure 6 the rent cycle and the business cycle in relation from 1971 to 1991, proving that in this period of greatest market volatility rent cycle follows GDP with a 1 to 3 years of retardation in the upswing or the downswing of the cycle. The bigger the lag between them, the chances for speculation become more.

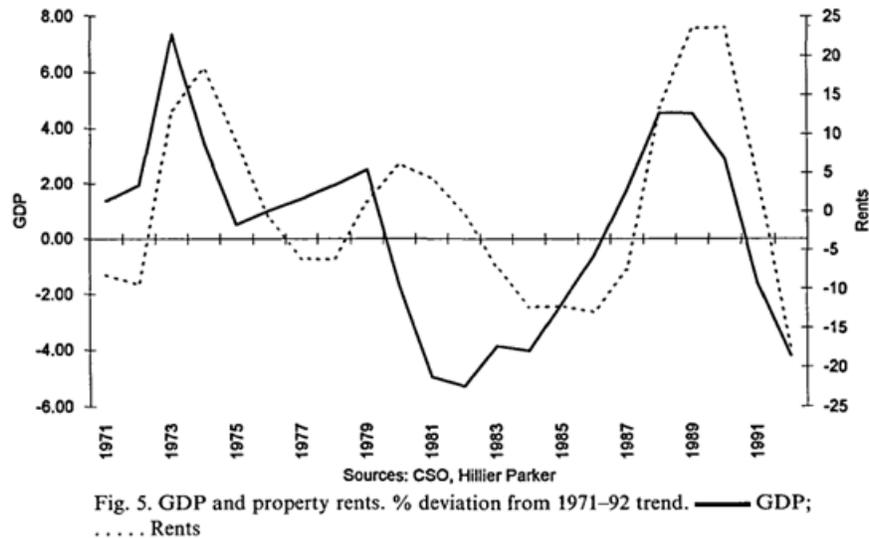


Figure 6

In table 1, Barras (1994) focus in the presentation of economic growth, rent change and capital value change in the UK commercial market, showing that during 20 years of observation the difference between the rent change of office and retail sub-sector is essential. One possible reason for this difference is the imbalance of consumption in contrast of production of the UK economy.

Table 1. Economic growth and real rental change 1971–93. Average annual growth rates (%)

	Office	Retail	Industrial
Economic growth (1971–92)	2.0	3.0	0.3
Rent change (1972–93)	-0.2	2.8	0.5
Capital value change (1972–93)	-2.0	2.4	-0.6

Sources: CSO; Hillier Parker.

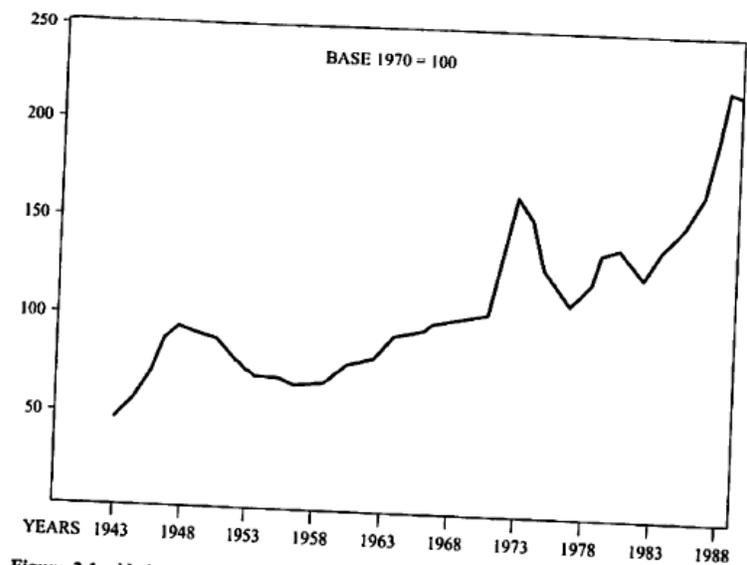
Table 1

Colin Jones (2012, p.3) believes that the monitoring of the house prices in the UK is a national obsession since the newspapers have reported bad news about the falls in the house prices. It is also crucial to know that the culture can change people's way of thinking about the housing markets, and as a result the trends in house prices. For example, on the one hand in South Europe families prefer to live under the same

roof for many years or the whole family buys together the new home and on the other hand in Anglo-Saxon countries buyers are usually at early age, so there is a more active market for houses.

One of the most important factors that affect the house prices (Jones, 2012, p.14) is the mortgage lending from the banks. Banks are trying to find new savers and more customers and to give for example through subprime mortgages the opportunity for low income households to buy a house under the “Right to Buy” government scheme. But the truth is that lenders cannot understand sometimes that price booms do not last forever. Thus the economic crisis mushroomed in many countries such as in the UK because subprime mortgages of the US banks were parceled out into further mortgages to hold the issue of bonds. The real problem begins when these bonds are not possible to be refinanced. This environment of low risk protection and prolepsis makes difficult to distinguish at a high risk period the good from the bad assets.

As Hamnett (p.18) shows in Figure 7 below, the upward trend of the house prices in real terms can be explained by many factors such as the increase of the GDP rate and population with a combination of mortgage banking policy and tax benefits into a framework of a limited supply of land. The most important part of this business cycle is the ability to pay which means the income of the households and the policy of the banks about the mortgage finance.



**Figure 2.1** National average house prices in real terms, 1943-88  
 Source: Holmans (1990)

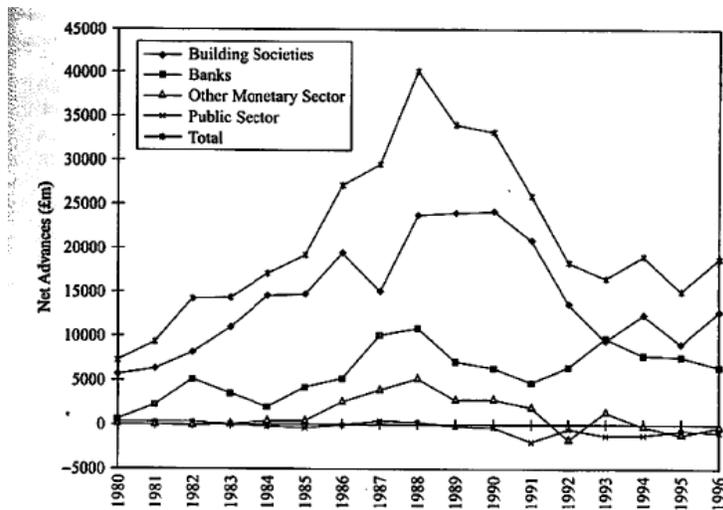
Figure 7

In addition, Hamnett (p.21) argues that the houses provide a very special type of investment on the grounds that provide safety to the owner, and they also constitute a potential source of gains. What is more, many people own only one property or house so it is very difficult to speculate on it. In any case houses have a relative

stability as an asset because people actually live in. Nonetheless, house prices present some cyclical effects, less in Germany and France. In the analysis of house price volatility during 1985-1993, the UK is coming in fifth place.

The combination of the housing market slump (Hamnett, p.22) with the rise of unemployment and the recession of the economy in the beginning of the 1990s made it clear that people who bought houses during the mid 1980s might have lost their jobs or a part of their income and thus became unable to afford the mortgage payments of the new investment asset. As a result many of them faced a substantial loss.

As Hamnett (p.30) observed, the increasing percentage of mortgage lending from 1981 onwards which became even greater during the period between 1985-1988 led to the increase of mortgage loans in that period giving a result of high number of residential transactions from 1.27 million in 1980 to 2 million in 1988, as it is presented below in figure 8. The shock that needs every boom to begin depends on the specific period but here the main reason was the financial liberalization.



**Figure 2.12** Loans for house purchase (net advances) by type of lender, 1980-96  
 Source: Council for Mortgage Lenders (1995, 1997)

Figure 8

Another reason that affected house prices during the period since 1980 (Hamnett, p.32), was the third house price boom which began in 1983 and it was the bigger than the other two, in 1970s and 1980s respectively. This boom of 1983 had a characteristic, that it was actually a more regional boom in the area of London and the South and spread to the North after 1988. In order to avoid the boost of the recession, the Government announced higher interest rates to control credit growth that led to mortgage debt and to stop consumers from overspending. In the 1990s slump the downturn of the market was the result of three factors. The first was the big size of the fall in contrast with the previous falls. The second reason was that the nominal prices

of the houses fell unprecedentedly, fact which can lead to a crisis of confidence in the property market and the third reason was that although prices fell dramatically the mortgage debts remained stable in money terms and thus, people were less wealthy, and they found that the value of their house was less than the mortgage. But the problem was not only for the households (Hamnett, p.38). Mortgage lenders such as Nationwide, Halifax, Woolwich, Abbey National and Leeds Permanent Building Societies suffered big losses because people did not pay back their debts and write-offs. Their total write-off rose from £18 million to £563 million which is an increase of 2.943%. Needless to say (Hamnett, p.43), that the recovery started again from London, which is a center of overseas investments and thus, the prices started again to rise sharply in 1996.

According to Hamnett (p.46), the reasons that triggered the boom are the demographic shocks of the economy, the increase of real incomes, and the investment character of the house combined with the expectations about the future prices and finally the most important factor is the financial liberalization with the use of new monetary policy. In the 1970s there was a cheap credit followed by high credit in the early 1980s of 15% which fell again in 1988 to a low of 9%. The financial liberalization with the fluctuation of credit had very dramatic results. The deregulation after the Bretton Woods period and the strong capital mobility helped over-investment to rise but then these loans were nonperforming creating new problems to the banking sector. Thus the stability and viability of the financial system were threatened.

### **United States of America**

In [www.about.com](http://www.about.com), the desire of the consumers for a new house in order to enjoy the “American dream” started in the early 2000s, when the mortgage interest rates became low, and at the same time the house prices rocketed, so it was the ideal opportunity for a potential investor to invest his money and buy a house. The wealth standards rose and people using their home’s equity took another mortgage to use it either for reinvestment or for some other need. But the problem had already started because the banks had offered every possible high risk mortgage to people with low documentation. So when the bell rang and the house prices stopped rising, people could not pay back their loans, they could not afford their loans and the foreclosures began. As soon as people defaulted on their loans, the banks did not lend to each other as they were not sure if they could get back their money, so some high profile institutions failed.

Michael Hudson talks about the subprime mortgages (2010, pp.4-7), and he talks also about the Real Estate bubble in the United States by giving an example of a family. This family took a loan of \$58,000 in order to buy a one-story house in Florida. After a lot of health and financial problems, sale pitches were trying to offer money in order to fix up their house, or to pay off the bills. But the reality was that the

interest rate rocketed after the spouse signed the papers. She tried to find a solution, signing for another company that promised the decrease of the loan. This cycle led to a lot of problems, and as the author supports: *“It was the new way of Wall Street. The loan on Carolyn Pittman’s one-story house in Atlantic Beach was now part of the great global mortgage machine. It helped swell the portfolios of big-time speculators and middle-class investors looking to build a nest egg for retirement. And, in doing so, it helped fuel the mortgage empire that in 2004 produced \$1.3 billion in profits for Roland Arnall.”*

Peter Murtaugh (2012) notes that while US has to deal with the effects of economic crisis, the Canadian cities still remain expensive in the house market sector because of low interest rates, stable economy and a lack of record. Take for example Toronto, where home prices have increased 85% in the last decade. The city also is on the top of high-rise building projects in North America. But it is not sure if real estate in Toronto and Canada it is a worth taking investment or a bubble ready to burst.

Kim Hiang Liow (2010, p.1) findings suggest that real estate markets had a slow integration process in contrast with the stock market all over the world. Moreover, the return-volatility beta analyses show that the real estate markets of US, UK, Japan and Australia do not share the similar volatility method. The research analyses these four and most important securitized real estate markets, and their interdependence from the stock market worldwide. In December 2006, amongst the real estate markets, US tops the list, with a market of US\$ 379, Japan is the second biggest real estate market with US\$ 103, while UK and Australia are in the third place with US\$ 99.

Furthermore, from the side of the bank, the investment and inclination to the Real Estate and especially to commercial Real Estate was not without a reason. The American banks had unfavorable experiences from loans to less developed countries and to various energy projects. The general perspective even from the academic field was that commercial real estate will give back very attractive returns. Back then, they underestimated the risk associated with Real Estate (Browne and Case, 1992, p.69).

As the authors said to their article *“Yet a further complication arises from the fact that the finance and insurance industries that supply much of the real estate financing and generate substantial revenues from this lending are also major tenants of office buildings. Their rapid expansion creates a demand for office space, but their growth depends, in part, on revenues from construction and real estate lending. Thus, the construction boom fueled the growth of these industries and was, in turn, fueled by their growth”* (Browne and Case, 1992, pp.80-81).

Browne and Case (1992, pp.66-87) concluded that the commercial real estate and especially office building belong to an inherent cyclical construction cycle. Time lags, ownership and of course finance are really important factors. The expectations that were made and a prospect of capital gains created an environment of enthusiasm,

making the commercial property more and more attractive. But when the rents started to fall the banks suffered losses and became cautious. We should take also into account the absence of scientific valuation of property and the high sensitivity of the properties to the assumptions according to rent levels and vacancy rates. As they argue, leverage is really dangerous when the values of an asset fall. *“When you have 10% down payment, a 10% decline in value eliminates a partnership’s equity”*.

The same way of thinking have also Panagopoulos and Vlamis (2009, pp.295-296). They support that an increase in Real Estate prices, increase the finance from the financial institutions which give a rise again in the Real Estate market. This feedback changes when the prices start falling. For this reason, prudence in investors needs to be reinforced taking into account that we have unstoppable banking crises such as in the 1970s, in the 1990s and the 2007 sub-prime loan market crisis in the USA. For instance we can value the properties frequently and periodically or assess the loan-to-value ratios (LTVs). Moreover they claim that Real Estate market is a common source of banking crisis and credit problems, and this is acknowledged by the Basel Committee for Banking Supervision. This is expressed in Tier 1 and its supplementary Tier 2. But they conclude Panagopoulos and Vlamis (2009, p.306) that: *“Although BCBS does not possess any formal supranational supervisory authority, and its conclusions do not, and were never intended to, have legal force, the Basel 2 Regulatory framework became effective for EU member states in January 2008 and in the United States in January 2009 ”*.

That is happening because the Real Estate companies are high leveraged companies and the banks play an important role in financing them. In the UK, approximately 30% of the total banking lending went to the Real Estate companies. The same percentage was also for the Asian economies before the financial crisis in 1997 and 22% for the United States in 2005. This proves that the building frenzy phenomenon on Real Estate can create “disaster myopia” to the banks that do not react with prudence and become a part of the “financial accelerator” Panagopoulos and Vlamis (2009, p.297).

From their empirical evidence, Panagopoulos and Vlamis (2009, p.298) conclude that because of lack of data and information, the empirical work focuses on residential property prices and bank lending. More specifically they prove that commercial property cycles affect the finance expansion, not the other way around. *“Any crisis in the Real Estate sector, produced by the sharp and unexpected fall of Real Estate collateral prices, is immediately transmitted to the bank’s effective exposure. This is then transferred to the bank’s equity capital, causing a banking crisis. Also empirical evidence shows that real estate company failures and banking crises seem to be intertwined”*.

The same cycle, but with more emphasis to commercial Real Estate is presented by Browne and Case (1992, p.57). As the commercial Real Estate vacancy rise, we have softer rents and the prices fall. As a result the banks have losses in their loans

and also they introduce more severe measures for lending, which stretch the recovery's strength. They also believe that banks were hit severe because of two reasons:

1. They invested aggressively to Real Estate
2. Real Estate assets were the only assets of the potential borrowers to the bank.

In the figure 9 we can see the values of commercial construction in the United States. We can observe that there is an upward trend during the 1980s and this rise stops in the beginning of the 1990s.

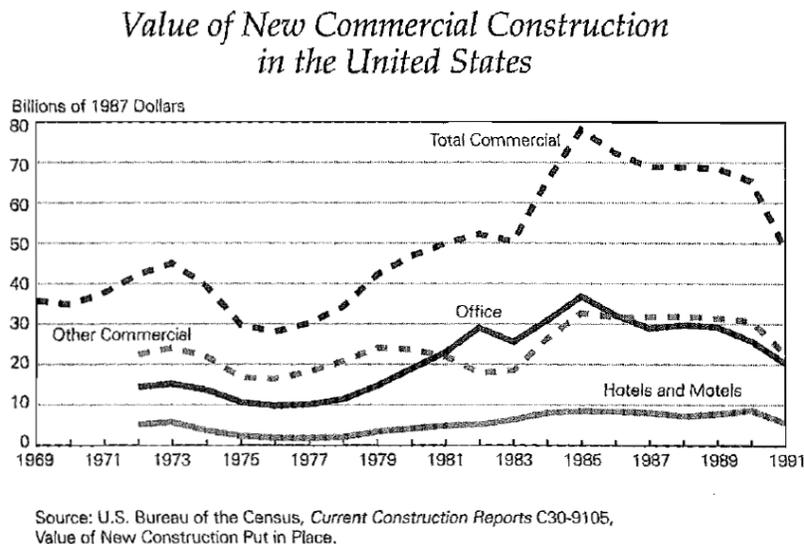


Figure 9

They also found (Browne and Case, 1992, pp.58-63) that this commercial construction boom was a mix of economic tools such as lender enthusiasm and tax changes. For the latter which caused a period during the 1980s of overbuilding we can observe that the Economic Recovery Tax Act (ERTA) of 1981 gave to the investors the chance to use those tax benefits and to magnify the advantages of ERTA through the new investment vehicles. Those vehicles made the market bigger. But they also believe that ERTA favored Real Estate investment in comparison with some other forms. This is proven by the fact that Internal Revenue Service data proved that there was a rise in limited partnership investment after ERTA.

## Dubai

A characteristic example of the Real Estate development in frenetic pace is Dubai. In his article, Bagaen (2007, pp.173-176) noted that Dubai experienced high growth rates. What is more, Dubai is after Singapore and Hong Kong the third most important re-export center in the world. The main reason and the catalyst for those changes is the decision of the emirate to allow foreign investors to invest and

purchase freehold property. Those changes are proven to the Tables 2 and 3 below, where it is obvious that the population in Dubai increases rapidly as well as the property prices in the emirate.

Population Growth in Dubai

Year	Population
1975	183,187*
1980	276,301*
1985	370,788*
1993	610,926*
1995	689,420*
2000	862,387*
2001	910,336*
2002	960,950*
2003	1,014,379*
2004	1,070,779*
2005	1,321,453**
2007 (Quarter 1)	1,448,000***

Source: Government of Dubai/statistics Centre of Dubai, (accessed 27 June 2007)  
 \*<http://vgn.dm.gov.ae/DMEGOV/OSI/webreports/401120784SYB04-02-01.pdf>  
 \*\*<http://vgn.dm.gov.ae/DMEGOV/OSI/webreports/2117025GC05-01-01.pdf>  
 \*\*\*<http://vgn.dm.gov.ae/DMEGOV/OSI/webreports/Fig4.pdf>

Table 2

DAMAC Properties Archived Availability List (2006)

Project/Date of sale	The Waves (1 bed apt)	Palm Terrace (3 bed apt)	Palm Springs (2 bed apt)	Lake Terrace (2 bed apt)	Lake View (studio)
1/12/2002	778,000				
1/06/2003	800,000	1,415,000		727,000	
1/12/2003	818,000	1,600,000	1,136,000	790,000	
1/06/2004	900,000	2,225,000	2,325,000	1,168,000	323,000
1/12/2004	920,000	2,937,000	3,025,000	1,237,000	477,000
1/06/2005	1,200,000	4,050,000	4,700,000	1,620,000	625,000

Source: Supplied to author courtesy of DAMAC.

Table 3

But as Newell noted (2012, p.74), the economic recovery and path to success is shorter in comparison with other countries on the grounds that Dubai avoided the real estate crisis in combination with a banking crisis. Only two mortgage lenders and

an Islamic bank had to be resolved. Furthermore, “the decisive restructuring process marked by the willingness to draw on the lessons of international experience and Dubai’s ability to hire international experts to complement its local human resources. Thirdly, because of its location, Dubai has been benefiting significantly from continued growth in Asia after the global stimulus packages enacted in 2009; however the limits of the decoupling of Asian economies from the “Second Great Contraction” in the West are being tested”. The only negative issue is the fact that Dubai tries to adjust the growth of the emirate away from Real Estate because the losses from this sector were a lot and its losses were covered from non-real estate assets.

### Asia

In the beginning of their article, Collyns and Senhadji (2002, p.3) commented the way of optimism during the 1990s in the Asian economies which was a result of underestimation of risk, asset price inflation, overextension of credit, consumer expenditures and physical capital overinvestment. Those are the main reasons of the “East Asian miracle”. In the Table 4 below we can see what happened in each Asian country during the 1990s.

Table 1. East Asia—Incidence of Asset Price Bubbles and Banking and Exchange Rate Crises

	Capital Inflow Surge	Real Credit Growth	Property Price Bubble	Stock Market Bubble	Banking Crisis	Exchange Crisis
Indonesia	√√	√	√	√√	√√	√√
Korea	√	√	√	√√	√√	√√
Malaysia	√	√√	√√	√√	√	√√
Philippines	√√	√	√	√	√	√
Thailand	√√	√√	√√	√√	√√	√√
Hong Kong SAR	√√	X	√	√	X	√
Singapore	√	√	√	√	X	X
Taiwan POC	X	√	√√	√	√	X

*Note to table:* The single “√” indicates a moderate capital inflow or a bubble/crisis, a double “√√” indicates important capital flows or a severe bubble/crisis, and a “X” indicates minimal bubble/crisis. The specific calibration is explained in Appendix 1.

Table 4

The Real Estate turbulent was a cause of many results such as the construction lags during the Real Estate development period, the real GDP, Real Estate taxes, zoning restrictions, building code restrictions, lease loans, tenancy, moral hazards and adverse selection, having the wrong perception that some financial institutions are “too big to fail” (Collyns and Senhadji, 2002, p.5).

As the authors (Collyns and Senhadji, 2002, p.6) said: “The amplification of the real estate cycle works through the following channel. Increases in the price of

*real estate may increase both the value of bank capital, to the extent that banks own real estate, and increase the value of real estate collateral, leading to a downward revision of the perceived risk of real estate lending. Consequently, an increase in real estate prices may increase the supply of credit to the real estate industry, which in turn, is likely to lead to further increases in the price of real estate. These feedback effects go into reverse when real estate prices start to decline. A decline in the price of real estate will decrease bank capital directly by reducing the value of banks' own real estate assets, and indirectly by reducing the value of loans collateralized by real estate. Furthermore, a decline in real estate prices is likely to reduce the costs of default and increase the perceived risk of real estate lending. As a result, real estate lending will decline, putting even more downward pressure on real estate prices, which in turn feeds back to bank lending. As the banking sector weakens, banking supervision and regulation may reinforce this process by increasing capital requirements and instituting stricter rules for classifying and provisioning against real estate loans, squeezing further lending to real estate investors."*

#### Asset price booms

Hong Kong and Singapore have the most reliable data. On the other hand, Indonesia, Korea and Philippines have unavailable data and do not prove a cyclical property behavior. Actually in Korea, the most famous property price bubble has to do with the Olympic Games of 1988 in Seoul (Collins and Senhadji, 2002, p.8).

During the 1990s the economic growth in Asia had systemic imbalances that had to do with macroeconomic issues that generated some more optimistic expectations that led to high annual growth rates. For instance, four out of five countries that experienced the financial crisis (Thailand, Korea, Malaysia and Indonesia) had from 1991 until 1996 an annual growth rate higher than 7%. Even the account deficits were not such a big problem because they were financed by new private capital inflows (Collins and Senhadji, 2002, p.8).

Second of all (Collins and Senhadji, 2002, p.9), this period is characterized by the assist of public policies and corporate governance that create an environment where investors could find easily low cost external funding. This happened because of fixed exchange rate pegs against the dollar, financial markets deregulation and capital account liberalization. Although theoretically this environment helps an investor, the final result of the external funding was lower profitability from the investment projects.

A third reason of the asset price booms in Asia is the dominance of the banks in the financial system of those countries. This dominance helped to introduce the moral hazard, on the grounds that in these countries bond markets and equity were relatively underdeveloped and of course there was at the same time an inability for the banks to assess in making loan decisions. Back then the banks used to rely mainly on property collateral (Collins and Senhadji, 2002, p.9).

The fourth reason is the *“regulatory structures behind the rapid growth of bank intermediation. Most countries adopted Basle Committee recommendations on capital adequacy requirements, but without stringent credit assessment such requirements may provide little discipline, and in cases where performance felt short, corrective measures were typically inadequate. Furthermore, while most countries avoided explicit deposit guarantee schemes, in practice depositors were not required to take losses when banks ran into difficulties, implying at least implicit deposit insurance and eroding barriers to moral hazard”* (Collyns and Senhadji, 2002, p.9).

The result of property crisis spread to some other parts of the economy and industry (Collyns and Senhadji, 2002, pp.11-12). For example the exports started declining and the countries (especially Thailand) had to cope with some competitors such as Mexico, China and Vietnam. What is more, after the slowing pace of growth, the markets started concerning about the health of bank balance sheets. The countries tried to adopt measures against the speculative attack on the exchange rate, but it was too late, because even the investor sentiment was already negative. For this reason the banks suffered from losses because they could not use the property collateral as a security measure. The main reason for that was the undervaluation of the real estate assets.

But the countries did not face the same results from the crisis. Without doubt, Thailand faced the most severe results and was heavily hit because it combined a weak financial system and a huge property price bubble. After Thailand, Malaysia experienced a lot of problems but there was in the country a more organized financial institutions system. This provided a blanket guarantee of deposits. Korea and Indonesia joined a lot of problems, not because of the financial institutions, but from defaults on loans to high leveraged connected firms. Philippines suffered less than the previous countries, because the country did not have the same growth pace in the beginning of the 1990s. Last but not least, Singapore and Hong Kong SAR joined a heavy exposure to the Real Estate sector, but the authorities in both countries took some measures for the increase in property prices. In Hong Kong they responded through an aggressive interest rate defense of the currency board regime and the protection from speculative attacks. In Singapore they allowed increased exchange rate flexibility. Although in both countries the Real Estate prices fall sharply, they managed to avoid a deep recession and also to have healthy balance sheets. (Collyns and Senhadji, 2002, p.12)

To the Table 5 below, we present the exposure of the Asian banking system to Real Estate.

	Property exposure	Collateral Valuation	Non-Performing Loans		Capital-Asset Ratio
in percent of assets at the end of 1997					
	1997		1997	1998	1997
Korea	15-25	80-100	16.0	22.5	6-10
Indonesia	25-30	80-100	11.0	20.0	8-10
Malaysia	30-40	80-100	7.5	15.0	8-14
Philippines	15-20	70-80	5.5	7.0	15-18
Thailand	30-40	80-100	15.0	25.0	6-10
Hong Kong SAR	40-55	50-70	1.5	3.0	15-20
Singapore	30-40	70-80	2.0	3.5	18-22

Source: Corsetti, Pesanti, and Roubini (1998)

Table 5

It is really important the fact that the markets and the countries need a strong bank regulation that will offer risk reduction of a bubble development or protect from the asymmetric costs when the bubble burst (Collins and Senhadji, 2002, pp.18-19). This can be done only by a more strength credit assessment with less reliance on the Real Estate collateral, less moral hazards in the system which means:

- a) A transparent framework for deposit insurance
- b) Strict capital adequacy requirement and
- c) High demanding accounting standards

Furthermore it needs a better approach to bank regulations and some other methods of financing in the Real Estate Development such as the indirect investment; for example the REITs and some other similar vehicles. But even with their use it is still difficult to rule out the real estate bubbles, because we have to take into account moral hazards, psychological factors and human tendency to follow the actions of other people (Collins and Senhadji, 2002, pp.18-19).



## China

In this part we will try to present the case of China, a country that has a tremendous economic size and can affect the global economy rapidly. According to Fung, Jeng and Liu (2010, pp.71-72) the real estate market and development is a milestone of China's economic prosperity. This process started from 1988 and although there are a lot of changes the state remains the owner of the land, giving the rights for land use to the investors. Moreover the Real Estate market joined an increasing integration with the foreign markets and this means that new challenges emerged from the global economy to the foreign and domestic investors. The increase in Real Estate investment has offered a chance for development also to some other factors of the economy such as engineering, architecture, electronics, chemical products, steel and machinery. This is crucial for an economy that has on the one hand high saving rates and on the other hand low consumption share in the GDP.

### Development phases

The Real Estate market of China can be divided in five phases. (Fung, Jeng and Liu, 2010, pp.72-73) The first one is from the 1978 when the People's Republic was founded, where there was no private ownership and everything belonged to the state. The second phase is from 1978 to 1987 with the experiment of "One-Third Housing Sale Model". The third one was from 1987 to 1991, and it is the period that the marketization of the Real Estate and Public Accumulation Fund (PAF) began. After that the fourth phase which was from 1992 to 1997 and we have a new era of Real Estate brokerages, agencies and the betterment of the Real Estate industry. Finally, the fifth period is from 1998 till today, which lead to the Real Estate boom of the Chinese market.

In Table 6 below we have some important indicators of the Real Estate in China from 2002 to 2006.

Important Indicators of Real Estate Development in China, 2002–2006

Indicators	2002	2003	2004	2005	2006
Land development and purchase (1,000 sq m)*	477,291	578,188	595,249	589,721	633,966
Growth rate	31.96%	21.14%	2.95%	-0.93%	7.50%
Land development	173,468	208,538	197,402	207,622	266,056
Growth rate	19.56%	20.22%	-5.34%	5.18%	28.14%
Land purchase	303,823	369,650	397,847	382,099	367,910
Growth rate	40.27%	21.67%	7.63%	-3.96%	-3.71%
Building area (1,000,000 sq m)					
New projects	423	543	604	668	781
Growth rate	17.56%	28.37%	11.23%	10.60%	16.92%
Unfinished construction	928	1,169	1,405	1,644	1,941
Growth rate	20.13%	25.97%	20.19%	17.01%	18.07%
Finished construction	325	395	425	488	530
Growth rate	19.12%	21.48%	7.48%	14.90%	8.66%
Area sold	250	322	382	558	606
Growth rate	20.16%	29.15%	18.56%	45.87%	8.71%
Supply-to-demand ratio	1.30	1.23	1.11	0.87	0.87
Real estate investments (RMB billion)					
Real estate investments	774	1,011	1,316	1,576	1,938
Growth rate	23.87%	30.63%	30.20%	19.77%	22.99%
Total urban fixed assets investments	3,294	4,264	5,862	7,510	9,347
Growth rate	18.38%	29.45%	37.47%	28.11%	24.47%
Selling price of house (RMB per sq m)	2,291	2,379	2,714	3,242	3,383
Growth rate	2.92%	3.84%	14.08%	19.45%	4.35%

Source: Luo (2007).

Notes: The exchange rate at the end of 2006 was US\$1 = RMB7.8238.

Table 6

The housing affordability in China is an important factor for the Real Estate development (Fung, Jeng and Liu, 2010, pp.76-77), because although the country has one of the highest GDP in the world, when it comes to its population we can see that the per capita income is low. This, with the combination of rising house prices that go faster than income gives as a result problematic issues in affordability. Another reason is also the fact that the family size decreased from 3.17 in 1997 to 2.96 in 2006 after the one-child family program of the government. In the next Table we can see some of those characteristics.

## Housing Affordability

Panel 1: Housing Prices and Income in China, 1997–2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Avg residential price (RMB/sq m)	1,790	1,854	1,857	1,948	2,017	2,092	2,197	2,608	2,937	3,132
Avg house size (sq m)	90.0*	90.0*	90.6	96.3	102.0	108.5	111.8	85.8**	118.6	122.2
Avg urban disposable income (RMB)	5,160	5,425	5,854	6,280	6,860	7,703	8,472	9,422	10,493	11,759
Avg number of persons per household	3.19	3.17	3.15	3.13	3.07	3.04	3.01	2.98	2.96	2.96
Ratio of housing price to household income	9.79*	9.70*	9.12	9.54	9.77	9.69	9.63	7.97**	11.21	11.00

Panel 2: A Comparison Between United States and China (end of 2006)

	Median household income	Median home price	Mortgage rate	Annual payment	Mortgage-to-income ratio
United States	\$49,588	\$245,400	6.47%	\$25,604	51.63%
China	\$2,290	\$48,919	4.59%	\$4,518	197.28%

*Source:* Panel 1: Feng (2008). For the United States data in Panel 2: the median household income figure comes from the U.S. Census Bureau; the median home price is from [www.economic.com/em-cgi/data.exe/cenc25/c25q02](http://www.economic.com/em-cgi/data.exe/cenc25/c25q02); the mortgage rate is a fifteen-year fixed rate, from [www.hsh.com/natm02006.html](http://www.hsh.com/natm02006.html); and the annual payment and mortgage-to-income ratio figures are calculated from the data in the first three columns with the assumption of a fifteen-year mortgage loan. For the China data: the median household income and the median home price figures are calculated from Panel 1 data and the end of 2006 exchange rate of US\$1 = RMB7.8238. The mortgage rate is from the People's Bank of China.

*Notes:* The ratio of housing price to household income is calculated as follows:

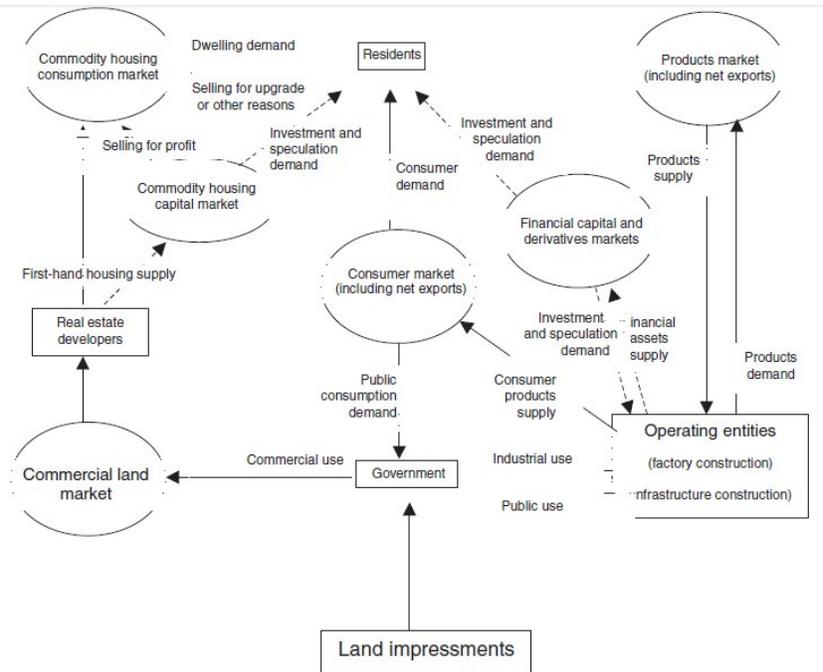
$(\text{Average residential price} * \text{Average house size}) / (\text{Average urban disposable income} * \text{Average \# of persons per household})$ .

\*We do not have the house size data for 1997 and 1998 so we use a guesstimate of 90.0 sq m.

\*\*The anomalies in 2004 were caused by changes in statistical parameters.

Table 7

But how the Real Estate motivates the economic growth? There are a lot of reasons (Fung, Jeng and Liu, 2010, pp.83-85) to explain, the state owns the land and so land expropriations are facilitated. Furthermore every local government can spend a lot of money, mainly because of the highest in the world Chinese saving rates (above 40%). As we noticed before, some other factors such as machinery, steel companies and engineers grow in fast pace and we should include the rapid urbanization process in China because rural population goes to the industrialized cities in order to find a job. It is a complicated scenario and it is presented in Figure 10 below.



Source: Adapted from Feng (2008).

Figure 10

After the global financial crisis, Fung, Jeng and Liu (2010, pp.87-89) reported a decline in Real Estate Industry Entrepreneur Confidence Index as well as in housing sales in sixteen major Chinese cities. This Real Estate turbulent caused as they claim “Such a sharp in the market has resulted in problems like widespread mortgage loan defaults, negative-net-worth families, aborted construction projects, and empty residential buildings”. What is more, the Chinese exports were hit; people lost their jobs because of the global crisis that affected the country and also a violent cycle in consumer’s behavior. In addition, the fact that the Chinese government offers the land for seventy years based on a regulation from 1990 creates issues about what will happen when this term expires.

The Real Estate development companies belong to the general framework of the business society in China. Chan, Dang and Yan (2012, pp.497-498) support that there are many credit impediments for the companies that do not have some connection with the Chinese political elite, for example a CEO that is politically connected, but there are indeed some changes and financial reforms, for instance the opening of the stock market to foreign investors which promotes profitability to the investors and operating performance. China knows that is a late comer in this financial system but also that is a major key player in the international currency system. Furthermore, the country did a lot of gradual steps to stabilize its global image, such as the revaluation of its currency, yuan-denominated offshore bond issues and also off shore deposit accounts. The political willing is needed to cope with the state owned enterprises (SOEs), which remain as a legacy of the previous centrally planned economy.

The Real Estate development and the property investments have a significant relation with the economic growth in China (Zhang, Wang and Zhu, 2012, pp.123-125). The authors confirm the contribution of the Real Estate investment to the GDP growth, taking into account that there is no contribution when per capita GDP is less than \$1,000. They claim that the Real Estate sector has an intermediate role to the economy and industry. In 2000, according to the statistical data of the country, if the demand for Real Estate increases 100¥, it means ¥34 of demand in the mechanical equipment, 33¥in the metal product manufacturing industry, 19¥ in the industry of chemicals, ¥17 in gas and petroleum industry, and ¥17 in the extractive industry. In other words, for every ¥100 for demand in Real Estate industry we have ¥315 demand of gross production. That means an impact on savings, employment, labor productivity and total investment. But this relationship was not always the same, in the post-war years the contribution of Real Estate investment was less important, but after 1970s it had more multiplier effects and social consequences to the country, as it came closer to the economic cycle.

In order to understand the potential dangers of a Real Estate bubble, we should know that the investment framework of China and its attractiveness to Chinese and foreign investors depends also on the Real Estate tax policy of the Chinese government, because the property market should be protected from speculation and greed. Pheny and Wong (2011, pp.51-52) argue that 65.4 million of residential properties did not consume electricity for six months and at the same time because of that there are less residential premises which leads prices to rise. For this reason the Chinese government was thinking to apply the 2003 plan of the 16<sup>th</sup> Central Committee of Communist Party of China about Real Estate taxes. According to the authors, a new unified tax system would replace the already existing fees and charges. On Table 8 we can see the taxes during the development and building period.

Tax Item	Tax Base	Tax Rate		
Land Appreciation Tax	Appreciation Value = Sales proceeds less allowable deductions. (Calculation methodology varies in different locations.)  <b>Exemption granted:</b> for ordinary residential properties at normal standard; and if Appreciation Value is less than 20% of the allowable deduction.	If amount of Appreciation Value falls within the following part: (1) ≤ 50% of the amount of allowable deductions : 30% (2) > 50% and ≤ 100% of the amount of allowable deductions : 40% (3) > 100% and ≤ 200% of the amount of allowable deductions : 50% (4) > 200% of the amount of allowable deductions : 60%		
Farmland Occupation Tax	<b>Area per Capita for the region:</b> (1 Mu = 667m <sup>2</sup> ) ≤ 1 Mu > 1 Mu and ≤ 2 Mu > 2 Mu and ≤ 3 Mu > 3 Mu	Tax per m <sup>2</sup>  RMB 10.00 – RMB 50.00 RMB 8.00 – RMB 40.00 RMB 6.00 – RMB 30.00 RMB 5.00 – RMB 25.00 Average tax rates deviates for different regions.		
City Maintenance and Construction Tax	(1) Taxpayers located in the urban areas (2) Taxpayers located in counties or towns (3) Taxpayer is not located in urban areas, counties or towns	(1) 7% (2) 5% (3) 1%		
Urban Land Use Tax	Large City Medium City Small City Towns and mining area	Annual Tax per m <sup>2</sup> RMB 1.50 – RMB 30.00 RMB 1.20 – RMB 24.00 RMB 0.90 – RMB 18.00 RMB 0.60 – RMB 12.00  Actual tax rates depend on classification of land and local variation.		
House Property Tax	Original value of the property less discount of 10% to 30%, subject to local variation; or  Annual rental income. (Not applied to Beijing)	Annual rate of 1.2%  12%	<b>Taxpayers</b>	
			<b>Seller</b>	<b>Buyer</b>
Stamp Tax on Contract	Contract Value	0.05%	✓	✓
Stamp Tax on Ownership Certificates and on Land Use Certificates	Per Certificate	RMB 5.00		✓
Deed Tax	Contract Value	3% - 5%, depending on location		✓
Land Appreciation Tax	Sales proceeds less prescribed deductions. Calculation methodology on prescribed deductions varies in different locations.  Individual: temporarily exempted, effective from November 1, 2008.	If amount of Added Value: (1) ≤ 50% of the amount of prescribed deductions : 30%; (2) > 50% and ≤ 100% of the amount of prescribed deductions : 40%; (3) > 100% and ≤ 200% of the amount of prescribed deductions : 50%; (4) > 200% of the amount of deducted items : 60%.	✓	
Business Tax	Initial Developer: Gross Selling Price.  Acquirer from Developer or another holder: Sales proceeds less original cost of property purchased.  Individual: exemption available depending on length of ownership and type of property.	5%	✓	
Corporate Income Tax	Realized Gain on Disposal	25%	✓	
Individual Income Tax	Realized Gain on Disposal	20%	✓	

Table 8

In 2010 (Pheny and Wong, 2011, pp.52-53), the press noted that “the State Council approved the introduction of a real estate tax trial program which would be launched in Beijing, Chongqing, Shenzhen. In addition, the trial program would be extended to Shanghai after the end of World Expo at the end of October 2010”. Although there was announced a rumor about the real estate tax, till today the tax has not been released. It is important to note that there were concerns about the new

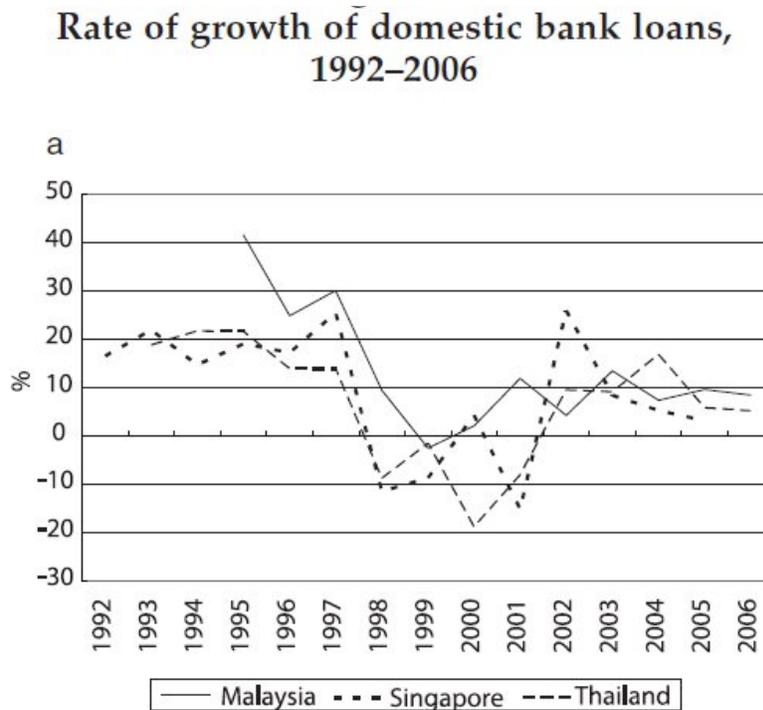
government policies, because it might create new problems. The investors concern about the results because they do not want those policies to reduce either demand for Real Estate properties, or the desire of the potential buyers, because this scenario will affect the banking industry, as well as the business closing to Real Estate. It is central to refer that urban land is owned by the Chinese government and rural land by “Rural Cooperatives”.

The residential need in China (Pheny and Wong, 2011, pp.55-58), which arises from the economic development, gives the opportunity to the people to purchase a property either for their personal use or for speculation. The Chinese government wanted to avoid a possible Real Estate bubble and tried to apply a Real Estate tax. This happened because some of the local governments increased the non performing loans, the finance spending on infrastructures, and as a result a lot of problems in the banks emerged. For example the debt of 18 provinces in China reached RMB 2.79 trillion at the end of 2009. That is the reason why Mingkang, Chairman of China Banking Regulatory Commission, suggest to the banks to guard themselves from local government financing demands. In general a lot of problems from the Real Estate turbulent arose because of the complex situation. China is a country with lack of database for registering the land and Real Estate professionals to assess a property and the transactions of the industry. At the same time the Chinese government tries to mitigate the overheated property market, to avoid a parallel reduction in investment, economic growth and an increase in unemployment.

But the Real Estate prices, downturns and upturns do not affect only the Chinese economy. As Inoguchi claimed (2011, p.151), the Real Estate prices and their fluctuations affect the banking system in three countries in Southeast Asia: Malaysia, Thailand and Singapore either before, or after the financial crisis of 1997. The regression analysis has proven that domestic bank lending in Thailand and Singapore can be influenced by the fluctuations in Real Estate prices, but also the banking sector behavior has changed after the crisis. The banking system can be affected if it plays a significant role in the economic system and an important number of companies and institutions rely on them. Therefore, changes in Real Estate prices might have an effect on the value of collateral. This has as a result changes in bank lending.

Inoguchi (2012, pp.152-153) supports that some Asian countries before the crisis of 1997 experienced an economic boom with massive capital inflows. After the crisis, capital outflow from foreigners was the main cause of the damaged banking system and the collateralized loans. As the author noted *“The regression estimates from the dynamic model of bank lending indicate that real estate prices affected domestic bank lending after the crisis in Singapore and Thailand. However, this was not the case for Malaysia and prior to the crisis in Singapore and Thailand. Government regulations imposed on real estate related bank loans may have exerted an effect before the crisis in Singapore and Thailand”*. In Japan, Real Estate has a more significant role as collateral in cases of small firms that seek a loan from a big financial institution rather than bigger firms that seek finance from small banks. The

author shows the rate of growth in those three countries from 1992 to 2006 in Figure 11 below. It is obvious that the banking loans were affected because of the financial crisis, in which one major factor was the Real Estate prices.

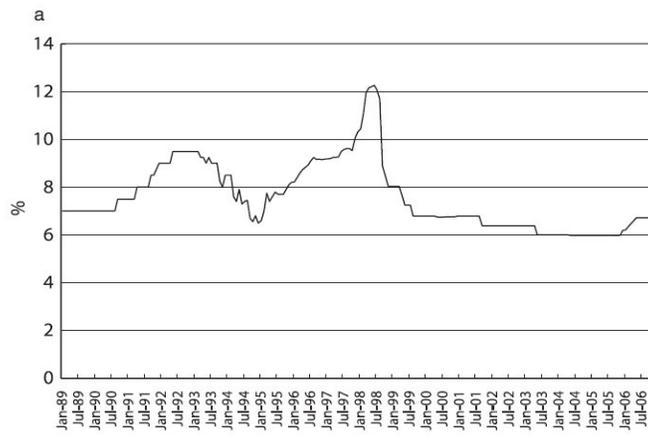


Source: Author's data.

Figure 11

There are also some other figures, that show the changes in these Asian countries during this period, the lending rates of Malaysia, Singapore and Thailand.

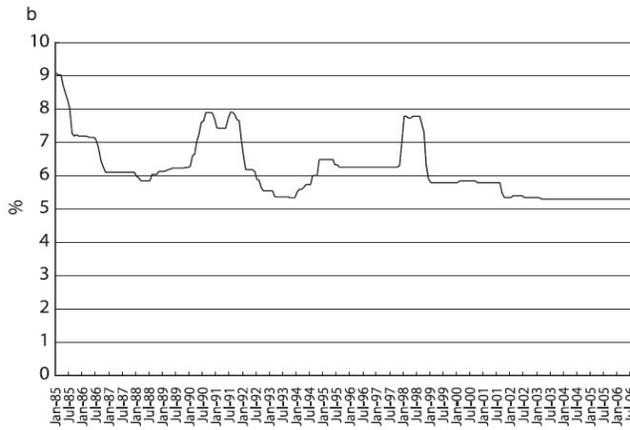
Malaysia: lending rates, 1989–2006



Source: Author's data.

Figure 12

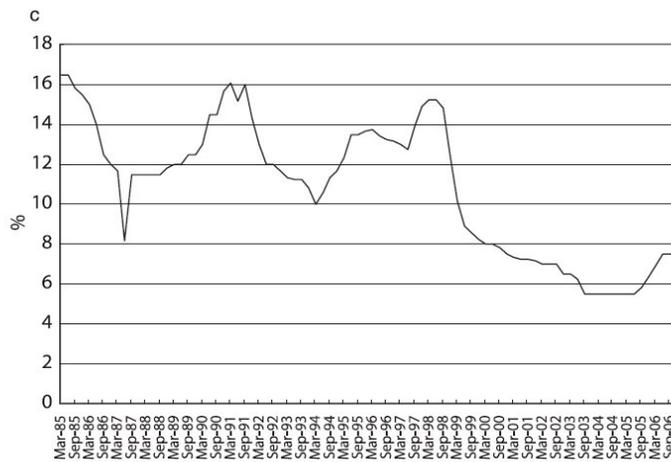
Singapore: lending rate, 1985–2006



Source: Author's data.

Figure 13

Thailand: lending rate, 1985–2006



Source: Author's data.

Figure 14

The Real Estate investment in China can be separated into two main groups: direct and indirect investment. Chau, McKinnel, Wong, Wei and Newell (2010, pp.9-18) noted that there are two major differences between direct and indirect investment. The first one is if those two types of investment are equivalent and also if indirect investment adds diversification benefits when someone creates a diversified portfolio. According to their study for China from 1994 to 2008, the mainland listed real estate companies do not have a strong connection between direct and indirect real estate in comparison to the companies that are listed in Hong Kong. Although regulatory reforms improved the connection between direct and indirect investment, the corporate governance structure should be a crucial factor when an investor wants to penetrate via listed property companies in the People's Republic of China.

In addition, the interaction of banking system and property market is affected by the long-run relationship between the real estate prices in China and the existing inflation rate. According to Zhou and Clements (2010, pp.267-268), the government housing distribution stopped and private housing market started to develop in the country. These regulations were done by the Chinese government using gradualism and pragmatism. After 2000 home ownership rocketed in China and the floor space of new houses increased from 188 million square meters in 1985 to 477 million square meters in 1998. The authors also support that in general real estate is used as an inflation hedge, because when the prices rise, at the same time the real estate returns increase respectively (considering also rent and price appreciation). This is more intense in China for three reasons. First of all property assets is a part of household wealth in PRC. Secondly, China's developing rate is one of the highest in the world and thirdly the Foreign Direct Investments reached \$50 billion dollars since 1995. Nevertheless (Zhou and Clements, 2010, p.276), taking into account the lack of data in the country and also the fact that the real estate market and property history is separated in two main periods (prior and after 1998), the authors claimed that "*Real Estate in China is not an effective inflation hedge*".

The PRC is not only the country with the biggest population in the world, but also has a tremendous size of 9.596.961 km<sup>2</sup>. Every region of the country does not have the same attractiveness to Foreign Direct Investments and Real Estate development. He, Wang and Cheng (2009, p.291) using the China Real Estate statistical Yearbook from 1997 to 2007 found that the coastal areas of China like Shanghai, Guangdong and Beijing are more attracted to foreign direct investment for real estate development than the inland. Nevertheless the real estate developments have been diffused also to provinces like Chongqing, Anhui, Hubei and Sichuan. Figure 15 and Figure 16 present the distribution of FDI in China in 1997 and in 2007.



Figure 15

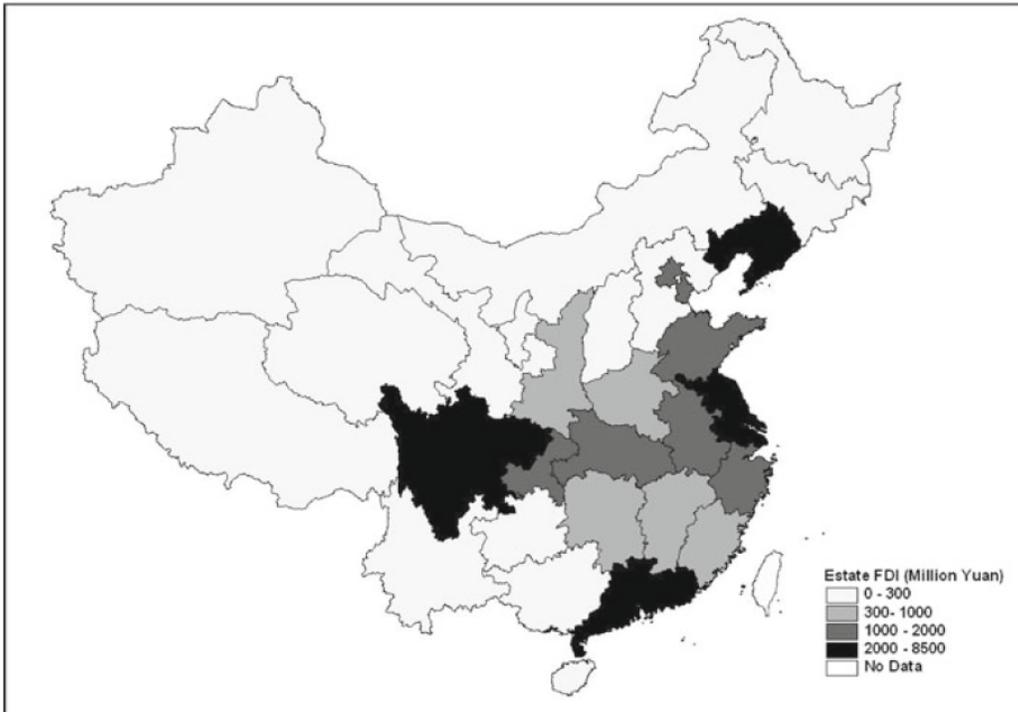


Figure 16

From the other side of the river, Lam (2011, p.59) presented the Policy Measures of the Chinese government in the Real Estate from 2005 till 2009 and he concluded that in order to succeed in credit control it is more effective to adjust the money supply if you want to manipulate interest rates, rather than land supply or some other administrative measures and policies. Lam (2011, pp.61-62) showed the strategies of the State Council in 2005. Those are:

- “1. To strengthen macro-planning of commodity housing and improve its structure, all districts would have to confirm total investment value, programs, and progress of construction of commodity housing by 2006.*
- 2. To ensure the best planning and use of land in various areas, local governments were to strictly manage the land supply. Cities where property prices were increasing rapidly were to increase the availability of land for low to medium-priced commodity units and prevent speculation on land sales.*
- 3. To control prices of commodity housing and ensure a sufficient supply of low- to medium-priced properties, prices were to comply with the government’s price guidelines.*
- 4. To improve low-cost housing in towns and cities, as well as to ensure a sufficient housing stock to satisfy the basic housing needs of low-income families, the coverage of low-cost housing would be enlarged and low-cost housing would become a responsibility of city and town governments.*
- 5. To employ taxation as a means of controlling the property market, transactions in the market would be taxed.*
- 6. To increase monitoring and compliance in the banking sector, all commercial banks were to carefully exercise their respective credit controls in making corporate and individual property loans.*
- 7. To restructure and discipline the market, and also to strengthen law and order, illegal sales activities were to be reprimanded.*
- 8. To better monitor the property market, the system for disclosing market information was to be improved, policy transparency increased, and better media guidance provided.”*

The State Council (Lam, 2011, p.62) announced in 2006 more measures in order to control the Real Estate market because Real Estate prices needed some monitoring and disciplinary framework. Those new goals for 2006 are:

- “1. The supply of housing would be restructured by emphasizing low- to medium-priced commodity housing, economical residential units, and low cost properties. Planning measures were to be applied to all cities and towns.*
- 2. Taxation, credit, and land policies would be used to regulate the property market by controlling development and sales, improved transaction tax policy and appropriate credit controls on mortgage loans, guiding residential property demand, scientifically confirming the supply of residential property, enacting land use restrictions, and prohibiting land accumulation activities.*

3. *Reasonable measures would be enacted to control house removals in cities and reduce involuntary acceleration in housing demand.*
4. *The housing market would be made orderly by adopting disciplinary steps to prevent unwarranted development changes, illegal transactions, unreasonable accumulation of development sites, and deceptive price increases.*
5. *The construction of low-cost housing in cities and towns would be accelerated by aggressively developing a secondary property market in addition to a rental market to resolve the lack of residential units for low income families.*
6. *The property market would be monitored more carefully by improved disclosure of market information, better media guidance, and greater policy transparency.”*

Lam (2011, pp.62-63) reports that after the financial tsunami in the United States the China State Council proposed some new policies in 2008 to create a healthy environment of Real Estate in the country. The goals of new policies were:

*“1. To strengthen the development of affordable housing, a more well-defined set of measures was established to fulfill the housing needs of 7.5 million low-income households and 2.4 million households living in forest and coalmining areas over the next three years. Other measures were introduced to utilize the provident housing fund to supplement the development of economical housing.*

*2. To encourage the consumption of commodity housing, second-mortgage applicants whose living space was smaller than average and bought ordinary houses as second homes would be allowed to enjoy preferential loans previously only available to first-mortgage applicants. More detailed tax measures were also issued. Sales taxes were waived for transactions of ordinary houses owned by the sellers for more than two years (originally five years). Sales taxes were reduced for transactions of ordinary houses owned by the sellers for less than two years. The sales tax would be 5 percent of the difference between the sales value and the purchase price, whereas formerly it was 5 percent of the sales value.*

*3. To provide guidance for developers in response to market changes and facilitate sales, financing would be provided for builders of cheaper, smaller unit homes, and in particular for project funding. Merger and acquisition funding and financing services would be provided to developers with good credit and good brand recognition. The urban real estate tax was removed according to regulation (Wu 2008).”*

Zhang (2008, p.55) claimed that real estate market is affected by land supply policy of the Chinese government monopoly. In China, there are two different types of land supply; the first one has to do with non-market land which will be used for infrastructures such as green belts and public utilities. The second type of supply is for market oriented use such as industrial, housing and commerce.

He also noted (Zhang, 2008, pp.56-57) that in relation to the “Land Management Code” and “Urban Real Estate Management Code” there is no other supplier in China except from the government which exercises a land supply

monopoly. But the author supported that in most countries the government intervention in Real Estate market is really intense.

In the same article, Zhang (2008, p.71) concludes the main features of the Real Estate market in China. Those are:

“1. The supply of urban land is not perfect market supply. Except for the land needed by the real estate market, a lot of the land needed for administrative construction, infrastructure, green belts, utilities, manufacturing, and employee housing of state-owned enterprises etc. is not supplied through marketing channels. This situation causes double land supply channels. Although the central government has required local government to increase the scope of land tenure and use, the local governments have not fully complied.

2. The real estate market is very complex in China. First, it is fully mature market, and is called a commodity realty market. After more than 10 years of reformation, the land for real estate has basically been market driven. The real estate commodity industry only includes housing, industrial facilities, and offices. Second, there is also an immature real estate industry, called employee collection investment housing and welfare housing, whose land supply is not market oriented. For this reason, the market is constrained if these houses are for sale. Third, there is some land used for government facilities, schools, public utilities, and some state-owned enterprises. Since 2004, the central government has required that all industries must use land supplied by the real estate market.”

### **Banking issues**

De Greef and de Haas (2000, p.2) noted that when people buy a house, the banks face asymmetric information; limited information and moral rectitude of a household. In order for the bank to avoid risks, it will demand to pledge collateral, usually a mortgage loan, to sell the house in case that the owner will default. But the dangers might come also from some changes in monetary policy or a rapid increase in interbank competition. This will enforce banks to search for gaining market share and not profit maximization.

The scenario of interaction between the Real Estates sector and the banking system is almost the same in every country. The banks display the behavior of disaster myopia because of the growing market, especially when there is a long period from the last Real Estate bubble. In addition the high level competition between the financial institutions led the banks to an erosion of the quality standards, and this lead to a disaster magnification. But when the optimistic expectations end (for example a financial deregulation), the households net worth is falling down the house prices are soaring and we have lower income that cannot pay back the mortgage, leading to a deep recession. The problem is even bigger if for example a country like Finland suffers from a collapse of trade with the former countries of the Soviet Union. “*It is*

*evident that housing and mortgage markets play a crucial role in financial stability, in the sense that problems may spill over into the real economy”.*

Mark Gilbert on his book (2010, p.13) noted that in order the pyramid of housing market stay upright, the new homeowners had to believe that the house prices will have an upward trend. The psychology of a human and especially fear and greed typically drive the markets, but before the crisis of 2008 fear has gone and only greed surrounded the American financial community. *“Economic Darwinism was not working as it should”*. Even during the World Economic Forum in Davos, Switzerland the market did not explain how the three markets of equity, debt and gold were optimistic at the same time. When the Amaranth Advisors, a hedge fund in the United States collapsed in September 2006, it was not enough to warn the financial markets. Gilbert (2010, pp.41-47)

Psychological factors play a major role to the banking system. Gilbert proves that banks are not capable to find a profit market even though they have first the money and second the willing to pay. They believe that profit makers have special characteristics, and an asset of skills that they cannot easily find. According to a variety of tests from academic researchers, the traders have the perception that they control the line of the graphs, which means the trading trends. Investors and banks are both in the dark, because they pay less attention to inputs and more to outputs. *“In a combined 70 years of experience, the authors have never encountered so little management development in sophisticated organizations of vast resource. The combination of trader autonomy, reliance on bonus and management spans of control generates an environment where managers see themselves as a safety net rather than as creators of value or profit”*. (Gilbert, 2010, pp.73-75)

Gilbert (2010, pp.168-173) noted that banks should assess their size and some should become smaller and safer. Only in that way we might avoid a moral hazard issue. The system according to the author should not trust the academics and at the same time the system itself must change the rating companies. It is crucial not to participate to the rating procedure the civil servants, but if you want reliable data you have to pay for them. To facilitate that change, the information that is non public should be prohibited. Everyone must have access to the available data. Also the division of banks in commercial and investment is a desirable action. *“We are going to have to grasp the issue of actually splitting off the casinos from the traditional kind of utility banking”* said a UK politician named Vince Cable. Spencer Dale also said *“The spectacle of banking runs, asset price reversals, and economic imbalances testifies that the inflation targeting framework as currently operated is not sufficient”*. *“Recent events must serve as a wakeup call for policy makers. The ideal would be a policy instruments that are effective in insuring against the build-up of asset price bubbles and imbalances”*.

As Rossi (2011, pp. 61-63) noted, the creation banking institutions that operate like *“financial supermarkets”*, fraud, greed, and the USA’s *“exorbitant privilege”* of

paying its current amount deficits “*without tears*” created a really complicated financial environment.

Lizieri and Finley (1995, pp.6-21) accept the fact that from the moment property market became a part of diversification of an investment portfolio it was inevitable not to apply the performance measurement techniques to real estate. He describes that although investors want to maximize their terminal wealth diversifying their assets; there will be always a positive covariance in assets within a class, so we will have always a systematic or market risk that we cannot avoid. In other words, the second best solution is to widen the investments in different global markets, trying to avoid the parallel reactions and synchronization in their economic cycle. At the end what matters is to find some negative correlations between those assets and those markets. As Solnik (1991, p.40) suggests: “*in a fully efficient, integrated, international capital market, buying the world market portfolio would be the natural strategy*”

Nevertheless (Lizieri and Finley, 1995, pp.6-21) it is not always easy because of:

- Familiarity: an investor does not know every trading practice, and he/she might have some problems to find useful information.
- Regulations: there are markets with several restrictions and prohibitions for example foreign ownership.
- Market efficiency: it means that different markets present different efficiency and financial obstacles.
- Risk perception: different risk factors (political, economical), many of them are known but also some of them are unknown and unpredictable.

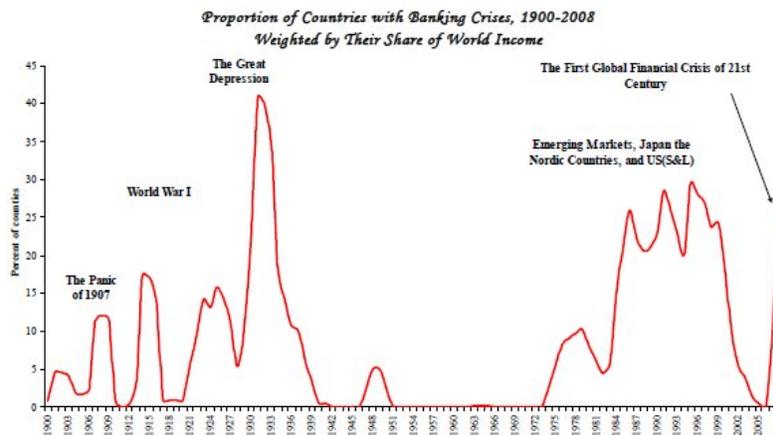
Even though a portfolio is diversified (Lizieri and Finley, 1995, pp.6-21), it does not mean that it is safe, on the grounds that the economic blocks such as the European Union or NAFTA are growing and this has as a result a common economic performance in every market separately and common currency movement. Furthermore, the technology is the main reason that we have the increase of “global events” which has as a result higher correlations. Last but not least the use of index-tracking strategies and the presence of decision markets that use similar tools which has as a result a lot of similar investment decisions.

Although the purpose of this report is to present the global property markets the last 15 years, it is crucial to refer what Lizieri and Finley supported about economic convergence and globalization. They argued (Lizieri and Finley, 1995, pp.6-21) that from the 1960s and 1970s a lot of important changes created the global property market that exists in our days. For instance the deregulation of the markets after the collapse of Breton Woods fixed exchange rate system gave a boost for a free capital movement, the oil price shock of 1973, the globalization of production and the new multinational companies that emerged, and the macroeconomic changes with the liberalization of capital flows. What is more, the finance was internationalized, and a

network of financial centers in which everyone could trade on a 24-hour basis. All those changes had something in common: the progress in information technology and the betterment of telecommunications. That is the reason why global centers like New York and London are the choice of international focus firms. As a result those cities joined an increase in the demand for property and experienced development boom that affected the global property market.

Our new way of thinking about the global property markets was presented by MacKinnon (2010). The author (2010, pp. 193-199) claimed that the last 20 years the real estate market changed significantly because of the integration with the broader capital markets. He also concluded that there were four main changes in real estate's market nature. The first one is that the real estate market after the integration with the capital markets is more efficient and volatile. The second change is that real estate market is not considered anymore as a local business, but the truism is that it became global in nature. The third change is the fact that in the property market, the nature of risk has changed and the fourth change is the fact that volatility is affected more from fundamentals rather than prices.

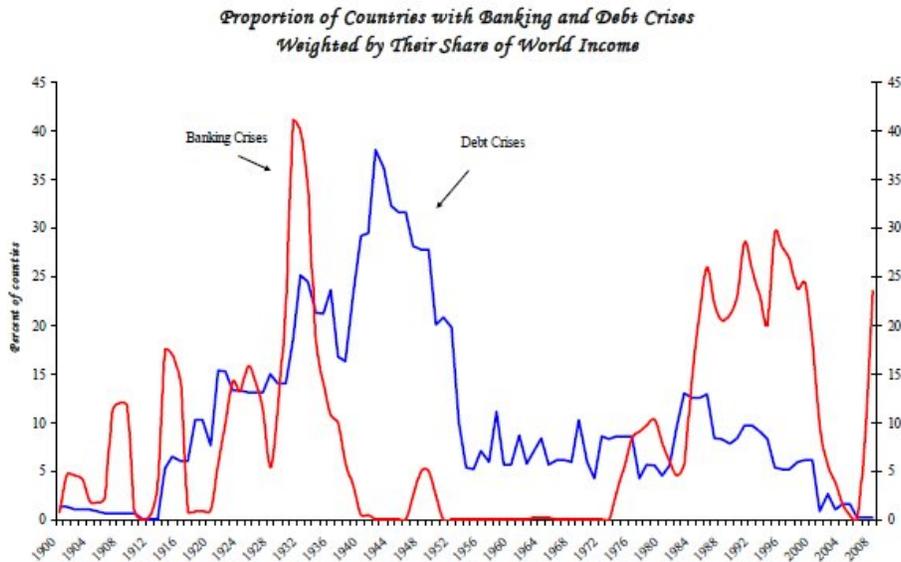
Reinhart and Rogoff (2008, pp.6-7) present the figure 17 where we can recognize the proportion of banking crises from 1900 to 2008. There are two main characteristics on this figure. The first one is that the Great Depression has the highest readings of banking crises and the second one is the fact that from 1940 to 1970 we have indeed a relative calm period. Since then, the breakup of Breton Woods, the oil crises and the disintegration of the Soviet Union created a new financial environment with emerged financial problems.



Sources: Bordo et al. (2001), Caprio et al. (2005), Kaminsky and Reinhart (1999), Jacome (2008), Maddison (2003), and additional sources listed in Appendix II, which provides banking crises dates.  
 Notes: Sample size includes all 66 countries listed in TableA1 that were independent states in the given year. Three sets of GDP weights are used, 1913 weights for the period 1800–1913, 1990 for the period 1914–1990, and finally 2003 weights for the period 1991–2006. The entries for 2007–2008 list crises in Austria, Belgium, Germany, Hungary, Japan, the Netherlands, Spain, the United Kingdom, and the United States. The figure shows a three-year moving average.

Figure 17

Another figure from Reinhart and Rogoff (2008, pp.8-9) shows the fact that “a high incidence of global banking crises has historically been associated with a high incidence of sovereign defaults of external debt”.



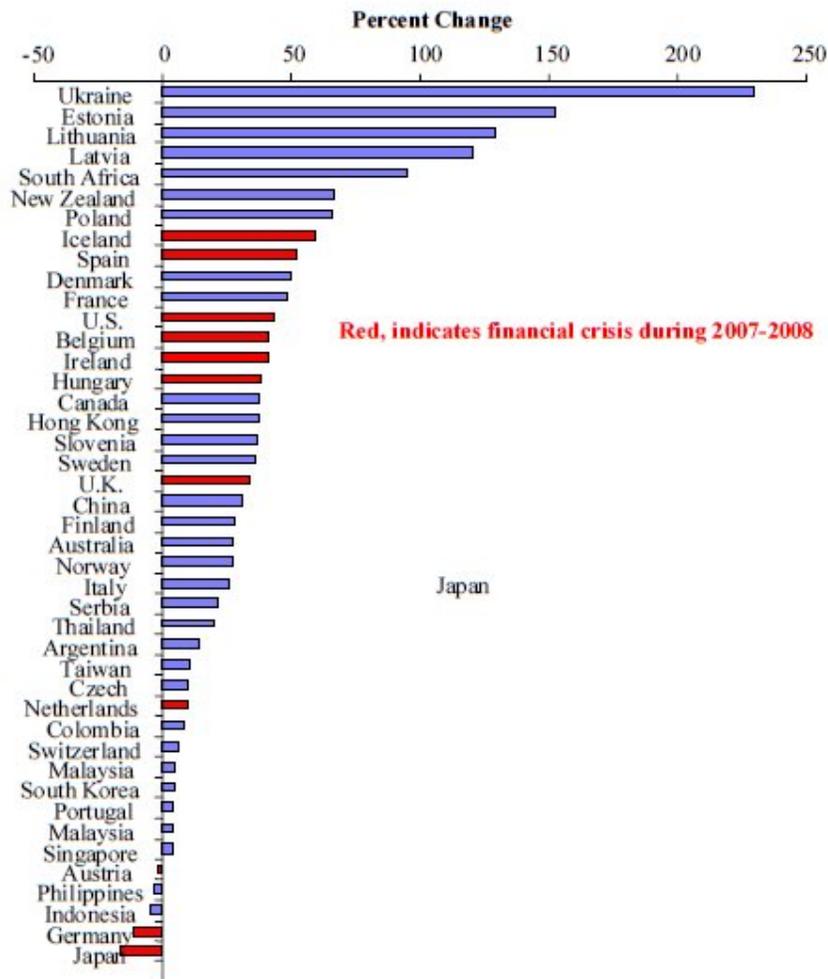
Sources: Bordo et al. (2001), Caprio et al. (2005), Jácome (2008), Kaminsky and Reinhart (1999), Lindert and Morton (1989), Macdonald (2003), Maddison (2003), Purcell and Kaufman (1993), Reinhart, Rogoff, and Savastano (2003), Suter (1992), and Standard and Poor’s (various years).

Notes: Sample size includes all countries, out of a total of sixty-six listed in Table 1 that were independent states in the given year. Three sets of GDP weights are used, 1913 weights for the period 1800–1913, 1990 for the period 1914–1990, and finally 2003 weights for the period 1991–2006. The entries for 2007–2008 list crises in Austria, Belgium, Germany, Hungary, Japan, the Netherlands, Spain, the United Kingdom, and the United States. The figure shows a three-year moving average.

Figure 18

Especially after the 2000 the financial institutions, not only in the United States but also around the world, experienced a lot of problems for two main reasons (Reinhart and Rogoff, 2008, p.20). The first reason is that those institutions had nontrivial exposure in regard with the US subprime market. The second reason is the fact that those problems which led to subprime crisis were happening to other advanced economies too. Figure 19 proves the high volatility of changes in Real Housing prices from 2002 to 2006.

*Percent Change in Real Housing Prices:  
2002-2006*



Sources: Bank of International Settlements and sources listed in Table A4. China data covers 2003–2006.

Figure 19

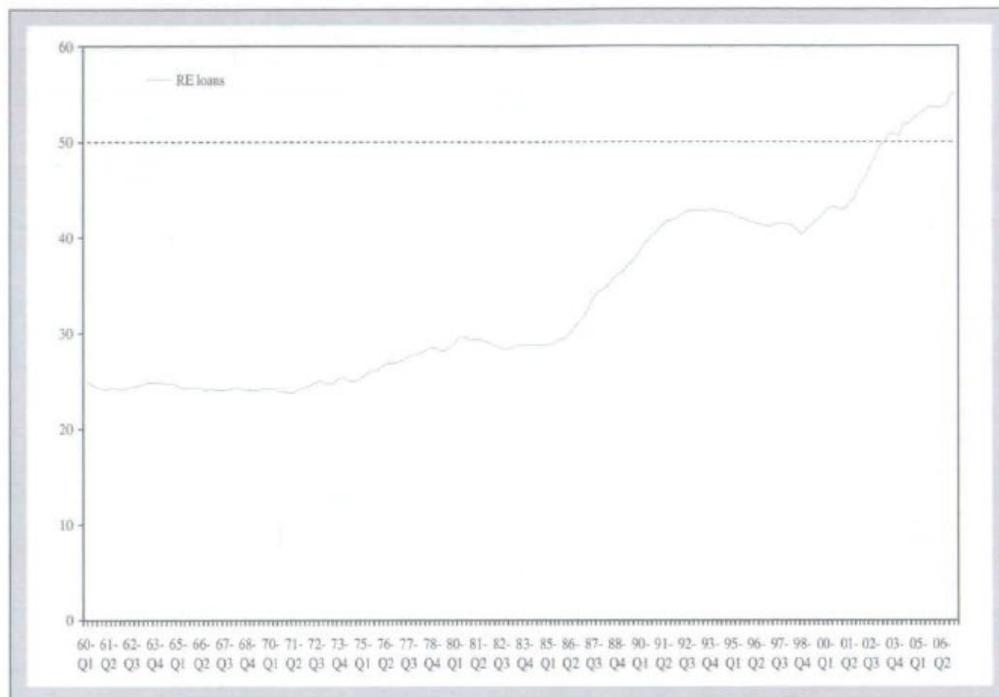
Reinhart and Rogoff also conclude that an increase in real housing prices before the crisis is followed by a sharp decline in the year of the crisis, and also in the following years. Moreover they claim that the banking crises are happening after the burst or at the top of the housing price boom (2008, p.26). The phenomenon of “this time is different” was a reason for the financial instability and the real estate bubbles. The markets tend to forget because in every new effort we have new lenders, instruments and markets, believing that the past will not happen again. Unfortunately for this reason after the financial crisis we have an 80% on average increase of real

central government debt during the next three years after the crisis (Reinhart and Rogoff, 2008, p.46).

Igan and Pinheiro (2010, pp.47-52) in their research about the Real Estate exposure in bank portfolios claim that an increase of 1.3 percentage point in mortgage interest rate can cause a 20% fall in a bank's distance to default. The authors also mentioned the different causes of micro and macro theory for the default on mortgages, such as divorce, the relationship between loan to ratio and borrower's credit history, shocks to house prices and shocks to income as main reasons for the foreclosure rates. In the macro-oriented studies the factors that affect the bank portfolio are for example infrequent trades, short-term financing for construction together with long-term financing for occupancy, rigid supply and opaqueness.

The graph (Igan and Pinheiro, 2010, pp.51-53) proves that the percentage of loans that are secured by the Real Estate assets in commercial bank's portfolio were increased especially after 2006, but also during the 1990s. This exposure of banks to the Real Estate assets is caused because of the expansion of the residential real estate loans as it is shown in graph 1, even though commercial real estate loans are considered to be riskier than the residential loans.

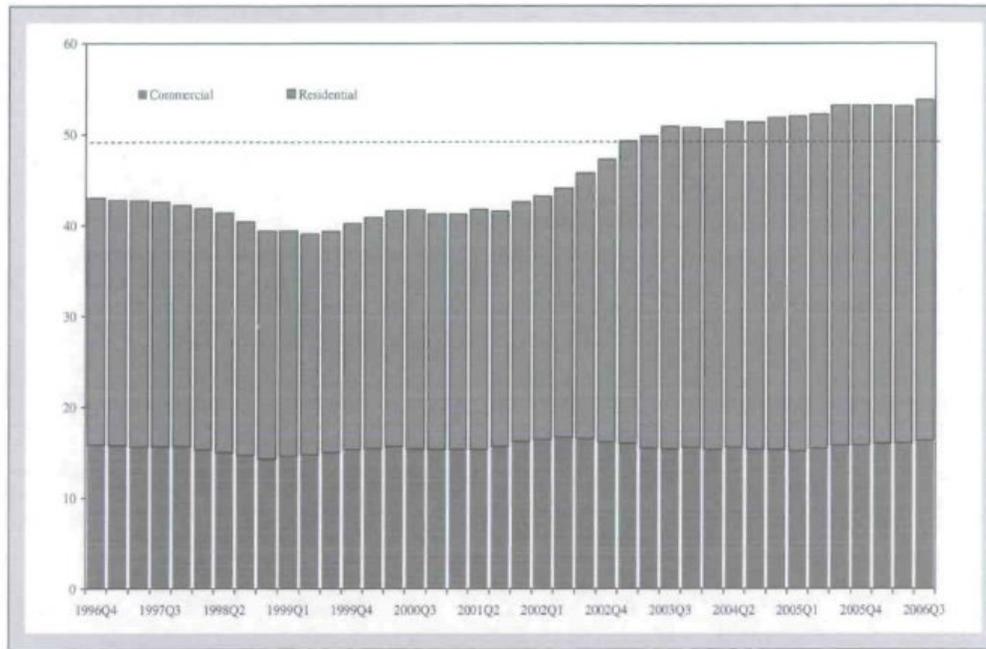
Share of All Real Estate Related Loans in Banks' Portfolios: 1960-2006



Source: Haver Analytics.

Graph 2

### Share of Real Estate Loans in Banks' Portfolio: 1996-2006



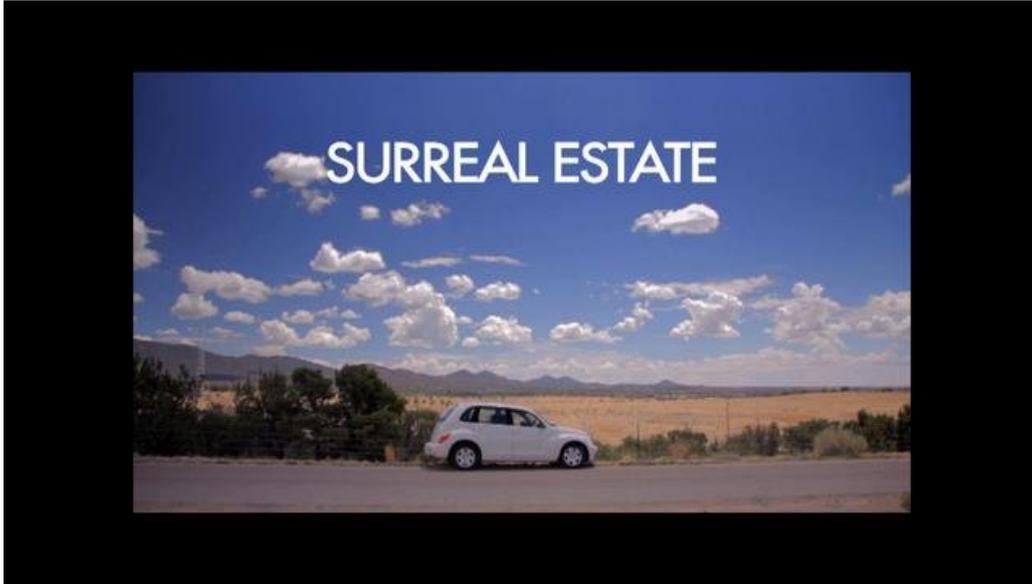
Source: Haver Analytics.

Graph 3

Igan and Pinheiro (2010, pp.65-67) founded from their analysis that “a typical bank in 2006, with a delinquency rate of 2.0% and real estate share of 66.6% in its loan portfolio, would suffer an interest income drop equal to 10.3% were the delinquency rate to experience a 1.1 percentage point increase and rise to 3.1%. This would correspond to a 20% decrease in the bank’s distance to default, indicating an increased likelihood of solvency problems. One could interpret these average figures as justification for a widespread regulatory move on commercial banks’ real estate lending activities. On a bank-by-bank basis, however, less than 1% of the banks carry the risk of becoming insolvent. Four-fifths of these banks have exposure to real estate in their loan portfolios in excess of the sample average of 66.6% and three-fourths of them have exposure exceeding the median value of 70.84%. These indicate a high degree of asymmetry between vulnerable and sound banks in terms of their exposure to real estate”.

Dunse, Jones and White (2009, p.8) support that the conventional economic theory cannot always explain always the irrationality of the people, because they start the analysis considering that there is sometimes not a rational economic behavior. For example valuers or surveyors tend to under-valuate during recessions and over-valuate in booms. This might happen because valuers are not sometimes independent

from the investors or the developers and thus they change their decisions about a property. Without doubt, new investors are attracted by the speed of the profits of the first investments. Delong et al (1990) also refers to the momentum investment where people just follow the prices of the markets, this means that they buy when the prices rise and they sell when the prices start falling.



## Conclusion

The key objectives of this dissertation are the Real Estate market, macroeconomic factors and the banking sector. Indeed, the Real Estate turbulences are a source of banking crisis. The development of a model that is doomed to make always an economic cycle has its potential consequences. In our days this is more obvious than ever in China with the creation of the famous ghost cities. The overbuilding strategy in the country led to new houses, districts and cities without no-one in them. On the major highway of one of those cities, during the rush hour you can barely see few cars, it is almost empty. Needless to say, that the apartments of the city and malls are empty too. At the same time the middle class is not allowed to invest abroad, and for instance a typical house in Shanghai costs 45 times or more than the average salary of a worker. For this reason they invest in property market in China, hoping that the property prices will remain higher than the inflation. The question is until when this will happen. In this case, we are talking also for a political issue that emerged in China, because both the political and economic framework affect the investments in property market. ([www.youtube.com](http://www.youtube.com))

Some of the economic changes in other countries that are presented in this dissertation prove the volatility of the Real Estate, and the importance of the role that the Real Estate turbulence might have. The interconnection between financial markets, the human greed and some other characteristics, give to the study of the Real Estate bubbles a sweet and bitter taste of the real economy. ([http://www.youtube.com/watch?v=rbDwlb6D\\_FI](http://www.youtube.com/watch?v=rbDwlb6D_FI))

The issues that emerge are many, but we do not really know today if the Real Estate bubble will burst, and when. China is the country with the biggest population on Earth, so the results are unpredictable. The more the constructions in the country, the less the available rice crops to feed the Chinese, and this is a really important issue. As Jim Rogers said about the world population, “*We are going to be trying to feed 9 billion people by 2050 with the same number of acres of arable land*” (<http://www.cnbc.com/id/101087391>)

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