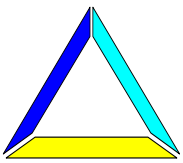
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Housing prices in Ukraine: Trends, analysis and policy implications

Executive Summary

Housing prices in Kyiv have risen 8-fold in dollar terms since 2000 and similar developments took place in most Ukrainian cities. Several factors have contributed to rocketing housing prices. The demand for housing from the mass population has increased considerably due to higher real wages and lower interest rates for mortgage loans, which became available only over the recent past. But also the demand from wealthy Ukrainians has increased strongly. A large share of the wealth generated in recent years has been poured into the housing market, due to a lack of investment opportunities in the country and the legal restrictions on investing abroad. On the supply side, the lack of competition in an oligopolistic construction market has prevented a more elastic response to higher demand.

A crucial aspect about the speculative nature of rocketing housing prices in Ukraine is their decoupling from fundamental economic variables such as rents. Apartment rents have also risen, but to a much lower extent than housing prices. As a result, investing in housing cannot currently be explained by the expectation of a regular future stream of income in form of rents, which is a clear sign of an overvaluation of housing prices in Ukraine. The high share of empty new apartments seems to support our view on the existence of a price bubble.

Since the bursting of the price bubble could have strong negative effects on the economy, as seen in different countries in the past, policy makers and financial supervision should decide on how to handle this price bubble. At the level of research and analysis, a first important step would be to collect official data on the housing market, as is the case in most countries. Such a move would facilitate the monitoring of the situation and improve the basis for any policy response. Furthermore, we recommend assessing the exposure of single banks and of the banking system as a whole to a strong price fall. In particular, a stress test should be conducted simulating different extents of the fall down in housing prices.

At the level of concrete policy measures in the housing sector, on the supply side, it is of paramount importance to increase competition in the construction sector, which involves mainly fighting corruption at the city level and lowering market entry barriers for new developers. On the demand side, some measures to dampen speculative demand could be considered, as was successfully introduced in China during the 2004-2005 housing bubble.

Furthermore, some complementary measures in other sectors of the economy are necessary. The further development of capital markets and financial investment instruments such as pension funds and life insurances are of high importance to redirect part of the investment flows to other sectors of the economy. In the field of exchange rate policy, a more flexible exchange rate policy is needed, to avoid further strong increases in money supply, which translates into asset price inflation such as higher housing prices.

All in all, it is crucial for policy makers to understand that rocketing housing prices is a complex phenomena, which is the result of a combination of several factors. An adequate policy response should take into account all these factors and not overstress the importance of one of them.

Contents

1. Introduction
2. Price development in the housing market in Ukraine
    2.1 Development of housing prices
    2.2 Development of rents
3. Explaining surging housing prices: Demand side
    3.1 Demand from the mass population
    3.2 Demand from wealthy individuals and from business
    3.3 Focus: Does Ukraine face a price bubble in the housing market?
4. Explaining surging housing prices: Supply side
5. Risks and problems of a price bubble in the housing market
6. Conclusions and policy implications
    6.1 Conclusions
    6.2 Policy recommendations

Annex 1: Housing prices and rents information in Ukraine

1. Introduction

Housing prices have rocketed in most Ukrainian cities in recent years. Rising prices are in part the result of an impressive economic and financial development in Ukraine and should thus not be considered as a purely negative development. But as it is well known from international experience, sharp increases in housing prices pose severe economic, financial and social problems. For this reason, the recent hike in prices has to be taken seriously by policy makers and financial supervisors.

The aim of the paper is to provide an assessment of recent developments in the housing market, explain the main reasons behind the sharp price increase, identify the main risks related to rocketing prices and provide policy recommendations on how to deal with these risks. In Part 2 we describe the development of housing prices and rents in Ukraine. The subsequent explanation of the recent price surge is split into two parts. Part 3 looks at the demand side and provides an answer to the crucial question, on whether Ukraine is facing a housing price bubble or not. Part 4 focuses on the supply side of the market, which is often neglected by analysts who deal with the housing market in Ukraine. Part 5 identifies the main risks related to the existence of a price bubble and Part 6 provides our policy recommendations.

2. Price development in the housing market in Ukraine

2.1 Development of housing prices

Housing prices have increased dramatically in recent years in Ukraine. The price for 1 sq. m of an average apartment in Kyiv rose by 8 times in US dollar terms between 2000 and 2006. When corrected for exchange rate revaluation and inflation (i.e. in real terms), the price increase was slower, but still recorded an almost 5-times growth. The sharpest increases were registered in 2005-2007, as Table 1 demonstrates:

Table 1
Housing prices1 in Kyiv, 2000-2007

	2000	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*April 2007*
Price in USD[1]	380	500	590	850	1150	1840	3100	3360
Price in UAH	2065	2649	3146	4533	6095	9292	15655	16968
Price (in constant UAH prices of 2000)	2065	2497	2983	3972	4756	6574	9924	10398
Change, UAH nominal terms, % yoy		28.29	18.75	44.08	34.46	52.45	68.48	77.31[3]
Change, UAH real terms[2], % yoy		20.91	19.47	33.15	19.73	38.22	50.97	75.03 [3]

[1] Price for 1 sq. m of an average apartment
[2] Deflated using the consumer price index by Derzhkomstat
[3] Relative to April 2006

Sources: Real estate agency "Blagovest", own calculations (see Annex 1 for methodological details)

This fast growth of housing prices was by no way restricted to Kyiv. In most other Ukrainian cities, prices also rose significantly in real terms in recent years (Table 2).

Table 2
Real change in housing prices in selected Ukrainian cities, 2002-2006,% yoy

	Regions	*2002*	*2003*	*2004*	*2005*	*2006*
	Kyiv	19.47	33.16	19.74	38.22	50.97
Central Ukraine	Dnipropetrovsk	44.77	44.59	29.45	41.27	52.18
	Cherkasy	12.22	45.24	45.67	36.61	32.76
Western Ukraine	Rivne	25.64	59.30	32.60	19.05	24.56
	Zhytomyr	32.45	54.19	21.91	72.41	24.36
	Lviv	35.67	43.47	17.01	23.61	25.24
Eastern Ukraine	Donetsk	16.08	38.85	50.58	18.06	38.03
	Kharkiv	35.00	15.53	22.13	18.94	30.26
Southern Ukraine	Odesa	59.75	22.37	18.06	21.93	47.22
	Zaporizhya	11.48	18.32	20.23	55.97	24.07
	Sevastopol	51.87	23.24	37.18	25.40	29.43

Source: own calculations (see Annex 1 for methodological details)

Despite high growth of housing prices in all Ukrainian cities, Kyiv has the highest absolute prices (Table 3). The gap was the largest in 2001 when prices in Kyiv were almost 4 times higher than in other cities, but afterwards the gap started to converge slowly.

Table 3
Housing prices1 in selected Ukrainian cities, in USD, 2001-2006

	Regions	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*
	Kyiv	500	590	850	1150	1840	3100
Central Ukraine	Dnipropetrovsk	114	163	255	373	610	1036
	Cherkasy	120	133	209	344	544	806
	Zhytomyr	159	208	347	478	954	1324
Western Ukraine	Rivne	137	170	293	439	605	841
	Lviv	200	268	416	550	787	1100
Eastern Ukraine	Donetsk	195	223	335	570	779	1200
	Kharkiv	300	400	500	690	950	1381
South of Ukraine	Odessa	225	355	470	627	885	1454
	Zaporizhya	188	207	265	360	650	900
	Sevastopol	200	300	400	620	900	1300

[1] Price for 1 sq. m of an average apartment

Source: own calculations (see Annex 1 for methodological details)

It is difficult to determine clear regional patterns of housing prices in Ukraine, as even within regions prices are much dispersed. Still, there are some trends to be seen. In general, the South and the East of Ukraine were more expensive than Central Ukraine and the West. While by 2006 the Central Ukraine partially caught up with them, prices in the Western region remained lagging behind. This seems reasonable, taking into account that this region is less well off than the rest of the country. After Kyiv, the most expensive cities seem to be Odessa, Kharkiv and Zhytomyr (Table 3).

In a European context, housing prices in Kyiv have risen in a very fast way since 2001 and are now comparable to those in Vienna and Warsaw, as shown in Table 4.

Table 4
Housing prices and their change in selected European cities

City	Price per 1 sq. m, USD, 1Q 2007	Change in USD housing prices in 2006, %	Cumulative change in USD housing prices in 2001-2006, %
Kyiv	3360[1]	68.4[1]	520.0[1]
Chisinau	840	23.0[3]	400.0[3]
Moscow	11501	54.4[2]	235.0[2]
Madrid	5160	9.1	100.5
London	18108	9.3	85.9
Paris	10014	9.9	78.4
Vienna	3000	7.1	23.5
Warsaw	3292	2.2	4.7

Sources: Global Property Guide,
[1]Own calculation. According to Global Property Guide, the price per 1 sq. m in Ukraine is USD 2807
[2] Federal State Statistic Service
[3] Real estate agency "CASA-TA"

2.2 Development of rents

Housing price growth was combined with significant increases in rents for apartments. However, taking the situation in Kyiv as an example, rents grew to a lesser extent than housing prices, as shown in Table 5. The rent per 1 sq. m of an average apartment in Kyiv increased 4 times in US dollar terms between 2000 and 2006 and 2.4 times in real hryvnia terms.

Table 5
Rents in Kyiv1, 2000-2006

	2000	2001	2002	2003	2004	2005	2006
Rent in USD	4	5	6	7	9	12	16
Rent in UAH	22	26	32	37	48	61	81
Rent (in constant UAH prices of 2000)	22	25	30	33	37	43	51
Change, UAH nominal terms, % yoy		22	21	17	28	27	33
Change, UAH real terms, % yoy		15	21	8	14	15	19

[1] Monthly rent for 1 sq. m of an average apartment

Sources: Advertisement newspaper "Aviso" www.aviso.ua, own calculations (see Annex 1 for methodological details)

Thus, during 2000-2006 both housing prices and rents grew fast in Ukraine, even though changes in rents were less dramatic. Kyiv as the capital traditionally heads the ranking of Ukrainian cities by the price level. Besides, Kyiv featured in recent years one of the highest rate of change of housing prices in Europe.

3. Explaining surging housing prices: Demand side

There are two major motives for the demand of housing. The mass population demands housing for the purpose of living there, while many wealthy individuals and companies demand housing for investment motives, including speculation. Since these motives are rather different, we should look at them separately.

3.1 Demand from the mass population

The demand for housing (i.e. the purchase of housing) from the mass population has increased strongly for three main reasons. First, as in most transition economies, the quantity and quality of existing housing were rather limited in Ukraine. In 2003, an average Ukrainian citizen had only 21.6 sq. m for living, compared to 23.9 sq. m in Latvia or 40.5 sq. m in Germany, as can be seen in Table 6.

Table 6
Average sq. m per person in selected countries, 2003 - 2006

Countries	2003	2004	2005	2006
Belarus	20.2	20.5	20.9	21.2
Ukraine	21.6	21.8	22.0	22.2
Poland	22.7	22.9	23.2	23.5
Latvia	23.9	24.3	24.8	25.7
Germany	40.5	40.8	41.2	-

Sources: Derzhkomstat, State Statistics Bureau in Latvia, Federal Statistical Office Germany, National Institute of Statistics in Bulgaria, Federal State Statistics Service Belarus, Central statistical service in Poland

Consequently, there is a strong wish from the mass population to have more living space and better apartments. As a result, the acquisition of housing receives the highest priority for many people and a large share of savings is directed towards the purchasing of housing.

Second, real wages and incomes of the population grew rapidly in recent years. The average wage in Ukraine grew by 19% p.a. over 2001-2006 in real terms. Thus, the population obtained more room for saving and for the investment of this savings into housing.

Third, the banking sector has also developed rapidly in recent years. Also interest rates for mortgage loans decreased substantially, leading to a sharp increase in mortgage lending, as can be seen in Table 7. Thus, the traditional financing of housing through own savings and loans from relatives has been complemented by mortgage loans from commercial banks, which in turn led to a higher demand for housing.

Table 7
Mortgage market, 2003 - 2007

	2003	2004	2005	2006	2007[1]
Mortgage lending rates in USD, %	16	14-15	12-14	11-12	11-12
Mortgage loans, bn USD eop	0.3	0.6	2.1	5.3	9.1

Source: Ukrainian National Mortgage Association
[1] Forecasted by Ukrainian National Mortgage Association

3.2 Demand from wealthy individuals and from business

The high level of economic growth and the rather unequal income distribution in Ukraine in recent years has led to a situation where a small number of people has amassed a significant amount of wealth. There are many business opportunities in Ukraine, in which wealthy people can invest their money as active owners. But there are very limited opportunities for investing money without an active personal involvement. Stock and bonds markets are at their early stages of development and interest rates offered by banks are perceived as being too low, especially compared to the interest rates charged for loans. Furthermore, strict capital controls prevent the investment of wealth abroad, at least in a legal manner. Given this lack of investment opportunities, many wealthy citizens and business consider housing as the only attractive form of investment, which combines in their view a very high yield of return with safety and liquidity features compared to alternative assets in Ukraine. It should be highlighted that the expectation of a high yield in the future is based on past experience of rising housing prices, not on the expected revenues from renting the apartment. This is a clear indication for the speculative nature of the demand from wealthy individuals, which in turn opens the question whether the housing market is currently experiencing a price bubble or not (see 3.3).

3.3 Focus: Does Ukraine face a price bubble in the housing market?

The rapid increase in housing prices over the last years has left many observers wondering whether this development can be characterized as a speculative price bubble. If this bubble would eventually burst and household wealth decline as a result, this could have serious negative effects on consumption, investment and output.

A speculative bubble can be defined as a situation where prices are not any longer consistent with underlying economic variables such as profits, income or interest rates ("fundamentals"), but have become overvalued relative to them. In an extreme case, these fundamental factors are

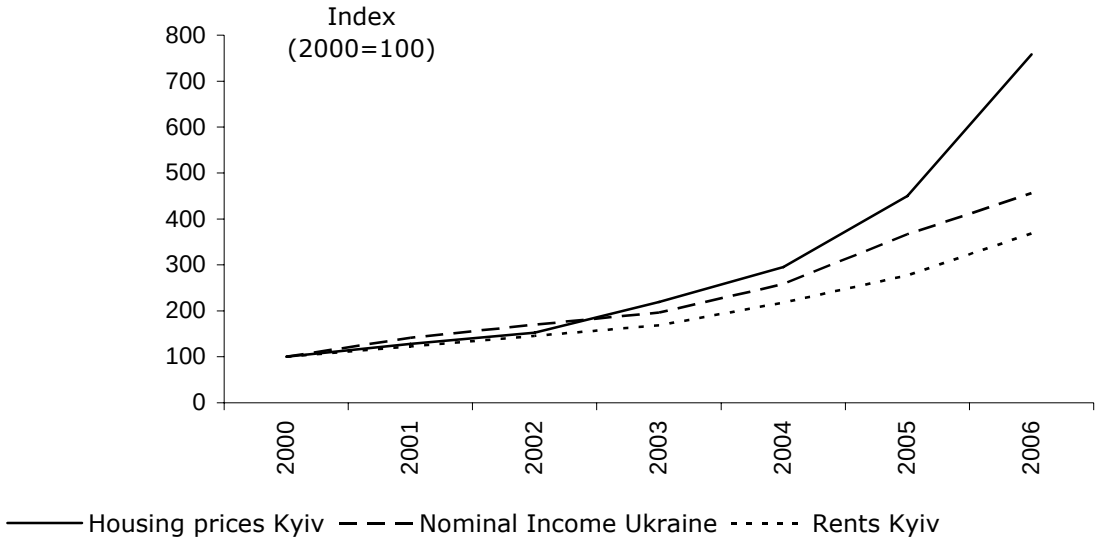
unrelated to determining the price today, but rather solely the expectation that the asset (i.e. the house, or a share) can be sold at a higher price in the future influences the price of it today. This extrapolation of past trends or experience becomes thus the dominant force in demand decisions, which influence price dynamics. In the housing market, these purely speculative transactions imply that objects are not being bought with the intention of letting them (or living in them), but rather as a relatively short-term financial investment. Many objects even change hands several times before actually someone lives in them.

The identification of the existence and possible extent of a speculative bubble is complicated by the fact that the fundamental house price is not directly observable in the market. Rather, one needs a concept putting fundamental factors together, which determine a fair housing price. Two widely used concepts[1] to calculate such a fair value are the a) price-to-rent and the b) price-to-income approach.

a) The price-to-rent approach treats houses essentially as an asset[2], which generates periodic income payments to its owner in the form of rents (either explicitly, or implicitly if the house is owner-occupied). Comparing for Kyiv the development of housing prices and rents since 2000, one can see from Figure 1 that until 2002, both variables developed quite similarly, i.e. the price increase was supported by fundamentals. From then on, however, the variables showed quite different trend dynamics. While rents continued to increase in a relatively similar pace, housing prices rocketed and the gap between them became increasingly larger, taking prices away from fundamentals. This huge increase in the price-to-rent ratio indicates the existence of a price bubble in Ukraine's housing market.

An equivalent way of expressing this overvaluation is to calculate the implicit yield on housing investment, which is approximately the ratio of rents over prices. Assuming that the rents data used in Figure 1 are completely transferred to the owner, this ratio worsened from a level of 12.8% p.a. in 2000 to 6.2% p.a. in 2006. The effective yield will be even lower, since necessary maintenance repairs need to be subtracted from these rent payments. This massive drop in yields over a short period of time and its comparatively low current level suggest that this situation is unlikely to persist and a fall in prices becomes likely. For comparison purposes, the average yield of term deposits offered by banks stood at 10.7% at the end of 2006 (13.6% for local currency deposits and 8.4% for foreign currency deposits).

Figure 1
Nominal Housing Prices, Rents and Income, 2000-2006



Sources: Real estate agency "Blagovest", Derzhkomstat, own calculations

b) The price-to-income approach focuses on the long-term affordability of housing and compares the development of prices to incomes of the population. As Figure 1 shows, taking the prices in

[1] See McCarthy/Peach "Are Home Prices the Next Bubble?"; Federal Reserve Economic Policy Review, Vol. 10, No. 3, December 2004 for the underlying methodology. However, while above concepts are widely used and easily calculated, some remarks are of order here. This relates primarily to the absence of interest rates in them, which are a key factor in housing prices, since they determine both affordability and the discounting of rents. A more advanced approach would therefore integrate interest rates.

[2] This is similar to the valuation of stocks, where expected dividends determine ultimately the value of the stock.

Kyiv and the income development at the national level, until 2002 both variables grew in line, similar to the situation with rents. From then onwards, a de-coupling started to take place. Even though slightly smaller in extent, also the development of incomes doesn't support the steep increase in housing prices and indicates towards the existence of a price bubble. This argument is further strengthened by the fact that in absolute terms, incomes and prices showed already in our base year 2000 a relatively high divergence, i.e. incomes in hryvnia or USD terms were very low in comparison to housing prices. This initial lack of affordability has thus increased over the last few years.

Anecdotal empirical evidence further supports our conclusion from the price-to-rent and price-to-income approaches that the situation can be described as a speculative bubble. According to many observers, the number of empty apartments in Kyiv increased significantly during the last years. The percentage of empty apartments depends on the house age (Table 8). Old houses have only 2.34% of apartments without inhabitants. Besides, there is a high probability that apartments in old houses are empty because of repairs and follow-up problems, such as heating troubles. New houses are a much more interesting target for speculators. Table 8 shows that 8-11% of all apartments are empty in newly built houses. It is possible to assume that most these empty apartments are bought for further sale. A very typical situation is the purchase of real estate, which is still in the process of building and re-sale before putting apartments on exploitation or after one year of exploitation.

Table 8
Empty apartments in Kyiv, Q1 2007

House age, years	Percentage of empty apartments
0.8	8.13
1.5	10.81
22	2.34

Source: Realty portal "Makler", http://www.makler.od.ua/statya.php?id=4578

Further support for the speculative nature of many housing purchases comes from an analysis of the motives behind mortgage loans taken. According to information from Pravex Bank, in 2004 40 % of mortgage loans were used for purchasing apartments with the motive of selling them. In 2006, this share increased to 50%, which shows a further rise in speculative interests.

To sum up, demand factors were indeed an important force behind surging housing prices over the past years. While there is strong demand from the mass-population for more and better housing, also wealthy individuals and companies increase their demand. For the latter, this demand is mainly based on investment motives, which were also fueld by strong price increases in the past. We have shown that the result of this mix of demand factors is that current levels of housing prices show clear signs of a "speculative bubble", and have to some degree de-coupled from underlying fundamentals.

4. Explaining surging housing prices: Supply side

Most analysts and journalists in Ukraine blame the rocketing housing prices purely on "speculative demand". As we have seen before, while speculation factors seem indeed to play an important role, prices are always the result of the interaction between demand and supply. Thus, it is inappropriate in our view to explain rising prices by looking exclusively at demand factors. Accordingly, we shall analyse the supply side of the market below.
A few companies dominate the construction business in Ukrainian cities. Taking Kyiv as an example, 7 construction companies had a combined share of 58% of the market in 2005, as shown in Table 9.

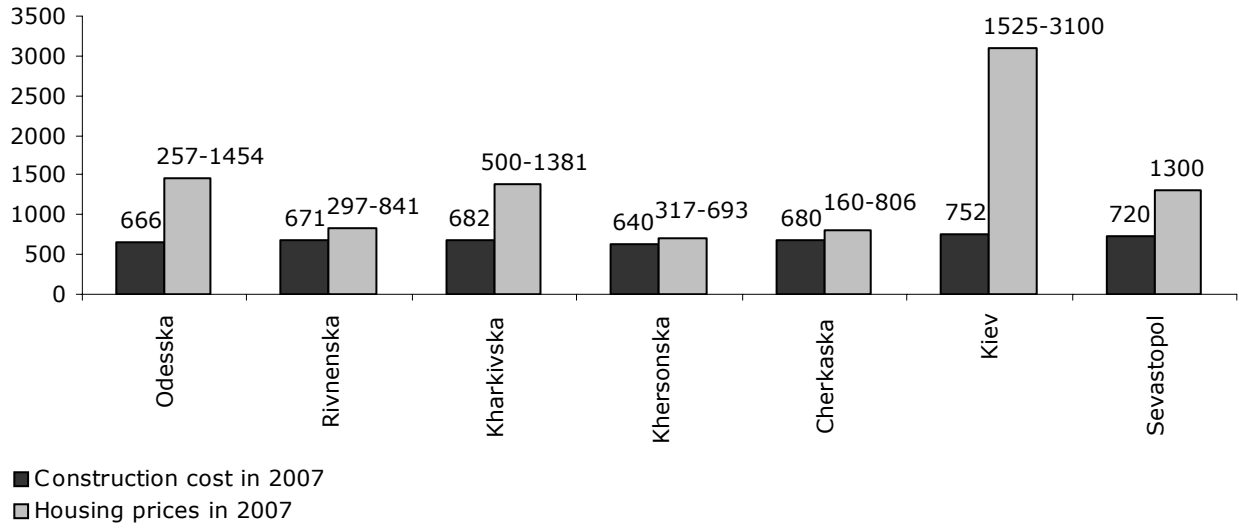
Table 9
Supply structure of construction market in Kyiv, 2005

	Market share in %
Large companies	**58**
-Holding company "KyivMiskBud"	24
-Communal enterprise "ZhytloInvestBud"	9
-Communal enterprise "ZhytloInvest"	9
-TMM Company	5
-Building company "Granit"	5
-Corporation "PoznyakyZhylStroy"	3
-Trusts KGS	3
Medium-sized companies (3-5 projects)	**17**
Small companies (1-2 projects)	**25**
All companies (the whole number of property developers in Kyiv is 37)	**100**

Source: Ukrainian Realtors Association (www.asnu.net)

High barriers to entry accompany this oligopolistic supply structure. According to anecdotal evidence, it is very difficult for potential developers to obtain building plots in attractive locations of Kyiv. Thus, it is very difficult to enter the market. A further indication of the lack of competition on the market is the high disproportion of construction cost to selling prices in many Ukrainian cities. Taking again Kyiv as an example, the average construction costs of 1 sq. m are currently USD 752, while the selling price ranges between USD 1525 and USD 3100 (depending of the quality of the apartment), as Figure 2 shows.

Figure 2
Comparison of construction costs with housing prices in selected regions (2007), USD/sq.m



Source: Ministry of Building, Architecture and Housing of Ukraine

While it is reasonable to assume that certain costs have to be subtracted from these selling prices (like payments influencing land allocation decisions), the remaining profits look still immense as compared to a situation of full competition. This disproportionate amount of profits is a typical characteristic of a market in which companies have monopoly power and can set prices at artificial high levels. The lack of competition on the supply side of the market explain the slow reaction of supply to rising demand and a significant part of surging prices. If we had a competitive market with no barriers to entry, then the supply for housing would have increased much more and the prices would not have risen in the way they did. Besides, investors would have got a lower rate of return and the speculative nature of demand would have been much lower. In short, the lack of competition on the building sector can be considered as a main culprit of rising housing prices.

5. Risks and problems of a price bubble in the housing market

The currently observed surge in housing prices cannot be considered a purely negative development, as it also implies an increase in wealth for millions of Ukrainian households. Residential property makes up a major share of household net worth, especially against the background of underdeveloped financial markets, and influences consumer spending decisions through wealth effects. These spending effects in turn affect the development of aggregate demand. The other boost of rising housing prices on aggregate demand is through an increase in residential investment activity.

However, there are also potential economic and financial risks and social problems connected with such rapidly rising prices, especially if they are not fully supported by fundamental factors. These risks relate to the areas of social policy (affordability of housing), banking sector stability and monetary policy.

(i) Social policy/Affordability:

Steep increases in prices, which - as we saw before - exceed the speed of the general income development of the population, translate into less affordability of real estate for the mass population. This is true for buying, but also, to a lesser extent, valid for renting an apartment. Especially younger people, who do not own property (older people are often owners), are hit by such a worsening of affordability most.

(ii) Banking sector:

If the current surge in housing prices turns out to be not sustainable and if therefore prices go down later (i.e. the price bubble bursts), a large amount of mortgage loans might become bad debt. While this is first of all a problem for the concerned banks, if such problems occur rapidly and at several banks at the same time they might translate into a systemic danger for the whole banking system. If this leads to a general deterioration in credit market conditions, a general decline in economic activity might result. The following Table 10 shows the explosive growth of the share of mortgage loans in total loans.

Table 10
Loan and mortgage development, 2001-2006

	2001	2002	2003	2004	2005	2006
Total loans[1], USD bn eop	5.3	7.9	12.6	16.6	28.3	48.5
Total mortgage loans[2], USD bn eop	0.1	0.2	0.3	0.6	2.1	5.3
Total mortgage loans, % of total loans	1.4	2.2	2.1	3.6	7.3	11.0

Sources: 1NBU, 2Horizon Capital Management Team, Cabinet of Ministers of Ukraine

While above table shows the growing importance of mortgages for the banking system in general, it says nothing about the actual distribution of them among single banks. This is shown in Table 11, which gives a detailed breakdown of mortgage loans among banks.

Table 11
Ten leading banks in terms of mortgage loans volume as of 01.01.2007

№	Bank	Market share of bank in mortgage loans, %	Share of mortgage loans in credit portfolio, %
1	Ukrsibbank	19.2	27.9
2	Raiffeisen Bank Aval	14.4	17.9
3	Ukrsotsbank	14.1	30.2
4	OTP Bank	10.5	29.3
5	Privat Bank	9.5	9.7
6	Pravex Bank	5.2	51.5
7	Creditprom Bank	4.7	24.7
8	Nadra Bank	3.6	11.5
9	Finance and Credit	3.6	15.7
10	Oshchad Bank	2.3	11.3
Total share of 10-top banks in mortgage loans		87.0	

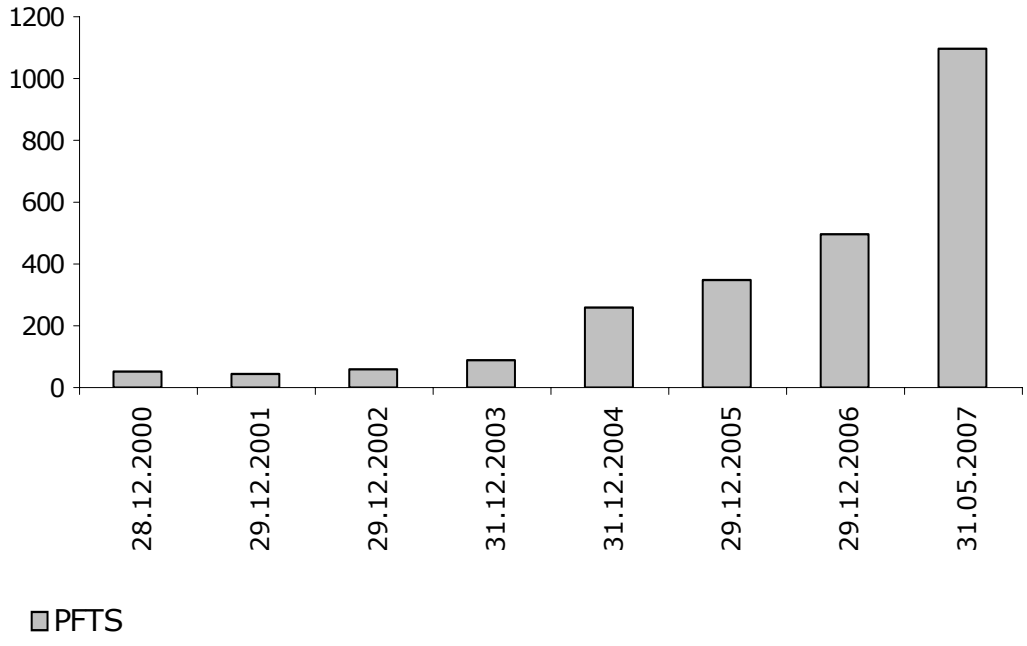
Sources: Ukrainian independent mortgage association, Association of Ukrainian Banks

Taking into account these data collected at the company level, the Top-10 banks in this market segment had a market share of 87% of outstanding mortgages as of January 1, 2007, with the top bank having a relatively high market share of 19.2% alone. Furthermore, single banks have a relatively high share of mortgage loans in their credit portfolio, exceeding in a single case 50%. This concentration might create special problems in single banks with overexposure to the sector if housing prices start to decline rapidly.

(iii) Monetary policy:

The increase and the possible subsequent bursting of a price bubble in the housing market - like any bubble in asset prices in general - has also serious implications for monetary policy. The currently observed, high level of liquidity in financial markets has driven prices of several asset classes into previously unseen regions. As an example, looking at the most important stock index in Ukraine, the PFTS, we see a similar development over 2000-2007, with a 20-times nominal increase over the sample period:

Figure 3
PFTS index, 2000-2007



Source: First Securities Trading System (PFTS), Concorde Capital

Rapid increases in asset prices have also been recorded in the domestic bond market, where interest rates (which move inversely with bond prices) have reached historical lows[3]. This development has been favored by the currently observed combination of a de-facto fixed exchange rate peg to the US dollar and high levels of capital inflows. Since the central bank does not fully sterilize these foreign exchange inflows, an increase in the money supply results. This further fuels asset prices (like housing prices) while at the same time their impact on actual goods and service price inflation is quite limited[4].

However, the inflationary character of these risks should not be overlooked. In the future, there is a high risk of transmission of these asset price increases into inflation through wealth effects on spending. In such a sense, sharp asset price hikes are leading indicators of future consumer price inflation and therefore for risks to price stability. Similarly, also the rapid bursting of a bubble will challenge policymakers, since such a negative shock to aggregate demand will depress private consumption and investment spending. This can lead to a deflationary environment, which further endangers financial system stability and creates potentially huge economic costs.

To sum up, sharp increases in real estate prices, which are furthermore not fully supported by developments of fundamental factors, poses several serious economic and social problems to society. Also, they make a sudden drop or bursting of the price bubble more likely, which will most likely have negative effects on the economic situation.

6. Conclusions and policy implications

6.1 Conclusions

This study can be seen as a first attempt to provide a thorough explanation of rocketing housing prices in Ukraine. The sharp price increases cannot be explained by one factor only, but rather by a complex combination of factors within or beyond the housing market. On the housing market, a significant increase in demand for housing from the mass population and from wealthy citizens met an inelastic supply, which is controlled and artificially limited by a small number of construction companies. As a result of this demand-supply-combination, housing prices grew significantly and apartment buyers, including investors, made a good deal. The high yield of return in a traditionally safe market attracted further investment both from the mass population and from wealthy citizens, which had only limited alternatives for investing their wealth in or outside Ukraine. As supply continued to be highly restricted in a market with large barriers to entry, prices continued to grow. This development, which is further supported by rapidly evolving mortgage markets that help to ease financing constraints, went on till today. In part, it was also fuelled by very high liquidity creation due to the fixed exchange rate to the US dollar in the presence of high capital inflows. As is typical in such situations, most investors do no care about a complete decoupling from reality, i.e. from fundamental economic variables such as rents, incomes or interest rates. Investors nowadays purchase apartments mainly on the basis of expectations to sell them at a higher price; the income from future rents is too low compared to the purchasing price and does not provide any reason for investment. In short, this "one-way" market in which prices go only up resulted in a clear overvaluation of housing prices in Ukraine, which is not sustainable. Hence our description of the situation as a "price bubble".

Since this overvaluation is not sustainable, at some stage in the future market forces will ensure a price correction, i.e. actual prices will approach their fundamentally justified values. It is virtually impossible to forecast when the correction will happen and in which form it will take place, i.e. whether it will occur in a smooth manner (with stagnating or even slightly falling nominal prices) or as a bursting of the bubble with a rapid price decline. Before we turn on our policy recommendations on how to deal with the price bubble, it is useful to look at the experience in China, which also faced a housing price bubble in certain parts of the country in the recent past (see Box 1).

[3] The auction on 23 July 2007 on the primary market for government bonds resulted in an issuance yield of only 6.76% for a three-year maturity.

[4] The underlying reasons for this (seemingly global) decoupling of consumer prices from monetary or liquidity developments is currently subject to an active debate. Some analysts bring this in connection with an intensified global competition in goods and labor markets, which prevents price pressure to build up in the short run and instead leads to asset price inflation.

Box 1
The regional housing bubble in China 2004-2005: Policy responses

In major cities in China, especially in the booming regions of Shanghai and Shenzen, a price bubble developed in the real estate market in the period up to 2005, covering residential as well as commercial property. At the peak of the boom at the end of 2004, prices of luxury apartments went up by around 50% p.a.

This development worried policymakers - both at the local and national level - since it undermined their efforts to slow down a fast-growing economy that showed already signs of overheating, and increased the risk of a burst of the bubble with all associated negative effects. In spring 2005, the central government issued a number of regulations (coming into effect June 1, 2005) to curb property speculation, including:

- a 5%-tax on profits for owners who sell within 2 years of purchase,
- mortgage loan interest rates were raised twice by the central bank,
- minimum down payments for real estate were increased (from 20% to 30%).

These measures where supported by additional local legislation (e.g. in Shanghai), which further tightened conditions for the over-heated property market. As a result of the measures taken, the market cooled-down considerably, even though it did not crash. Housing price growth came to a halt with an average rate of growth of around 5% over 2005 in Shanghai, and the development has been fairly stable since then.

Source: Chen/Hao (2007): The Importance of Location on Shanghai Housing Price, ENHR Paper W04

6.2 Policy recommendations

Based on the analysis above, we shall proceed with our policy recommendations, which relate to the level of monitoring and analysis, the housing market and complementary measures.

(i) Recommendations at the level of analysis and monitoring

Recommendation 1: Database on housing prices

One major problem for analysing the housing market is the very poor quality of data and the lack of official data, as explained in Annex 1. Consequently, we recommend the establishment of a systematic official database on housing prices in Ukraine, as it is done in most countries. This database should be based on a sound methodological framework.

Recommendation 2: Stress test for falling housing prices

In case of a bursting of the price bubble, commercial banks active in mortgage lending could face problems. From the perspective of the banking supervision, it would be very important to quantify these potential problems and see how different scenarios will affect banks. Thus, we suggest that the NBU conducts a "stress test", in which different scenarios of falling prices are simulated and the corresponding problems for single banks are estimated. This would in a second step translate into the formulation of policies of how banks can withstand such negative shocks.

Recommendation 3: Theoretical and empirical research on wealth effects

Asset prices, including housing prices, have strong effects on several economic variables such as private consumption and investment. It is of crucial important to analyse and understand the transmission channel for such "wealth effects" on the aggregate economy. Accordingly, we recommend allocating resources for such research. We suggest that the NBU should conduct this research, as it is general practise in many other countries.

(ii) Recommendations concerning the housing market

Recommendation 4: Supply side

As shown in the conclusions (6.1), the supply side of the housing market played a major role in creating the current price bubble. Consequently, the supply side should play a major role in correcting housing prices by increasing the quality and quantity of supply. Thus, we recommend seriously combating the high barriers to entry in the construction market. This implies basically fighting corruption at the level of city administrations. It is crucial to understand that corruption in this case is not just about "who gets how much", but about macroeconomic stability, i.e. a precious public good. Furthermore, a more competitive construction market is of essential importance in view of the European Football Championship to be conducted in 2012 in Ukraine and Poland.

Recommendation 5: Demand side

Speculative demand has also contributed largely to the overvaluation of housing prices in Ukraine. The role of the state should be to dampen speculative demand, in order to force a

smooth and controlled price correction and avoid bubbles to burst in the future. Consequently, we recommend considering several measures, as the ones taken in China. For example, capital gains realised in a short period of time (1 or 2 years) could be taxed at the higher rate than other, more long-term capital gains, which implies a disincentive for short-term speculation.

(iii) Complementary recommendations

Recommendation 6: Banking regulation

There are certain indications that the overvaluation of housing prices has been partly financed by mortgage loans provided by commercial banks. In the case of a sharp decrease of housing prices, several banks could end up with bad loans, which in turn would weaken their solvency and diminish the stability of the banking sector. While the banking regulator (NBU) could toughen the criteria for banks disbursing mortgage loans (e.g. by specifying a certain loan-to-value ratio) to circumvent this problem, we do not recommend such drastic measures. Rather, to prevent mortgage lending from financing speculative transactions, the valuation criteria for the objects could be toughened, thereby putting valuation on a more cautious and long-term basis. Besides, independent experts should conduct this valuation process. A second recommendation regarding mortgage loans consists of the development of the market for covered bonds, which can be used for refinancing purposes. The mechanism of refinancing mortgages through covered bonds could discipline mortgage lending to some degree and put its funding on a more disciplined basis. This would in turn reduce the need for refinancing mortgage loans through recourse to (often short-term) foreign loans.

Recommendation 7: Capital markets

The lack of financial investment opportunities in Ukraine has also played a role for the overvaluation of housing prices. The lack of investment alternatives drove large amounts of money into the housing sector. Thus, it is important to increase the supply of investment instruments available in Ukraine and in general to develop capital markets[5]. Especially the implementation of the pension reform should be pushed ahead.

Recommendation 8: Liberalisation of capital exports

Due to strict currency regulation, it is very difficult for Ukrainian citizens to invest their wealth abroad, at least in a legal manner. This fact has restricted the investment opportunities and contributed to the housing price bubble. In times of significant capital inflows into Ukraine, rising official reserves and inflationary pressure, it should be considered to soften the regulation of capital exports.[6]

Recommendation 9: Monetary and exchange rate policy

The external value of the hryvnia is de facto fixed to the US dollar. Given strong inflows of foreign exchange into Ukraine in recent times, the NBU has to stand ready to buy any excess supply in order to avoid a revaluation of the hryvnia. By doing so, the money supply is increased and the money market is washed with liquidity. This high level of liquidity leads to higher demand for assets and to a so-called asset price inflation. Thus, the housing price bubble could be to a certain extent the result of high monetary growth due to the current fix exchange rate system. For this, among other reasons[7], we recommend the NBU to conduct a more flexible exchange rate policy and to reduce liquidity on the money market.

All in all, one should avoid trying to find quick answers to the very complex issue of rocketing housing prices in Ukraine. In particular, little will be achieved by just blaming "speculators" for the current problems, as is often done in the press. In reality, the underlying problems are multiple and point clearly towards the urgent need to go ahead with reforms in large parts of the economy. The housing price bubble is in essence just a symptom of multiple underlying structural problems in Ukraine's economy.

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[5] For a detail analysis see policy paper V1 by Betliy/Bigdai/Chukhai/Giucci, Capital Markets in Ukraine: Proposals to Increase Supply and Demand, February 2006.

[6] For further recommendations see policy paper V3 by Kirchner/Giucci, Managing Capital Flows: Ensuring Long-Term Benefits while Controlling for Short-Term Risks, February 2006.

[7] For a detail analysis see policy paper V10 by Kirchner/Giucci/Kravchuk, Exchange Rate Policy in Ukraine: Why and how to float the hryvnia, August 2006.

Annex 1

Housing prices and rents information in Ukraine

The analysis of housing prices in Ukraine is complicated by the absence of official data on housing prices. Neither the State Committee of Statistics of Ukraine, nor the NBU provide public information. Only data on constructions volume was taken from official source – Pasport of building of Ukraine. Thus, the most of data are the Ukrainian Realtors Association, various realty agencies and newspaper classifieds.

The Ukrainian Realtors Association (www.asnu.net) was established in 1995. It collects housing data since 2004. Thus, to get longer time series we used prices from realty agencies and newspaper advertisements.

Kyiv, Dnipropetrovsk, Zhytomyr, Odesa, Rivne and Cherkasy housing prices were calculated basing on classifieds from newspaper "Aviso" that is most popular ad newspaper in Ukraine. The prices were calculated as follows:

1) Sample prices for 1-, 2-, 3-room apartments (average, not premium sector) in different districts of cities. We took into account prices, which were of the most frequent occurrence.
2) Calculate simple average for each type of apartment in each district. For, example in 2006 in the Armyanskiy district of Dnipropetrovsk the most frequent prices for 1-room apartments were USD 30000, 35000, 40000. So, the average price for a 1-room apartment in this district is USD 35000.
3) Calculate average size of each type of apartment. It is estimated as simple average of all sizes that were given for 1-, 2-, 3-room apartments in each city.
4) Estimate housing price per 1 square meter for each type of apartment for each district. We found price per 1 square meter using prices obtained at Step 2 and average sizes obtained at Step 3.
5) Finding price per 1 square meter for each type of apartment in the city. It is estimated as simple average of housing price per 1 square meter for each type of apartment for each district. For example, we found that in 9 districts of Dnipropetrovsk prices per square of 1-room apartment were USD 1044, 1268, 910, 1268, 1134, 1104, 1194, 975, 835. Thus, price per square for 1-room apartment in Dnipropetrovsk in 2006 is USD 1081.3.
6) Estimate weighted average housing price per 1 square meter. It is assumed that supply of apartments is equally distributed between 1-, 2-, 3-room apartments. Thus, weights are one thirds. Taking Dnipropetrovsk as an example, prices per square for 1-, 2-, 3-room apartments in 2006 were USD 1081, 1043, and 985. Consequently, weighted average housing price per 1 square meter in 2006 was 1081*1/3+1043*1/3+985*1/3 = USD 1036.

Prices in hryvnia were obtained using official NBU exchange rates. Real prices were estimated using CPI provide by the Derzhkomstat.

Rents in Kyiv were found in a way similar to defining housing prices.

For cities that are not presented in Aviso like Lviv, Donetsk, Kharkiv, Zaporizhya and Sevastopol we used other sources. In particular, for Lviv prices were taken from "Credit-Rating" agency, for Donetsk – from real estate agencies "Dina" and "Obolon", for Kharkiv – from Ukrainian Realtors Association (for the period 2004-2006) and real estate agency "Avers" (for the period of 2001-2003), for Zaporizhya – from Ukrainian Realtors Association (for the period of 2004-2006) and estimate-consulting agency "Express Service"(for the period of 2001-2003).