December 2009

IUHF
www.housingfinance.org

HOUSING FINANCE INTERNATIONAL

The Quarterly Journal of the International Union for Housing Finance

- Swedish and Japanese Banking Crises
- Financial Crisis and Mortgage Lending in the former USSR Countries
- Three Pillars of Mortgage Credit Risk Management
- Affordable Housing in Central and Eastern Europe
- An Alternative Financing Method for Affordable Housing
- SwapRent Transactions for Homeowners

International Union for Housing Finance

Housing Finance International

Housing Finance International is published four times a year by the International Union for Housing Finance (IUHF). The views expressed by authors are their own and do not necessarily represent those of the Editor or of the International Union.

ISSN: 1534-8784
Vol. XXIV No 2

Contents:

- **Subscriptions:**
  Regular Annual Rate €120; three-Year discounted rate €245.
  For further details, please contact Paloma Repullo Conde
  (prepullo@housingfinance.org)

International Union for Housing Finance
Avenue de Cortenbergh 71, B-1000 Brussels - Belgium
Tel: +32 2 285 40 30
Fax: +32 2 285 40 31
www.housingfinance.org
Secretary General - Annik Lambert

Editor's Introduction

↳ By Friedemann Roy

Recently, Dubai opened the world's tallest tower (at 828m). This launch took place after the economy had suffered from an immense economic shock and crushing property prices, requiring a 10 billion US$ bail-out loan by neighbouring Abu Dhabi. This opening seems to be a "we can still" bounce back reaction to demonstrate to the outside world the opportunities this location and region offers. This belief is probably underpinned by current economic development. According to the Financial Times, there is little doubt that the most vibrant region of the world is still Asia.[1]

However, this welcome economic upswing is accompanied by certain risks, mainly asset bubbles.[2] Elsewhere in the region, notably in China, Hong Kong and Singapore, equity markets have surged and property prices are on the rise. For example, property prices in Shanghai (China) increased 19% from March to July 2009.[3] The People's Bank of China has already tightened its monetary policy to slow down bank lending. Whereas Asia is confronted with house price inflation, countries like Mexico or Romania have seen their mortgage markets falter. Thus, one outcome of the crisis is the heterogeneous development of mortgage markets worldwide.

What does the current situation mean for housing affordability? Which policies and instruments are recommended to help low- and middle-income groups remain in their homes or ensure access to housing finance? This edition of Housing Finance International aims to provide answers to these questions.

The first article, by Marianna Blix Grimaldi, Daphne Nicolitsas and Moreno Roma, deals with the roots and consequences of the Swedish and Japanese banking crises of the early 1990s, and their effects on the respective national housing markets. The authors approach this topic by attempting to highlight similarities and differences between the experiences of these two very distinct economies, and the lessons that policy makers could extract. The article is organised into four sections. The first section reviews the trigger and the background to the crises in Sweden and Japan, the second describes the macroeconomic consequences of the crises and the policies followed to deal with these. The third section discusses possible lessons emerging from dealing with the crises. Finally, the fourth section summarises and concludes.

The author of our second contribution is Victor Mints. He reviews the effects of the financial crisis on the countries of the former Union of Soviet Socialist Republics (USSR), e.g. Russia, Kazakhstan, Kyrgyz Republic, etc. He believes that no financial area was more affected by the financial crisis than mortgage lending in these countries. Only the substantial fiscal resources allocated by local governments enabled segments of the market to survive in several of those countries, while in many others, mortgage markets completely ceased to exist. This paper argues that the low-level of resilience demonstrated by mortgage lending was grounded in basic deficiencies of the mortgage lending model. The paper also argues that while the system was in place, it made housing less available for low-income individuals rather than making it more available for them.

Our next contribution, which is written by Man Cho and Kyung-Hwan Kim, expands on the question of how to enhance the measurement and management tools used to control mortgage default risk so that a country's housing finance system can extend its service to a larger number of marginal borrowers. They relate their findings to the Korean Mortgage Market. In their view, it offers an interesting case study because of several unique features of the regulations on mortgage lending to promote prudency in lending and contain house price increases.

Wolfgang Amann argues in the fourth article for a contextualised approach towards addressing the housing policy challenges of Central and Eastern Europe (CEE). Policy makers face a number of important challenges. Firstly, although house prices in urban areas are at similar levels to western prices, household incomes are considerably lower. Secondly, as the existing housing stock is deteriorating, construction levels are insufficient to meet demand, especially for lower- and middle-income groups. Thirdly, rental markets are small and are even starting to diminish in some countries, which tend to operate within an inadequate legal framework. Lastly, housing policies in CEE countries are evolving amidst conflicting and often unclear messages from the European Commission regarding housing policy development.

Janet Xin Ge analyses in her article an alternative financing model to increase access to housing in Australia. Many households cannot afford a home due to high house prices in relation to their incomes. Various governmental support schemes provide only limited relief. In this context, she suggests the use of superannuation funds (or super funds) to help the low to moderate-income households improve their access to home ownership. She finds that with super funds housing affordability is likely to increase by 60% for the low to moderate-income families.

In our final article, Ralph Liu suggests the possibility of creating a new housing finance system based on simplified financial derivatives. A conventional legal ownership title includes the right to occupy and use the property, also called the "Shelter Value", as well as the benefit from price rises or the losses of price falls, which would constitute the "Economic Value". With a swap transaction, the economic value of conventional property ownership could be separated from the shelter value. Ralph Liu believes that this technique could allow homeowners to better manage the financial risk and return aspects of property ownership while maintaining their shelter value at all times.

I hope you will enjoy reading these articles. Please do not hesitate to make comments or suggestions in order to stimulate a wider debate, which will allow for a broader exchange of ideas and concepts. They are more than welcome!

Friedemann Roy[4]

[1] See Financial Times (5 January 2010), "Asia's recovery star burns brightest".

[2] In this context, see R. Zoellick, "Heed the danger of asset bubbles", Financial Times, 25 November 2009, page 9.

[3] See www.globalpropertyguide.com, "Strong growth in China's housing markets", 29 September 2009.

[4] The Findings, interpretations, statements and conclusions expressed herein are those of the editor alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank. The authors of the articles of this edition present their independent views, opinions and assessments and necessarily do not reflect the views of the World Bank and/or its affiliated organizations, or those of the Executive Directors of The World Bank.

The Swedish and Japanese Banking Crises[1]

↳ By Marianna Blix Grimaldi[2], Daphne Nicolitsas[3] and Moreno Roma[4]

Introduction

This article summarises the roots and consequences of the Swedish and Japanese banking crises of the early 1990s, and the policy responses introduced to deal with these. A fairly large number of academic as well as policy papers have been written on the Swedish, or Nordic, banking crisis and an equally large number of papers and studies have been produced to describe and explain the Japanese banking crisis. While our analysis is largely based on the existing literature, we approach this issue from a different perspective, attempting to highlight similarities and differences between the experiences of these two very distinct economies and the lessons that policy makers could extract.

The article is organised into four sections: the first section reviews the trigger and the background to the crises in Sweden and Japan; the second describes the macroeconomic consequences of the crises and the policies followed to deal with these; the third section discusses possible lessons emerging from dealing with the crises; and finally, the fourth section summarises and concludes.

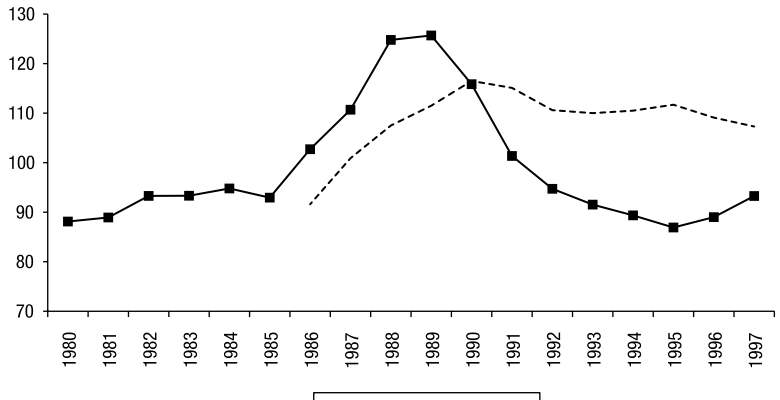
1. Trigger and background to the crises

Notwithstanding differences between banking crises, the making of a crisis displays a number of features which are common even between countries as geographically apart and as culturally different as Japan and Sweden in the early 1990s. Indeed, both countries experienced – although to a different extent – rapid credit growth coupled with a sudden increase in asset prices and high levels of investment prior to the crisis. These three factors were in fact identified by Lowe[5] as the "troublesome threesome". But what economic and financial conditions led to these developments? Were there also similarities in the process that led to the accumulation of imbalances until these became unsustainable and eventually triggered the crises? We make an attempt to answer these questions in a stylised fashion in the following sections.

…the Swedish case

In Sweden, the financial deregulation that started in the early 1980s led to the abolition of internal and external capital controls, and transformed the financial system from a heavily regulated to an open one. Deregulation and financial liberalisation also altered the financial system in a more fundamental way by changing the *incentives* of borrowers and lenders. Faced with open competition, banks went on a lending spree transmitted to assets - mainly real estate and equities - causing their prices to rise.[6] Similar to events in the recent financial crisis, back then the private sector also used the rise in asset prices to inflate collateral and thus to increase its leverage, in particular, to finance real estate purchases. As a result, household debt as a percentage of disposable income increased significantly (see Chart 1). Fuelled by demand and by the ease in obtaining credit, investment in construction rose markedly. Imbalances in both the credit and economic sectors, as exemplified by the "troublesome threesome" - credit, asset prices and investment - were rooted in the expansionary effect of financial deregulation and liberalisation (see Charts 2 and 3). An essential feature of these three factors is their ability to reinforce each other and, therefore, compound their effect on the economic system.

Chart 1 **Household debt as a percentage of disposable income**



Sources: OECD and Statistics Sweden

[1] The views expressed in this paper are those of the authors and do not necessarily reflect those of the Sveriges Riksbank, the Bank of Greece or the European Central Bank (ECB). Comments from Julian Morgan are gratefully acknowledged. Additionally, the findings, interpretations, statements and conclusions expressed herein are those of the authors alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank. The authors are not employees of the World Bank Group.

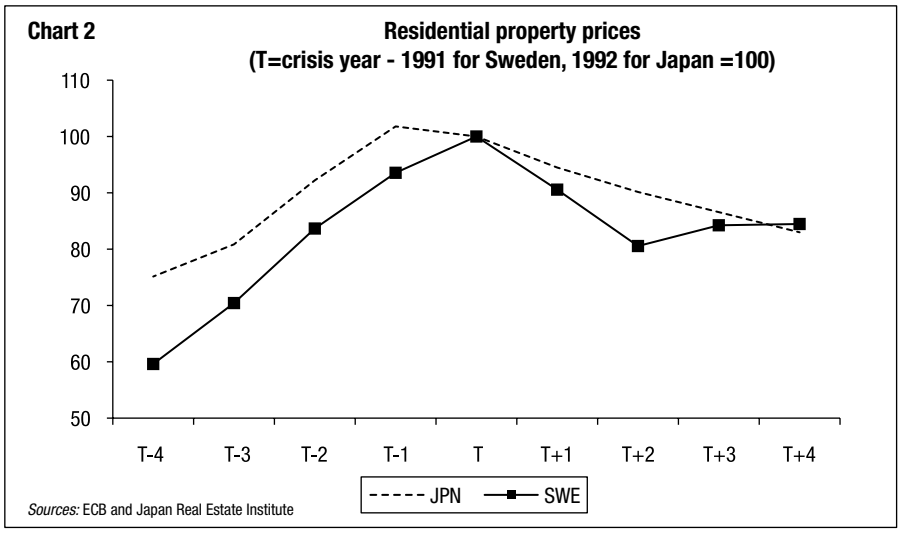
[2] Sveriges Riksbank, SE-10337 Stockholm, Sweden, marianna.grimaldi@riksbank.se

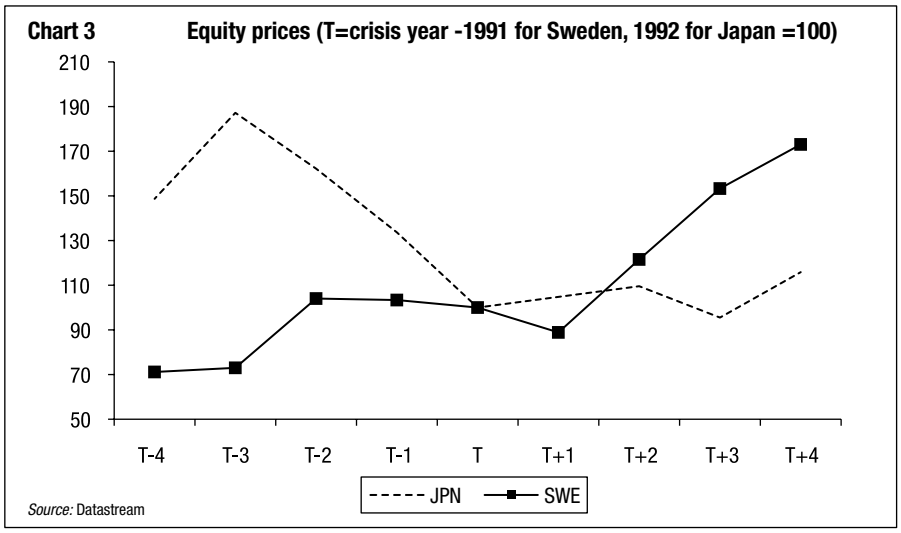
[3] Bank of Greece, 21 El. Venizelos Avenue, GR-102 50 Athens, Greece, dnikolitsa@bankofgreece.gr.

[4] European Central Bank (ECB), Kaiserstrasse 29, 60311 Frankfurt am Main, Germany, moreno.roma@ecb.int.

[5] Lowe, P. (2001), "Maintaining financial stability: possible policy options", Sveriges Riksbank Economic Review, No. 2.

[6] Jonung, L. (2008), "Lessons from financial liberalisation in Scandinavia", C*omparative Economic Studies,* No.50. The increase in equity prices in Sweden was particular strong in the two years (1987-1989) prior to the outbreak of the crisis.





A number of other and no less important factors linked to fiscal but also monetary policy, while not causing the crisis, made the build up of imbalances possible. These are labelled as "accommodative" factors in what follows. In particular, inflation and inflation expectations were very high in the early 1980s. The tax deductibility of interest rates, together with high marginal tax rates and high inflation, meant that real after-tax lending rates were very low[7] and led to high demand for household and corporate borrowing. In addition, monetary policy options to limit the expansionary effects of the financial liberalisation were limited by the fixed exchange rate regime.[8] The fixed exchange regime made it also profitable for investors to borrow in foreign currency at perceived low rates given the large differential vis-à-vis interest rates in other European countries.[9] Finally, prudential regulation and bank supervision were unprepared to deal with the new environment that followed financial deregulation and liberalisation.[10]

However, as is often the case, the surge in debt and lending was not solely of a purely speculative nature; demand for credit was also sustained by robust economic growth at the time of liberalisation. Indeed lending, investment and real estate and equities' prices, with the latter exhibiting much more volatility, all increased following the improvement in general economic conditions illustrated by, for example, the evolution in GDP growth during the 1980s (see Chart 4). With hindsight, by the late 1980s the rapid increases in debt and lending led to a borrowing glut and the corresponding excess lending became unsustainable.

Authorities did not react until well into the lending and borrowing boom. It was only in 1990-91 that a tax reform, reducing to 30% the share of interest rate expenses that could be deducted from household taxable income, was introduced. In addition, between 1987 and 1991, the Swedish economy experienced a loss in competitiveness with the level of the real exchange rate increasing by 13%.

…the Japanese case

As in Sweden, the positive effects of long lasting economic growth and stable inflation were amplified by the deregulation process that started with the abolishment of interest rate constraints in the mid-1980s.[11] Banks that could no longer enjoy the former protected regulated environment saw their profit margins progressively erode. In order to increase their overall profitability, similarly to what happened in Sweden, banks took more risk by extending their mortgage lending at low interest rates. Asset prices, and in particular equity and land prices, started to accelerate rapidly from the mid-1980s and further fuelled the expansion in lending and borrowing by inflating the value of the collateral. In addition, GDP growth (see Chart 4) intensified in the second half of the 1980s (annual average rate of 5.2% in the second half compared to 3.6% in the first half). Fuelled by buoyant demand and the ease in obtaining credit, not only did business investment increase, reaching almost 20% of GDP, but residential investment and household consumption of durables also increased strongly.

As in Sweden, other factors also played a role in the build up of imbalances. One, often cited in the literature, refers to the land tax which favoured the increase in land prices by suppressing the supply side. While land tax rates were in general low, taxes on land transactions were high creating strong incentives for owners to delay selling, or to hold on to their land, thus reducing the supply and pushing up prices. The 1980s saw a series of changes regarding capital markets (the issuance of unsecured corporate bonds was permitted, listing requirements were eased, a domestic commercial paper market was created) and led to an increase in market base financing at the expense of bank financing.[12] While the main bank system – whereby banks held a sizeable share in major non-financial

[7] Drees, B., and Pazarbasioglu, C. (1998), *The Nordic Banking Crises: Pitfalls in Financial Liberalization?*, IMF Occasional Paper No 161.

[8] In the period 1974-94 the Swedish krona was tied to different currencies and baskets of currencies. In May 1991, a tie to the ECU was unilaterally introduced.

[9] Goldstein, M., D. Folkerts-Landau, P. Garber, L. Rojas-Suárez and M. Spencer (1993), *International Capital Markets: Part I Exchange Rate Management and International Capital Flows*, IMF

[10] See footnote 7.

[11] Okina, K., Shirakawa, M. and S. Shiratsuka (2001), "The asset price bubble and monetary policy: experience of Japan's economy in the late 1980s and its lessons", *Monetary and Economic Studies*, 19 (S-1), Institute for Monetary and Economic Studies, Bank of Japan.

[12] Hoshi, T. and A. Kashyap (1999), *The Japanese banking crisis: where did it come from and how will it end*, NBER Working Paper 7250.

companies – continued to exist, banks also started lending to real estate development companies and non-bank financial sector intermediaries.[13]

The trigger of the crisis was the slump in equity prices which started in 1989 (see Chart 3). Compounded with the decline in land prices (see Chart 2 for residential property prices), the fall in equity prices led to a deterioration of banks' and non-financial companies' balance sheets leading to the crisis being labelled a "balance sheet recession".[14]

Common features between the two crises

What conclusions can one draw from the experience of Japan and Sweden in the early 1990s? Is the sequence of stylised facts described above a common feature between the two countries?

As should by now be clear to the reader, the experiences of Sweden and Japan reveal a common pattern summarised in the following box.

The stylised facts of the 1990s crises

Starting from the new environment created by the financial deregulation and liberalisation on the back of positive and even buoyant GDP growth and positive development in asset prices, banks followed aggressive lending policies. But as risks were not clearly understood in this new environment, these went largely underestimated or were simply blurred by the distorted incentives that lenders were provided with. The aggressive lending of banks quickly resulted in excess lending and the corresponding excess borrowing of investors whose incentives for diligence were also distorted by the permissive environment and the fattening of their portfolio. The credit boom further pushed up asset prices. Economic activity expanded. The effects of these three factors, i.e. credit expansion, surges in asset prices and increases in economic activity, were then further compounded in a largely self-sustained mechanism.

Surprisingly (or, perhaps, not) such stylised facts also apply to some extent to the recent crisis. Following a long period of relatively steady economic growth, low and stable inflation in the advanced economies and rapid growth and development in key emerging market economies, the benign macroeconomic environment of the decade preceding the crisis led to a sustained credit expansion and a strong increase of the share of debt to GDP for the corporate and household sector in major advanced economies. As was the case in Sweden and Japan, credit expansion was further fuelled by increases in asset prices providing further collateral to mounting debt. At the same time, OECD economies continued to grow at a healthy pace (GDP growth rate of 2.4% for the period 2000-7 close to the average long-term trend of 2.5%).

This time helped by financial innovation that produced, for example, Credit Default Swaps (CDSs) and Collateralised Debt Obligations (CDOs), investors largely misunderstood and underestimated the risk involved in increasingly complicated financial transactions. In a way, financial innovation created a new environment in which, as in the years after the deregulation and financial liberalisation of the 1980s, risk went collectively unchecked and underestimated. Regulation again proved to be too slow to adapt to the new and quickly changing environment. In the "parallel" financial system, as the system of non-bank financial intermediaries and off-balance sheet entities has been labelled,[15] risk went largely unchecked. Furthermore, the accumulation of household debt made households more vulnerable to the asset price shock.[16]

Strikingly, while either broadly confined to Sweden, Japan or globally spread, crises often, if not always, seem to be built on the "common pattern" discussed above. Finally, there is an additional element in the common pattern that has increasingly been recognised as playing an important role in the build up of imbalances and in the creation of bubbles that eventually burst with potentially devastating effects: investor psychology. Kindleberger (1979)[17] pioneered the idea of manias and panics in explaining financial crises, while, more recently, insights from behavioural finance have taught economists that the human brain has hard-wired "biases" that can significantly contribute to the creation of self-reinforcing waves of optimism and pessimism. In financial markets, such self-reinforcing waves of optimism and pessimism can translate into movements in asset prices that, in turn, can lead to the emergence (and bursting) of bubbles.[18]

2. The macroeconomic consequences of the banking crises and policy responses in Sweden and Japan

…the Swedish case

In 1991 the Swedish government was confronted with an extremely difficult environment: high inflation, the bursting of an asset price bubble, rapidly increasing unemployment, contracting activity and a banking crisis. The banking crisis culminated in September 1992 with the Swedish Government and the Riksbank providing general guarantees for the whole Swedish banking system. These guarantees appeared to work, restoring confidence in the banking system and improving the financial position of banks during 1993. The effects of the crisis on the banking sector appear to have been short-lived,[19] with various banking performance indicators back at their pre-crisis levels by 1994. Moreover, the negative effect of the crisis on the banking sector appears more limited than in the case of Japan (see below).

The policy measures implemented tried to correct several of the imbalances of the Swedish economy with a view to starting a long-term restructuring period able to bring the economy into a sustainable long-term growth path.

The authorities were firmly committed to restoring price stability and to embarking on a phase of fiscal consolidation. The disinflationary process taking place after the start of the crisis was helped by wage disinflation reflecting poor employment prospects. In 1990 the level of the unemployment rate, at 1.8%, was very low thanks to, *inter alia*, active labour market policies, a high degree of wage centralisation and a rapid expansion of the public sector which characterised the 1980s.[20]

[13] Allen, F. (1996), *The future of the Japanese financial system*, Wharton Financial Institutions Center Working Paper 96-56.

[14] Koo, R. (2008), *The holy grail of macroeconomics: lessons from Japan's great recession*, John Wiley and Sons, Singapore.

[15] BIS (2009), *79th Annual Report,* June.

[16] BIS (2009), *op. cit.*

[17] Kindleberger, C, (1978), *Manias, Panics, and Crashes: A History of Financial Crises* (Wiley, 2005, 5th edition).

[18] See for example Akerlof, G., and Shiller, R., (2009), *Animal Spirits. How Human Psychology Drives the Economy and Why It Matters for Global Capitalism*, Princeton University Press; De Grauwe, P., and Grimaldi, M., (2006), *The Exchange Rate in a Behavioral Finance Framework*, Princeton University Press; Kahneman, D., (2002), *Maps of Bounded Rationality: A Perspective on Intuitive Judgment and Choice*, Nobel Prize Lecture, December 8, Stockholm.

[19] P. Englund (1999), "The Swedish Banking Crisis: Roots and Consequences." *Oxford Review of Economic Policy*, Vol. 15, No.3

[20] See, *inter alia*, OECD (1992), *Economic Survey Sweden 1991-92*, Paris: OECD. The rapid expansion of the public sector in Sweden in the 1980s has been considered by many observers very costly in terms of efficiency loss and lack of dynamism of the economy.

Given the favourable starting position in terms of the low unemployment level, authorities abandoned their primary objective of guaranteeing full employment during the crisis, as previously pursued during the 1973-74 oil price shock for example, and focused instead on increasing long-term competitiveness via fiscal consolidation and the anchoring of inflation expectations.[21]

The tax reform that started in 1993 coupled with the tightening of monetary conditions led to a surge in real after-tax lending rates, which, in turn, pushed households to consolidate their financial positions by increasing savings and reducing consumption. But the surge in real interest rates meant also that asset values in real terms were greatly reduced. Balance sheets became fragile, especially as property prices decreased and fell below collateral value while the nominal value of debt remained unchanged. Very much like the self-reinforcing spiral of credit-collateral-over-spending that worked on the way up to the boom, the reverse spiral was decreasing asset and property prices, leading in turn to a loss of collateral and to new waves of sales and further loss of wealth. Short-term interest rates fell two years after the start of the crisis (see Chart 6) and the adoption of a floating exchange rate in 1992 for the Swedish Krona ensued as a result also of the 1992 European Exchange-rate-mechanisms (ERM) crisis. These factors, together with a slow but firm pick-up in the growth rate of total factor productivity (see Chart 7), mitigated the adverse effects of the crisis on the real economy.

Notwithstanding the above, the impact of the crisis was substantial: two years since the start of the crisis real GDP contracted by more than 3%. The impact on real investment (as a percentage of real GDP) was even more pronounced, with its level in 1997 still more than 10% below its 1991 level. Following the bursting of the housing bubble, real housing investment (as a percentage of total real investment) continued to contract dramatically. Real government investment (as a percentage of total investment) played a substantial countercyclical role, increasing by more than 50% between 1991 and 1994, and progressively reducing its weight after 1994.

Adjustments to the labour market were also painful. First of all, the Swedish labour market was characterised by a high degree of employment protection legislation, high gross unemployment benefit replacement rates and a high tax wedge. Furthermore, wage bargaining was still relatively centralised, although both the level of centralisation and the degree of co-ordination amongst employers decreased starting from the second half of the 1980s.

Hit by the crisis, employment fell by approximately 10% in the six years after the start of the crisis and unemployment increased considerably until reaching a peak above 10% in 1997 compared to below 2% in 1990 (see Chart 5). Given the existing high share of public employment as a percentage of total employment,[22] limited space was left for further public employment increases, especially in view of the government's aim of fiscal consolidation. These adverse adjustments in the labour market took place in spite of a moderate fall in real wages after the start of the crisis.

At the same time, with effect from January 1993, measures affecting the labour market with a view to increasing its flexibility were implemented such as a reduction of public pensions, a reduction of employers' social security contributions, the abolition of two days of annual leave and the introduction of employees' contributions to health insurance. The OECD index of employment protection legislation decreased accordingly.

Regarding product markets, around the beginning of the 1990s competition was still lacking in several sectors and was hampered by high trade barriers as well as government measures shielding businesses from market forces. In July 1991, Sweden formally applied for membership of the European Community (EC)[23] and the authorities started to dismantle internal domestic market regulations in the agriculture and food sectors. In the following years and with a view to EC entry, Sweden embarked on privatisation programmes and substantially eased product market regulation.

…the Japanese case

The banking and financial crisis culminating in 1992 led to low rates of growth for the economy for a number of years. During the 1992 to 1998 period, the average rate of growth was of the order of just 0.9%, while even after 1998 the growth rate was low. Despite this development, and differently to the experience in Sweden, the increase in the unemployment rate was more moderate (2% in 1990, 4.1% in 1998), an indication of labour hoarding (see Chart 5). The prolonged impact of the crisis led many observers, however, to refer to the 1990s as Japan's "lost decade".[24]

In response to the slowdown, economic policy loosened. The crisis led to a period of monetary easing (the official discount rate was reduced from a high of 6.0% in August 1990 to a low of 1.75% in 1993 and 0.5% in 1995), while fiscal stimulus packages were introduced. Again, this contrasts with the effort of fiscal consolidation pursued by Sweden in the aftermath of the crisis.

Both monetary policy and fiscal policies in Japan proved to be insufficient to counteract the effects of the bust and the incipient recession. Despite the decline in nominal interest rates, real interest rates remained positive, thereby negatively affecting the already battered balance sheets of households and firms. Additionally, while monetary policy became progressively loose, growth rates of monetary aggregates, such as of M2 but also of M1, continued to decline through 1992, a sign that monetary policy stances may have been too restrictive.

As a result of the fiscal measures the primary balance shifted from 3.7% of GDP in 1990 to -1.5% in 1994. The effectiveness of the fiscal packages in stimulating the economy has been questioned[25] (the composition of the packages – heavy reliance on tax cuts and land purchases – were thought to impact only indirectly on demand). The appreciation of the yen (in 1995 and 1996), which took place despite the decline in Japanese interest rates and because European and US interest rates also decreased, did not help the economic recovery. The continuing fall in asset prices further deteriorated the position of financial institutions. Furthermore, the issue of bad loans was not addressed head on. The fragility of the banking system may have impaired the ability of monetary policy to affect lending and spending of households to some extent (differently than in Sweden, saving rates in Japan actually declined through most of the 1990s). In addition, there is more compelling evidence, both anecdotal and statistical, that the ability of monetary policy to affect borrowing and investment spending of firms was severely limited by the rapidly declining strength of the banks and the mounting of non-performing loans.[26]

[21] See OECD (1992), *op. cit.*

[22] This share was 34% in 1991, one of the highest amongst OECD countries.

[23] Sweden joined the European Union on 1 January 1995 after a referendum taking place in November 1994.

[24] Hayashi, F. and Prescott, E. (2002), "The 1990s in Japan: a lost decade", *Review of Economic Dynamics*, Vol.5.

[25] OECD (1996), *Economic Survey Japan 1995-6*, Paris: OECD.

[26] Kwon, E. (1998), "Monetary Policy, Land Prices, and Collateral Effects on Economic Fluctuations: Evidence from Japan," *Journal of Japanese and International Economies*, Vol. 12. See also Ahearne, A., J. Gagnon, .J. Haltmaier, K. Kamin , and Erceg, C., Faust, J., Guerrieri, L., Hemphill, C., Kole, L., Roush, J., John Rogers, Sheets, N., Wright J., (2002) , *Preventing Deflation: Lessons from Japan's Experience in the 1990s*, International Finance Discussion Papers, Board of Governors of the Federal Reserve System, No. 729.

From a fiscal perspective, it is well known that the stimulus implemented through publica opera, like the construction of bridges, roads and airports in lightly-travelled areas failed to address the most pressing infrastructure needs and, more importantly, failed to ignite a self-sustaining expansion. Significant tax cuts were also prompted but, as these were temporary, they too failed to stimulate demand in an effective way.

The limited extent of employee turnover in the Japanese labour market would suggest a rigid labour market. However, the short duration of contract lengths and the large share of bonus payments in the total remuneration package gave some room for manoeuvre in terms of wage flexibility. As it turned out, there was a slight moderation in real compensation *per employee* in the aftermath of the crisis. The brunt of employment adjustment was accomplished through a decrease in working hours (normal and overtime) rather than an increase in unemployment. More specifically, the measures introduced in the labour market (Employment Adjustment Subsidies System, Special Measures for Employment Security for Workers in Depressed Industries) were trying to avoid layoffs either by hoarding unnecessary labour or by shifting employment to subsidiaries. It is only after the four-year period following the shock that employment adjustments started to take place in Japan. Labour hoarding was mitigated by the decrease in hours worked and as a result the growth of labour productivity per hour worked continued to be positive, although this reflects mostly capital deepening and was much lower than the growth rate registered in the 1980s.

In fact, the average annual growth rate of labour productivity per hour was 4.4% in the 1980s vs. 2.8% in the 1990s; while the average annual growth rate of total factor productivity was 1.6% in the 1980s vs. 0.1% in the 1990s. This slowdown in productivity growth has been attributed to inefficient industry subsidising.[27]

The product market reforms introduced were geared mostly towards enhancing competition in the trade sector (distribution), which was characterised by heavy regulation and had led to higher prices for Japanese products. Anti-monopoly laws were also adopted, while at a later stage efforts to supervise financial institutions more effectively were also made, while some element of mark-to-market accounting were introduced and the rules under which banks' subsidiaries were allowed to be consolidated were revised and a reform of the land allocation system was introduced.[28]

3. Policy lessons from the Swedish and Japanese banking

While the period prior to the crisis in Sweden and Japan appeared to share common features, the measures to deal with the crises and the success or otherwise of these differ significantly. Differences in the measures to deal with the crises are not surprising given the diversity in structures and institutions in each country, and in the size of the shock. In general, one could say that the Swedish measures were more successful, as judged by the shorter length of time it took for GDP growth to return to its long-term trend, and by the fact that certain inefficiencies were dealt with head on, while, at the same time, other adjustments that had traditionally been used to mask such inefficiencies were abandoned. The case of Japan has provoked more discussion as to why the crisis was so prolonged. While there is still much debate, it is fair to say that the fact that the high share of non-performing loans and the significant decline in productivity were not dealt with outright significantly contributed to the "lost decade".[29]

In Sweden, the larger negative effects of the crisis appear to have been on the unemployment rate, the business sector and housing investment. An effort was made to restore competitiveness both through devaluation and through wage moderation. These efforts were also accompanied by structural measures aimed at increasing labour market flexibility (both in terms of wages and employment, for example by abolishing the rigidity of fixed pay scales) on a more permanent basis. Despite these efforts, however, the unemployment rate has only recently approached its pre-crisis level, partly reflecting the fact that policies to absorb superfluous employment in the public sector were abandoned after the crisis.

Japan used fiscal measures to get around the slowdown without any effort to increase labour market flexibility. This approach appears, however, to have led to a very drawn out crisis. The brunt of the employment adjustment was accomplished through a decrease in working hours (normal and overtime) rather than through an increase in unemployment. Moreover, the delayed reaction of the banking system to the crisis and the associated mounting of non-performing loans led to a long-lasting balance-sheet recession. This tends to suggest the fundamental importance of cleaning up banking balance sheets without hesitation and delays.

Both countries eased product market regulation in the post-crisis period, a move that appears to have assisted in the recovery process that also suggests that it might be easier to implement reforms in periods of crises. The willingness of Sweden, after the crisis, to enter the (now) European Union helped the reform momentum.

In both countries the crisis followed a period of bank deregulation and liberalisation. Such a period was particularly challenging for prudential regulation and bank supervision, which were, to some extent, unprepared to deal with this new environment.

The above is admittedly very stylised and as mentioned, differences in the size and nature of the shock the two countries experienced in their institutional set up (e.g. exchange rate regimes, labour market institutions etc), in the structure of their economies (e.g. composition of economic activity, bank sector structure etc), in their initial position in terms of competitiveness and their cultural traits means that there is no such a thing as a *panacea* for each and every crisis.

4. Conclusions

The magnitude of crises reflects the particular circumstances in which they were created. However, it also heavily depends on the responses provided by the public authorities in terms of crisis management and macroeconomic policies. In this respect Sweden and Japan (and the recent global crisis) show that crises can be built on a common pattern, although their effects can be quite diverse. Sweden provides an example of how a successful resolution of a crisis can be reached; Japan of how costly the inadequate policy responses can become.

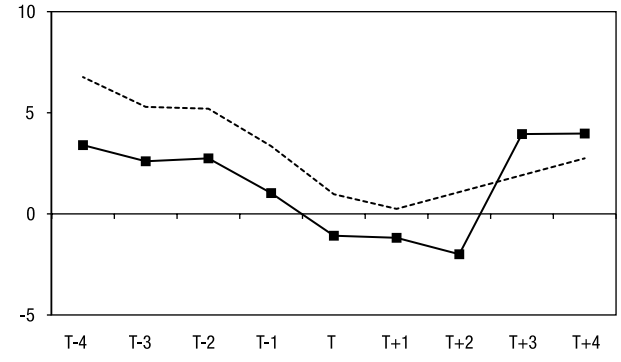
Two main factors complicate the effective resolution of a crisis. On the one hand, there is a series of complex inter-relationships between the factors that contribute to the emergence of the crisis (witness the link between asset price increases and credit expansion). On the other hand, some of the measures introduced to soften the impact of the crisis might, if kept in place for too long, mask underlying trends with potential distortions. The insufficient labour market adjustment in the case of Japan that masked the decline in productivity is a case in point.

[27] Hayashi and Prescott *op.cit.*

[28] OECD (1997), *Economic Survey Japan 1997*, Paris: OECD.

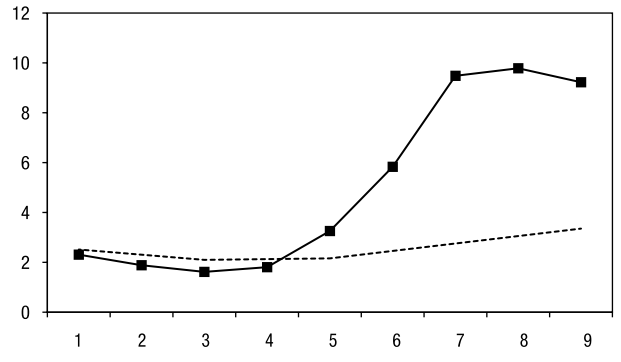
[29] Allen (1996) *op.cit.* and Hayashi and Prescott (2002) *op. cit.*

Chart 4 Real GDP growth rates four years before and four years after the onset of the crisis (T=crisis year - 1991 for Sweden, 1992 for Japan)



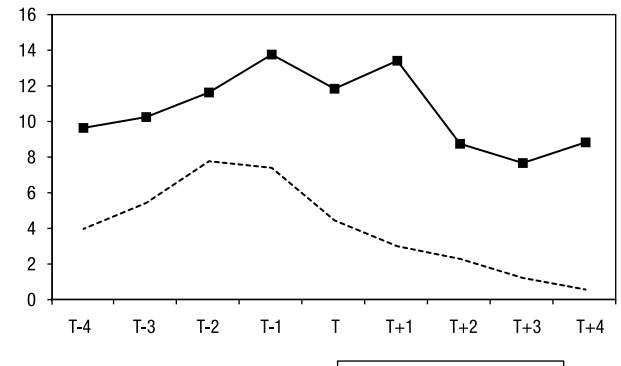
Source: AMECO

Chart 5 Standardised unemployment rates four years before and four years after the onset of the crisis (T=crisis year - 1991 for Sweden, 1992 for Japan)



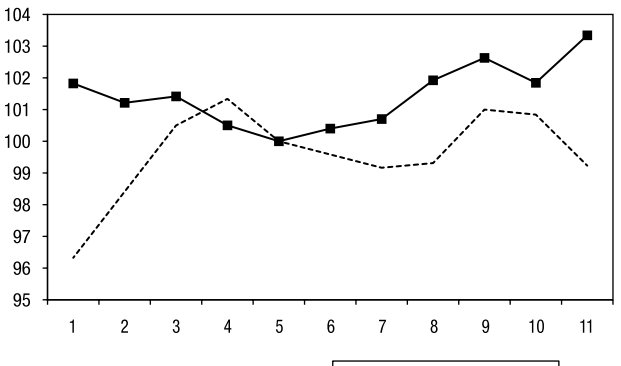
Source: OECD

Chart 6 Nominal short-term interest rates (T=crisis year - 1991 for Sweden, 1992 for Japan)



Source: AMECO

Chart 7 Total Factor Productivity (T=crisis year - 1991 for Sweden, 1992 for Japan =100)



Sources: OECD and EU KLEMS

Influence of the Financial Crisis on Mortgage Lending in the former USSR Countries

↳ Victor Mints[1]

It seems that no financial area was more strongly affected by the financial crisis than mortgage lending in the countries of the former Union of Soviet Socialist Republics (USSR). Only fiscal resources allocated by local governments and financing provided by Development Finance Institutions (DFIs) enabled segments of the market to survive in several of those countries, while in many former USSR countries, mortgage markets completely ceased to exist. This paper argues that the low-level of resilience demonstrated by mortgage lending in the countries of the former USSR was grounded in basic deficiencies of the mortgage lending model promoted in these countries by international donors and DFIs. The paper also argues that while the system was in place, it made housing less available for low-income individuals rather than making it more available for them.

Lack of mortgage lending in the former USSR countries

The USSR consisted of 15 republics, all of which are now independent countries[2]. While the level of economic development varies substantially from country to country, many generic features inherited from their Soviet past can be found in all of them. One such feature is their underdeveloped mortgage lending systems.

In the USSR, housing units were distributed free of charge to people waiting in line; therefore, mortgage lending was not needed. With the collapse of the communist regime, the creation of effective mortgage lending systems became one of the top priorities for bankers (who saw potential for high-profits) and for governments (seeking to improve housing affordability for low-income groups).

Two impediments stopped banks from engaging in mortgage lending: (i) legislation was extremely unfavourable for mortgage lending and (ii) banks lacked the relevant know-how/knowledge.

A specificity of such legislation (to large extend inherited from the USSR) was that residential real-estate represented the least reliable form of collateral. Bankers were certain that in cases of mortgage borrower default it would be impossible to evict the borrower and their family from the house. This meant that the bank would not be compensated for its losses from the proceeds of the sale of a foreclosed property. For this reason, banks of the former USSR considered mortgage lending the riskiest of all lending operations.

The problems related to the lack of relevant know-how were associated with mortgage lending being considerably different from other types of lending in both banking procedures and technologies. For example, at the stage of underwriting, a mortgage borrower, bank should be able to address the long-term nature of the mortgage loan by verifying not only the current creditworthiness of the borrower but also their long-term creditworthiness. However, this requires specific underwriting techniques that banks of the former USSR did not possess. Equally, at the stage of a loan origination, a bank involved in mortgage lending needs special knowledge, technology and procedures in order to collateralise a loan using a property that is not actually owned by the borrower at the moment of origination of the loan. The borrower will only own the property (i) after the loan is disbursed, (ii) payment is made to the home seller, (iii) the transaction is registered, and (iv) the collateral is registered. At the stage of servicing, the bank should be able to deal with the annuity for mortgage loan repayments, the necessity to verify whether or not the insurance policy is extended on time and the property taxes paid etc., which also require specific banking technology.

A bank that decides to launch a mortgage lending programme should develop relevant procedures and software, train its staff to use them and prepare special forms of credit documentation etc. Knowing that the risks of the mortgage product were very high, banks were reluctant to engage in the costly development of the necessary know-how in spite of the potential high-profits to be made.

If it had not been for the international donors and the DFIs, mortgage lending would probably still not exist in the former USSR countries. These institutions did much to help eliminate barriers to mortgage lending and to launch mortgage lending systems. The work they undertook to this end nearly always consisted of the same stages (although not all of the countries managed to complete all of them): (i) the creation of a mortgage lending-friendly environment; (ii) the launch of pilot mortgage lending facilities; (iii) an information sharing exercise disseminating the experiences of the pilot facilities to the wider group of local finance institutions; and (iv) the attraction of private funding for mortgage finance. These stages are briefly outlined below.

First stage: Creation of mortgage lending-friendly environment

The first stage included changes in the legislation aimed at reassuring banks that in cases of a borrower defaulting, they would be able to evict the borrower and offset the loss by selling the property. In most countries of the former USSR, a special law (often titled the

[1] Victor Mints is a Project Manager of IFC Central Asia Primary Mortgage Market Development Project. The findings, interpretations and opinions expressed in this paper are the author's and do not reflect those of the IFC. In addition, the Findings, interpretations, statements and conclusions expressed herein are those of the author alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank. The article was reviewed by Ms Paloma Repullo Conde and Mr Daniel Bradley from IUHF.

[2] The following 15 countries used to be part of the USSR: Armenia, Azerbaijan, Belorussia, Estonia, Georgia, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

"law on mortgages") was developed with the support of DFIs. This law: (i) enforced the right to use property as a security for the loan; (ii) in many cases simplified the registration of the title transfer and of mortgages; and (iii) ensured that defaulting borrowers and their family would be evicted in cases of default from foreclosed property. On top of this, to further mitigate banks' concerns, several countries (and regions) committed to create "housing resettlement funds", i.e. public housing into which defaulting borrowers would be resettled if evicted from foreclosed properties.

For some countries it took much longer to pass this first stage than for others. For example, in Russia the legislation in question was adopted in 1997 while in Tajikistan it was only introduced in 2008.

Second stage: Pilot mortgage providers

The second stage started right after (in some cases even in parallel to) the first stage. During this second stage, the first mortgage loans were issued. In most cases this was done by specialised pilot facilities initiated and financed by donors and DFIs. The best known of all the pilot mortgage providers was the Delta Credit Bank – the first Russian bank specialising in mortgage lending. This bank was established in Moscow under a US AID project. There were also other successful pilot mortgage providers such as the Shore Oversees Azerbaijan, launched in 1999 in Baku by the same donor, or the First MicroFinance Bank, established by the Aga Khan Foundation in Tajikistan.

In some cases, the first mortgage loans were issued by local banks supported by re-financing lines and technical assistance provided by DFIs. A good example of this took place in Georgia, where the role of pilot mortgage providers was played mainly by two local banks (TBC Bank and Bank of Georgia), which benefited from US AID re-financing lines and strong technical assistance (including direct supervision of the first loans' underwriting and processing) provided by Shore Bank international.

Third stage: Roll-out

The third stage was a period when local banks started implementing the lessons learnt from the pilot mortgage providers by copying from their experience and launching mortgage programmes of their own.

By the beginning of the third stage, the major obstacles had been overcome and, therefore, nothing stood between the banks and this new lucrative business. While changes in legislation reduced key risks, pilot mortgage lending facilities developed banking procedures, the necessary software and trained staff. The staff that had gained experience by working in pilot mortgage lending facilities were attracted to local banks, to which they brought not only their specialist knowledge and experience, but also copies of banking documents, procedures, requirements and instructions etc. Thereby, local banks obtained all of the necessary elements to start their own mortgage lending operations.

Pilot mortgage facilities in the former USSR countries were mainly staffed with US experts. As such, the mortgage products that these institutions initiated in all countries of the former USSR were products typical of the US – i.e. the fixed-rate long-term self-amortising mortgage loan (FRM)[3]. The US influence was also revealed by the creation, in some of the former USSR countries, of secondary mortgage market institutions SMMI (similar to the FNMA and FHLMC[4]) to purchase FRM loans[5].

Therefore, the knowledge and experience that local staff obtained whilst working for pilot financial institutions, which was then transferred to local banks during the third stage of mortgage market development, was associated primarily with the FRM product. As a consequence, the third stage can be described as the expansion of the FRM product among the local commercial banks.

Funding sources at the third stage of mortgage market development

To issue long-term fixed-rate loans, banks need access to long-term resources. However, the resources can only be obtained from financial institutions that posses long-term savings. All over the world most financial institutions (banks, investment funds, non-life insurance companies, etc.), either do not possess long-term savings or only have them in rather limited amounts. The institutions specialising in the collection of long-term savings are pension funds, life insurance companies and (in several countries) provident funds[6].This also affected financial institutions of the former USSR.

Funding provided by pension funds

Unfortunately, the pension funds could not play the role of providers of long-term funding in the former USSR countries because they only existed on a very small scale. Pension systems of former USSR countries were inherited from Soviet times in the form of pay-as-you-go (PAYG) rather than in the form of funded systems. Under the PAYG system, the pension funds were not needed because pension contributions paid by current workers were immediately distributed to current retirees, instead of being invested in securities. The PAYG system still remains intact in most of the former USSR countries[7].

Only in five out of the 15 former USSR countries (Russia, Kazakhstan, Latvia, Lithuania and Estonia) were mandatory funded systems known as the "second pillar" set up to accompany the PAYG system. Under this second pillar, mandatory contributions of current workers were transferred to pension funds and then invested in financial assets. The growth of second pillar funded systems has been very slow and, up until now, the volume of savings collected by pension funds in these countries has been extremely small. According to data provided by Johan Almenberg and Christiane Nickel[8], in 2005 the total assets of pension funds in Russia were equal to 0.6% of GDP, in Estonia – to 2.8% of GDP, in Latvia – to 0,9% of GDP, in Lithuania – to 0.6% of GDP and in Kazakhstan to 8.6% of GDP[9]. These proportions are quite different from those in the US, where the assets of the pension funds and life insurance companies equal 115% of GDP.

[3] The only exceptions were the Baltic Republics (Lithuania, Estonia and Latvia). In these countries mortgage lending was promoted by Europeans (mostly Scandinavians). As a consequence, the dominant mortgage product in these countries is the Variable Rate Mortgage Loan (discussed below), which is more typical of Europe than the FRM.

[4] The FNMA (Federal National Mortgage Association), known as Fannie May, and the FHLMC (Federal Home Loan Mortgage Corporation), known as Freddie Mac, are institutions whose purpose is to purchase mortgage loans from banks "to help ensure they have funds to lend to home buyers".(See http://www.fanniemae.com/kb/index?page=home&c=aboutus). FNMA and FHLMC dominate the US mortgage market. As of 2008, they jointly owned or quarantined approximately half of all the US mortgage loans.

[5] It is interesting that, like in the US, in most countries of the former USSR there is no penalty for mortgage loans prepayments and there is a requirement that borrowers must provide a title insurance (a product in use in the US to offset the deficiencies of the US property registration system but which is very rarely in use in other countries).

[6] Since provident funds and life insurance companies are not presented in the former USSR countries (life insurance exists in several of them but only in very limited scale) they will not be discussed in this paper.

[7] Kazakhstan is the only exception. PAYG system in this county has been liquidated. Pensions to the current retirees are provided from the budget and are financed by the tax paid by employers.

[8] Johan Almenberg and Christiane Nickel. "Ageing, Pension Reforms and Capital Market Development in the New EU Member States and Other Transition countries". IFN Policy Paper N 17, 2007.

[9] Given that, by law, 50% of Kazakhstan's pension funds assets must be invested in Government securities, the long-term funding that mortgage lenders can obtain from these pension funds turns out to be rather small. See Emily S. Andrews. "Kazakhstan: An Ambitious Pension Reform". WB. Social Protection Discussion Paper Series # 0104.

In 10 out of 15 former USSR countries, this "second pillar" does not exist. However, most of these countries have developed a "third pillar" under which voluntary contributions could be made by workers in order to save money towards a better pension by the time of retirement in pension funds. The volume of long-term assets collected by the pension funds in countries with only the "third pillar" were even more modest than the amounts collected in the countries which had installed the "second pillar". For example, in the Kyrgyz Republic, the legislation that allowed the creation of non-governmental pension funds was adopted in 2001. Up until now there is only one pension fund in this country of which the total assets are approximately $175,000 USD.

The growth of the funded pension system in the countries of the former USSR cannot be substantially accelerated. The creation of mandatory funded pension systems in parallel with the existing PAYG systems requires that substantial proportions of the contributions that workers make to PAYG systems are redirected to the funded system. This redirection can be arranged only if there is another funding which offsets the losses to the PAYG system and continues to provide pensions to current retirees. Given that, in most cases, such funding does not exist and that the current PAYG system often faces substantial deficits, only in very few countries and only a very small share of contributions can be redirected to the funded system[10].

Funding provided by donors

In this context, the DFIs that had initiated the mortgage lending programmes had no choice but to become the major source of long-term funding. In some counties, the DFIs financed the SMMI. In others, they provided equity and debt directly to banks involved in mortgage lending. For many former USSR countries that are still at the third stage of mortgage market development, the DFIs continue to be the only source of long-term funding for mortgage lending. In these countries (Tajikistan is a good example) only financial institutions – clients of DFIs – issue mortgage loans.

Funding provided by state budgets

It should be mentioned that in several (mostly rich oil-producing) countries of the former USSR, fiscal revenues have also been used as a source of long-term funding for mortgages. The governments of Kazakhstan, Russia, Uzbekistan and Azerbaijan have allocated budget resources directly to SMMIs and/or provided state guarantees to the debt issued by SMMIs. A substantial proportion of mortgage lending in these countries has also been provided by state-owned commercial banks, which, benefiting from their *de-facto* state guaranteed status, have borrowed at below market rates.

Specifics of financing used at the third stage

During the third stage of mortgage market development in the former USSR countries, there were only two sources of long-term funding (state budgets and DFIs). Therefore, it can be concluded that mortgage loans in these countries were provided mainly at the expense of taxpayers. Where the state was providing financing, the taxpayers belonged to the same country; whereas when the DFIs were providing financing, the taxpayers belonged to developed countries.

Equally, it should not be forgotten that the vast majority of mortgage borrowers in the former USSR belong to the richest segment of the population. From here it follows that, at the third stage of mortgage market development, taxpayers (including the poorest ones) enabled rich groups in the former USSR countries to obtain better housing by borrowing long-term at favourable rates.

As a result of the introduction of mortgage lending activities, the demand for housing from the rich segment of the populations of former USSR countries increased. The supply growth was limited due to numerous problems including the lack of construction finance, non-transparent land allocation systems, redundant approvals, etc. Since practically no action was taken to solve the supply side problems, the growth of demand during the third stage was translated into house price inflation. Therefore, at the end of the third stage of mortgage market development, it had become more difficult for low-income groups of the population in the former USSR to purchase a new house than it was before mortgage lending was introduced. The irony is that the taxes collected from the low-income segment were used in such a way that that it actually caused the reduction of their housing affordability for them.

To summarise: the results of the third stage of mortgage market development in the countries of the former USSR were rather controversial, with the introduction of mortgage lending resulting in:

- Mortgage loans becoming available only to the rich segment of the population;
- Financing for mortgage loans which benefitted only the rich segment of the population was provided either at the expense of local taxpayers or at the expense of international donors (i.e. foreign taxpayers); and
- Availability of housing for low-income segments of the population decreased as a result of house price inflation caused by the growing housing demand of high-income mortgage borrowers.

A very interesting description of the weaknesses of the third stage of mortgage market development can be found in the paper of Karapet Gevorgyan and Stefan Hirche[11]. Here, the authors suggest that the main reason that the KfW[12] mortgage market development program in Armenia, under which the German Government provided €12 million EURO to re-finance Armenian mortgage loans, was installed due to the fact that, "long-term savings in the economy [were] virtually non-existent". According to this paper, under the mortgage lending system developed in Armenia, at the expense of German taxpayers, the, "supply of [mortgage] loans is still limited to comparatively higher-income groups of the society", and the, "supply of new units [is] outpaced by [enlarged] demand resulting in price inflation instead of improved housing affordability for Armenian households".

Fourth stage: Obtaining funding for mortgages from the private sector

The major purpose of the fourth stage was to make mortgage lending self-sustainable and independent from donors, DFIs and fiscal resources. Funding provided by tax payers via governments, donors and DFIs was supposed to be first complimented with and later substituted by funding provided by the private sector.

Since mortgage lending was based on the FRM product, it was long-term funding that mortgage lenders were supposed to attract from the market. However, since there were no private investors with long-term funding in the former USSR countries, the lenders were forced to attract this from abroad.

[10] It has recently become clear that the redirection of contributions from the PAYG system is unsustainable, at least for one of the five countries that has launched the funding system. The growing deficit of the PAYG system forced Estonia's government to divert all "second pillar" contributions back to the PAYG system, at least for years 2009 and 2010. See: "Pensions in Crisis: Europe and Central Asia Regional Policy Note". Human Development Sector Unit. The World Bank. November 12, 2009.

[11] Karapet Gevorgyan and Stefan Hirche. Promoting Housing Finance Market Development in Armenia. HFI December 2006.

[12] KfW is a DFI (Development Finance Institution) owned by the government of Germany.

Foreign private investors could be attracted only to the most politically and economically stable of the former USSR countries; hence, others were doomed to remain at the third stage until they became attractive to foreign investment or until their own investment base grew to reasonably high levels. Armenia is one such country. The authors of the above cited article, suggested that the funding provided by German taxpayers would not be sufficient to continue the re-financing programme for an unspecified period of time and expressed that, "it would be highly desirable if other DFIs and investors contribute significant amounts of their own"[13].

Only in a few of the former USSR countries, namely in Russia, Kazakhstan, Ukraine and the Baltic republics, was the fourth stage initiated. In the months before the current financial crisis began, a substantial proportion of the mortgage loans in these countries were being financed by private financial institutions based in the developed world. These private institutions either made long-term loans to local commercial banks or purchased mortgage backed securities (MBS) issued by local banks and SMMIs.

Most bankers of the former USSR countries were sure that this source of funding would soon become available for mortgage lending in other former USSR countries as well. Therefore, mortgage programmes and documentation were developed in the format that would make it possible to securitise the loans and to make the securities attractive to foreign investors. These expectations were also encouraged by donors and DFIs, which supported the first overseas securitisations of mortgage loans by the former USSR banks, both by providing technical assistance and by purchasing mezzanine tranches.

The crisis

It is now becoming clear why the system of mortgage lending in the former USSR has demonstrated such a high degree of vulnerability to the current financial crisis. The main reason is that, as a result of the crisis, all three groups of funding sources on which the system relied (foreign private investors, DFIs and budget resources) shrank or even disappeared completely.

Foreign private investors

The opportunity to borrow from the financial markets of developed countries was completely eliminated. The first opportunity to disappear was the option to issue MBS, with the MBS market dying even before the crisis began. Cash flows, in the form of credit lines provided by private financial institutions of developed countries to commercial banks of the former USSR, dried up as soon as the first signs of liquidity constraints became visible.

Financing from DFIs

The DFIs did not have liquidity constrains but they drastically reduced their support to mortgage lending programmes in the former USSR. When the crisis started, the DFIs faced the necessity to choose between two of their major objectives: (i) play a counter-cyclical role and (ii) get a high return on their investments. While the first objective presumed that DFIs were supposed to increase the volume of their mortgage lending as soon as other investors withdrew from the market, the second presumed that they were supposed to retreat completely from the investments that proved to be the most risky in the crisis environment.

Many of the DFIs decided in favour of the second objective. Several credit lines that had already been agreed upon for supporting mortgage lending were re-oriented into small and medium sized enterprises (SME), agriculture or other types of lower-risk lending. Financing from the DFIs, as a source of funding for mortgage lending, therefore shortened. This created an additional downward pressure on housing demand and, hence, aggravated the effect of the crisis on mortgage lending.

State financing of mortgages

When the crisis started, many of the governments that had previously financed mortgages out of their budgets also substantially reduced the volume of their activity in this sphere. The governments decided that, in times of crisis, they had more important targets for the budget resources than the financing of home purchases for rich citizens and, therefore, reduced the volumes of funding provided for mortgage lending. The resulting reduction of demand further deepened the crisis. This forced the governments to re-start financing mortgages from the state budgets. For example, after the eruption of the crisis, the Azerbaijani SMMI (Azerbaijan Mortgage Fund) stopped purchasing mortgage loans because the Government had stopped financing this fund. This had a devastating effect on housing demand in the country. However, in July 2009, the Azerbaijan Government changed its attitude and provided funding with budget financing and guarantees from the Central Bank.

A similar situation occurred in Kazakhstan where the volume of local SMMI (Kazakhstan Mortgage Company) operations was reduced to a minimum until a special recovery programme was launched in January of 2009, with c. $1 bn. USD earmarked for purchasing and restructuring mortgage loans. In Russia, within the anti-crisis programme initiated in June 2009, the Russian SMMI (Agency for Housing Mortgage Lending) received 60 bn. rubles (approximately $2 bn. USD) to purchase mortgage loans from commercial banks. Besides that, the Russian Government promoted mortgage lending by providing support to state-owned banks and by creating substantial tax incentives for house buyers.

Indeed, it can be stated that for many former USSR countries flows of funding for mortgage lending disappeared completely. For others, relying for the financing of mortgages on their governments' budgets or on the support from donors, the financing remained but was reduced substantially.

Under these circumstances, many banks were forced to terminate their mortgage lending programmes. Money spent by these banks on developing banking technologies, purchasing software, training staff, advertising mortgage products, etc., was therefore lost and numerous trained mortgage lending professionals were fired. Many bankers of the former USSR countries now consider that their involvement in mortgage lending was a mistake. Will they re-launch mortgage lending operations once the crisis is over? What lessons will they take from their experience to date? How will they arrange their funding strategy? What will the post-crisis period of mortgage market development look like?

Life after the crisis

Two major lessons can be extracted from this crisis: (i) a mortgage lending system is not stable if it is based on foreign resources; and (ii) poor people suffer if the promotion of mortgage lending is not accompanied by measures that increase supply. From here, it follows that the re-launch of mortgage lending in the former USSR countries should: (i) be based on domestic sources of funding; and (ii) be accompanied by the development of housing supply.

Supply side development

Measures that increase supply should eliminate the numerous obstacles which hindered the development of housing supply in the former USSR countries. The obstacle that DFIs can help to eliminate is the lack of construction finance. Banks in these countries are reluctant to finance

[13] The authors did not, however, speculate about what would happen if the funding was not contributed.

construction projects due to: (i) uncertainties in legislation; and (ii) lack of know-how. The shortcomings in the legislation are associated with the impossibility to use building under construction as collateral to ensure that, in case of developer/borrower default, the construction permit will remain valid, to use escrow accounts for pre-sale deposits, etc. The lack of know-how is substantial because the structuring of construction finance projects requires a level of understanding and an adequate hedging not only of financial risks but also of numerous construction risks (e.g. mistakes in design, delays in construction, accidents, defaults of suppliers, contractors or sub-contractors, etc.). Managing these risks requires engineering knowledge and knowledge of hedging techniques that local commercial banks do not possess.

The promotion of construction finance should consist of the same stages as the promotion of mortgage lending. The legislation should first be changed and then pilot finance projects should be constructed based on the know-how of developed countries. The role of DFIs in the initiation of construction finance should be similar to the role they played during the first two stages of mortgage lending development. If in re-initiating mortgage markets after the crisis the DFIs refrain from developing construction finance simultaneously with the revival of mortgage lending activities (in the way they did pre-crisis), we will again face house price inflation and a reduction of housing availability for the low-income segments of the population.

Usage of domestic resources

There are three types of domestic resources that can be used for mortgage lending: (i) short-term savings in banks, insurance companies, investment funds, etc.; (ii) long-term savings collected by institutional investors (pension funds, life insurance companies, housing provident funds, etc.); and (iii) long-term savings in specialised contract savings – housing finance institutions (bausparkassen). Which of these options should be used to fund mortgages in the countries of the former USSR and what role could the DFIs play in promoting the use of different funding sources?

Long-term savings collected by institutional investors

As discussed above, domestic long-term savings are practically non-existent in most of the former USSR countries. A pension reform has been launched in several of these countries, which will hopefully create the domestic long-term funding sources required. From here it follows that the promotion of the mortgage lending model based on long-term resources should be conducted only in these countries and only as a part of an integral financial market development strategy. This strategy should cover the mortgage market development as well as that of the pension system and funding market developments.

To avoid the same mistakes made during the pre-crisis period, a schedule for the promotion of mortgage products based on long-term resources should be considered in conjunction with the rate of the growth of assets of domestic long-term investors. International donors providing long-term funds for mortgage lenders should clearly understand the amount of time that local long-term institutional investors will require to mature and they should therefore make a commitment to continue financing the FRM loans until this happens. DFIs that initiate long-term funding-based mortgage lending operations, knowing that local institutions may be forced to cancel these operations when the funding provided by the DFI ends, behave in a dishonest way toward the local institutions. Such DFIs probably get high returns on their investment but the developmental impact of the investment is worse than low. It is negative.

Short-term savings

Short-term savings cannot be used for fixed-rate mortgages because of the high interest rate risk and liquidity risks. Since the only product available in most of the former USSR countries is a fixed-rate long-term mortgage, short-term savings cannot be used as a source of funding. The only way to undertake mortgage lending based on these savings is to create a new product – a Variable Rate Mortgage (VRM). The VRM is a mortgage loan under which the loan interest rate is changed in parallel with the changes in the market price for short-term funding. The major shortcomings of this product are: (i) the product does not remove the interest rate risk, but transfers it from banks to borrowers; consequently if market interest rates rise, borrowers are subject to payment shocks that, in turn, may result in massive defaults; and (ii) liquidity risks remain with the lender.

The promotion of these products in the former USSR countries encounters numerous problems that can only be solved if substantial amounts of technical assistance are provided by DFIs. Due to the high-risks associated with the VRM product it should be strictly regulated. The regulator should limit the level of risk that can be transferred to borrowers and should ensure that the risk is clear to and understood by the borrower. Developed mechanisms for managing these risks do exist, such as interest rate and payment caps, the modification of the VRM into dual-index form, etc.; however, the regulators of former USSR countries are not familiar with these mechanisms and they therefore require technical assistance to undertake such a role.

The VRM is based on making changes in lending rates in accordance with the changes in funding rates. To ensure that this actually takes place, there should be a transparent system for measuring the dynamic of funding rates and presenting them in the form of an index. The index showing changes in the funding rates should be developed by a trustworthy institution so that it can be accepted by the whole market. In most of the former USSR countries, there are no institutions that have the necessary knowledge and technology to collect the necessary information and thereby develop a reliable index. This knowledge and the necessary technology could be provided for under the technical assistance programmes of DFIs.

Furthermore, a very significant problem is that the VRM is a much more complex banking product than the FRM and banks of the former USSR countries do not possess the necessary know-how to manage it. They require technical assistance in order to develop the necessary underwriting and servicing procedures, documents, manuals and software etc.

To summarise, the promotion of the VRM in former USSR countries is a very complicated aim requiring substantial technical assistance to bankers, regulators, public relations specialists, statisticians, etc. The role of DFIs here should be to provide technical assistance in combination with short-term funding for pilot mortgage programmes.

Specialised contract savings institutions (SCSI)

Specialised contract saving institutions offer great advantages to the countries of the former USSR. These institutions make it possible to verify the creditworthiness of borrowers that do not have official ("white") income. The vast majority of employers in the former USSR trying to avoid taxation pay a substantial part of their employees' wages in cash, so numerous potential borrowers have difficulty in proving their real income.

Nevertheless, the SCSI system has not been developed in most of the former USSR countries. There are two reasons for this. Firstly, such institutions can be established only if special legislation and regulations are enacted. Secondly, the contract savings model is not convenient for borrowers. For example, a borrower wishing to obtain a loan from a contract savings institution should first save money in this institution for a substantial period of time. Therefore, the borrowers should either start saving before they require a house or they should wait until they become eligible for receiving a loan even if they already require a house.

In the countries where the SCSI system is popular the inconvenience mentioned above is offset by low-interest rates on SCSIs' loans compared to loans offered by banks. From here it follows that the contract savings system is easy to develop if the interest on bank loans is high but hard to develop if the market interest rate is low. In the environment where the FRM obtain cheap funding from the government and DFIs, contract savings schemes cannot compete and are not therefore able to develop. This means that if strategy of mortgage marked development for a particular country envisages creation of SCSI system, no DFI should provide funding for FRM mortgages in this country. Otherwise the DFI would work against this strategy.

Conclusions

The revival of mortgage lending in the countries of the former USSR is inevitable. It would be very important that DFIs are involved in the revival. However, to ensure that the mistakes made before the current crisis are not repeated, all activities of the DFIs related to mortgage lending (investments in mortgage lending, advisory services to banks, regulators and SMMI, legislative work, etc.), should form an integral part of the general strategy of the development of financial markets. As such, these activities should be coordinated between themselves and with the activities related to the creation of institutional investors, development of financial markets and restructuring of housing supply systems.

Three Pillars of Mortgage Credit Risk Management: A Conceptual Framework and the Case of Korea

↳ Man Cho and Kyung-Hwan Kim[1]

Introduction

The fall of the subprime mortgage market in the U.S. demonstrates the critical importance of balancing two key aspects of expanding mortgage lending in a given country: that is, serving more under-served consumers, especially income or wealth constrained households; and, at the same time, properly managing credit risk in mortgage lending. These issues can be described as two sides of the same coin in that pursuing one without appropriate consideration of the other may lead either to a systemic risk as the economic environment shifts, as was the case in the subprime and Alt-A mortgage markets after 2007, or to a limited financial service to borrowing constrained households, as is the case in a number of emerging mortgage markets in Asia and other regions.

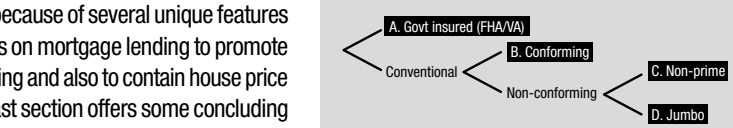
An important policy question in this context is how to enhance the measurement and management tools to control mortgage default risk so that a country's housing finance system can extend its service to a larger number of marginal borrowers. We aim to address this issue by surveying three pillars of mortgage credit risk management – risk screening via underwriting rules, risk-sharing by developing mortgage insurance programs, and risk-based capital requirements. In doing so, we will document the current state of play for each pillar, as observed in various countries, and we will also incorporate on-going policy debates on reform in the post-crisis world to the extent possible.

The subsequent sections are organised as follows. First, we briefly document how the U.S. subprime mortgage lending sector failed to manage mortgage credit risk. Second, we discuss conceptual underpinning and industry best practice with regard to each pillar of managing mortgage credit risk. Third, we overlay earlier findings to the case of the Korean mortgage market. Korea offers an interesting case study because of several unique features of the regulations on mortgage lending to promote prudency in lending and also to contain house price increases. The last section offers some concluding remarks with several policy implications.

Failure of risk management – The U.S. subprime mortgage market

To put the U.S. subprime mortgage debacle in perspective, it would be useful to start with a description of the structural segmentation of the U.S. mortgage market. As is illustrated with Figure 1, the U.S. mortgage market is segmented essentially in two dimensions. First, the type of mortgage insurance (MI) divides the non-conventional (with the government-initiated MI programs) and the conventional (no government MI) markets. The conventional market is further divided into the "conforming" market (where loans satisfying all underwriting rules required by Fannie Mae and Freddie Mac, or Government Sponsored Enterprises (GSEs), are traded) and the "non-conforming" market (with loans violating one or more underwriting criteria of GSEs). In the conforming market, those loans with an LTV higher than 80% are required to have private MI. Finally, the non-conforming market is segmented into the jumbo market (where loans exceeding the loan limit for GSEs' acquisition are transacted) and the non-prime, or B&C[2], market (where GSEs' funding criteria are violated in terms of consumer credit quality, documentation requirements and product types). The last segment is the origin of subprime and Alt-A mortgage loans.

Figure 1.
Segmentation of the U.S. mortgage market



A. Government-insured (FHA/VA): Explicit government guarantee; Securitized by Ginnie Mae

B. Conforming conventional: Implicit government guarantee; Securitized by GSEs

C. Non-conforming, non prime: No government guarantee; Securitized by Priavte Labels (PLs) via CDO & CDO-Squared

D. Non-conforming, jumbo: No government guarantee; Securitized by PLs

Among various forms of financial risks involved with mortgage lending, the borrower's default risk is the most universal and primary type in most countries. Although the prepayment risk has been key in the "prime" mortgage market in the U.S. (i.e., the conforming conventional mortgage market) since the introduction of mortgage-backed securities (MBS) in the 1970s, it is largely the artefact that the predominant mortgage products therein are long-term (15 or 30 year maturity) level-paying fixed-rate mortgages (FRMs) with no prepayment penalty. With a handful of exceptions, mortgage markets in most other countries, as well as in the "nonprime" market in the U.S. (the subprime and Alt-A markets), are dominated by adjustable-rate mortgages (ARMs) with prepayment penalties. Hence, while the prepayment risk is not so critical outside the U.S., the default risk caused by changes in the economic environment, or by variations in borrower and loan attributes, should be a primary target of proper measurement and control.

[1] Man Cho is a professor at KDI School of Public Policy and Management, Seoul, Korea. Kyung-Hwan Kim is a visiting professor at the School of Economics and a research fellow at the Centre for Asset Securitization in Asia of the Sim Kee Boon Institute for Financial Economics, Singapore Management University, and a professor of economics at Sogang University, Seoul, Korea. Dr. Kim acknowledges a research grant from Sogang University. The Findings, interpretations, statements and conclusions expressed herein are those of the authors alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank or the institutions the authors work for or are affiliated with. The authors are not employees of the World Bank Group.

[2] Prior to the usage of the prime vs. subprime differentiation, prime mortgages were in general referred to as A and non-prime mortgages as B&C.

There is growing evidence indicating that managing credit risk embedded in the U.S. subprime mortgage loans has failed on several fronts.[3] First, thanks to the ample liquidity available from 2002 until 2006, the underwriting quality has been noticeably compromised, as shown by the rising shares of highly risky product types, such as the 2/28 Option ARMs[4], the 40-year maturity ARMs overlaid with low- or no-documentation requirements, and the very low consumer credit scores. Second, due to the rapid regime shifts in two economic variables - the rise of short-term interest rates and inverted yield curve from late 2005 and the decline of home prices that started in mid 2006 – defaults and credit losses from subprime and other mortgage products rose to unprecedented levels from 2007 onwards. This was a stress that none of lenders, MBS issuers, or rating agencies had anticipated in their risk assessment. Third, the two shock waves in the global financial system – one in the second half of 2007, caused by the closing of subprime-focused hedge funds affiliated with Bear Stearns (in June) and BNP Paribas (in August)[5], and another one in late 2008, caused by the bankruptcy of Lehmann Brothers – ended the borrow-short-lend-long business model adopted by investors of subprime mortgage based asset-backed securities (ABS) and the collateralised debt obligations (CDO), leading to a severe credit crunch and a freeze in the funding market.

Tools for managing mortgage credit risk can be divided into three classes – the front-end risk screening via underwriting criteria, the back-end risk control by reserving capital against expected and unexpected credit losses, and the risk-sharing with third parties through mortgage insurance (MI) and other credit hedging mechanisms. In order to have a proper execution of these tools, financial institutions should develop and utilise various data and model inputs and the necessary infrastructure for credit risk measurement.

The first category includes various underwriting criteria set by either private or public lending-funding institutions. The typical variables are the loan-to-value (LTV) ratio (or the maximum given other loan characteristics), debt-to-income (DTI) ratio, consumer credit score (e.g., FICO in the U.S.), interest rate variability (ARM vs. FRM vs. hybrid), documentation requirements, property type (e.g., single-family homes vs. multiple-unit homes), loan purpose (primary residence vs. investment home), etc. In the U.S., the mortgage market is segmented as shown in Figure 1, based on whether the GSEs' (Fannie Mae and Freddie Mac) funding conditions are fulfilled in their entirety (the conforming conventional market) or not (the jumbo and non-prime markets). As the internet-based automated underwriting system (AUS) was widely used from the mid-1990s, the mortgage scorecard – a summary measure of creditworthiness of borrower and loan product – became an important tool for the credit risk assessment.

The second category includes various risk-sharing arrangements such as a protection of investors from credit losses caused by mortgage default. Historically, the main method applied was the insurance contract provided by private mortgage insurers or by government or quasi-government entities in the U.S. (e.g., GSEs and FHA). Nevertheless, more recently, credit default swaps (CDS) have been widely used in the non-prime mortgage MBS sector as external credit enhancement.

The third category, the back-end risk management tool, includes the risk-based capital (RBC) requirement, which is about to enter a new improved phase, thanks to the Basel II capital regulation, in terms of measuring the mortgage credit risk. A key assessment tool discussed for this group is the economic capital (EC), essentially a value-at-risk type sensitivity statistic. We will discuss each category in greater details in the following section.

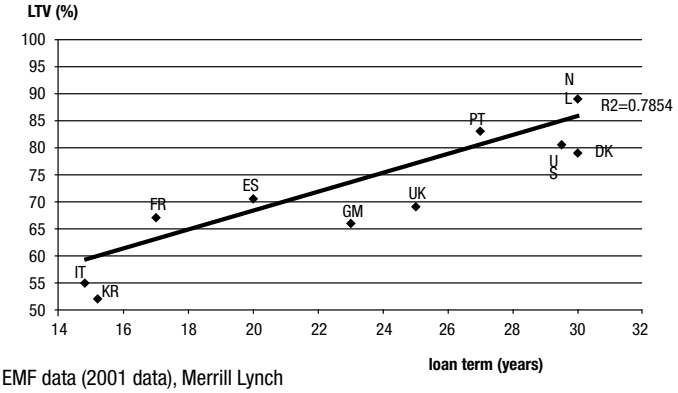
Pillar I – Risk-based mortgage underwriting

LTV and DTI restrictions

LTV and DTI are used as important indicators of mortgage default risks in most countries. As to the former, the theoretical underpinning is that a borrower has an incentive to default if and when she faces a negative home equity situation (i.e., effective LTV exceeding 100%, or market value of collateral falling below unpaid loan balance). This phenomenon is referred to as "the distance-to-default" theory or mortgage default driven by a "willingness-to-pay" problem. According to the theory, the ex ante probability of the negative equity, or LTV going above 100%, depends on three factors – initial (or origination) LTV, volatility in home price process, and loan maturity. Hence, setting a maximum LTV as an underwriting criterion serves to ensure a cushion from the 100% LTV threshold.

In most developed and emerging mortgage markets, the maximum LTV is set in two tiers, that is, those with and without mortgage insurance (MI). Typical LTV range without MI is 60-80%: 80% for the U.S., Spain, France, Italy and Poland; 75% for Canada; 70% for Korea and Hungary; and, 60% for Germany. With mortgage insurance, the acceptable maximum LTV approaches 100% in most developed countries. The typical (on average) LTV roughly follows the maximums with no MI, with some exceptions: The Netherlands (85%); the U.S., Denmark and Portugal (about 80%); England, Germany, Spain and France (about 75%); and Italy and Korea (about 45%). According to data provided by the EMF (2005), among the EU countries there is a positive correlation between the average LTV and average loan maturity that is the higher the typical LTV, the longer the maturity (see Figure 2 below). Other studies also demonstrate that relaxing LTV restrictions tends to have a larger impact on propensity to home ownership, compared to changing income constraints (or the DTI restriction).

Figure 2. Correlation between LTV and loan term in Europe



Source: EMF data (2001 data), Merrill Lynch

[3] There is a growing list of studies on the subprime mortgage debacle, including Greenlaw et al. (2008), Reinhart and Rogoff (2008), Gwinner and Sanders (2008), Gorton (2008), Calomiris (2008), Cho (2009), and Linneman and Cho (2009).

[4] Option ARM is a hybrid mortgage contract, which offers a low-payment (usually interest-only or negative amortization) and fixed-rate period in the first 2 or 3 years and a variable-rate period thereafter. Although it makes the initial mortgage payment very much affordable, the product usually incurs a payment shock at the time of the rate reset, resulting in a sharp increase in mortgage delinquency.

[5] See Achariya and Richardson (2008) for the chronicle of the 2007-2008 financial crisis.

However, the theoretical model option of mortgage default described above has a shortcoming in that it ignores other important determinants, in particular, the payment burden or the borrower's ability to pay back the loan measured by DTI. Although there is no explicit threshold such as 100% LTV that has a clear theoretical justification, a higher DTI implies that the borrower is more likely to run into a problem repaying the loan, a phenomenon often known as the default caused by an "ability-to-pay" problem. Actual DTI thresholds are in the range 30-45% for most European countries and up to 50% in Hong Kong (Batchvarov et. al, 2003). In the U.S., the maximum DTI used to be set at two levels, 28% for the mortgage payment to income ratio (or front-end ratio) and 33% for the total debt service to income ratio (or back-end ratio). However, the use of DTI as a risk indicator has become less prevalent since the introduction of the automated underwriting system (AUS) and the mortgage scoring system in the mid 1990s. Currently, the maximum DTI is generally set at a higher level, e.g. 40%.

Another issue with regard to the DTI is that the ability to repay is influenced by various other factors such as consumption behaviour and borrower's wealth or cash reserve. Furthermore, accurate measurement and validation of borrowers' income is also a challenge in many countries.

A lesson from the 2007-2008 financial crisis is that the DTI restriction needs to address the post-origination payment shock as well. That is, the majority of subprime mortgage loans entail a steep increase in DTI after 2-3 years from origination, e.g., the 2/28 or 3/27 Option ARMs. Although the usual DTIs of those loans were about 50% at origination, they generally went up to above 95% after 2-3 years, when the mortgage interest rates were reset and principals started being amortised, leading to large scale defaults and delinquencies in the subprime lending sector. (Mason and Rosner, 2007). Overall, the importance of DTI has re-emerged in the aftermath of the subprime mortgage debacle. Furthermore, a dynamic and countercyclical regulation on LTV and DTI by an independent supervisory body is also being proposed. (Brunnermeier et al., 2009)

The Use of Mortgage Scoring Model

When underwriting a mortgage loan, lending institutions consider various other risk factors in addition to DTI and LTV. As was mentioned earlier, the use of mortgage scoring has become prevalent in the U.S. since the mid-1990s. Similar to the consumer credit score, e.g. FICO, the mortgage score is a summary measure of creditworthiness of loan application, reflecting borrower, loan and collateral specific attributes observed at origination.

There are two guiding principles in developing and applying the mortgage scoring technique. First, the predictive power of the data collected at the time of underwriting decays over time and the scoring model is usually estimated with a distinct time limit (e.g., probability of early default or delinquency within 2 or 3 years from origination). In that way, one can separate borrower or product driven idiosyncratic risks from those caused by systematic risk factors (e.g., home price dynamics). Second, the model estimates weights for different right-hand-side variables in predicting the chosen credit event, based on which one can gauge compensating effects of different risk drivers: that is, ceteris paribus, what impact an increase of LTV from 60% to 70% would have on the left-hand side variable (i.e. the probability of default or delinquency) and how much change in other right-hand side variable would be required to compensate that change.

Quoting from the industry practice, the consumer credit score, such as FICO, is usually far superior to other variables in terms of marginal contribution to predict early delinquency or default. Other significant variables in the order of predictive power are LTV, product type (e.g., ARM vs. FRM), DTI, cash reserve, loan purpose and documentation type. Once a scoring model is developed in this way, it can be used for segmenting the portfolio of mortgage loans based on the risk level as well as in developing next-step loan performance models, such as a model for probability of lifetime default event. As the scoring model is developed and used in business decisions, it is also important to validate model parameters periodically, via out-of-sample or out-of-time performance tests and model validation statistics.[6]

Pillar II – Risk-sharing via Mortgage Insurance

As was mentioned earlier, most countries institute mortgage insurance (MI) program by relaxing the LTV restriction, in order to extend the housing finance service to wealth-constrained households. MI is a type of external credit enhancement, which was first started in the 1930s by the Federal Housing Administration (FHA) in the U.S. to provide a government guarantee for long-term fixed-rate mortgage loans. The FHA's success led to the development of private mortgage insurance in the U.S. in the 1950s and mortgage insurance then expanded to other countries in the 1990s and 2000s. MI is generally categorised into public and private according to the ownership of the operating entity, and into complete and partial coverage programme according to the loss coverage rate.

Increasing the risk tolerance via MI requires the use of a model-based credit risk assessment, which is a refined differentiation of mortgage credit risks by using the scoring and other loan performance models. The differentiation can be made based on the same set of risk drivers as discussed above, i.e., FICO, LTV, DTI, mortgage product type, property type, and documentation level. The Table 1 below provides an example of such differentiation, along with the loss coverage ratio and insurance premiums to be charged.

Table 1 Fannie Mae's interest surcharge on mortgages with Mortgage Insurance

Product	80-85% LTV	85-90% LTV	90-95% LTV	95-97% LTV	97-100% LTV
FRM, w/term > 20 years	12%	17% or 12% &.375	25% or 18% & .75	35% or 18% & 1.75	NA
FRM, w/term ≤ 20 years	6%	25%	30%	35% or 18% & 1.75	NA
Cash-out refi, w/term > 20 yr	12%	12%	NA	NA	NA
Cash-out refi, w/term ≤ 20 yr	6%	25%	NA	NA	NA
ARMs	12%	25%	30%	NA	NA
7-yr Balloons	12%	25%	30%	NA	NA
MCM[1]	25%	30%	35%	35%	35%

[1] MyCommunityMortgage, the special loan products for wealth- and income-constrained households

Source: Guide to Underwriting with Desktop Underwriter (September 2004)

[6] Various model validation statistics can be used, such as Kolgomorov-Smirov statistics or Gini coefficient (alternatively called as Cumulative Accuracy Profile). See Comptroller of the Currency (2006) for details.

In the countries in which mortgage insurance is already in operation or a mortgage insurance programme is planned to be introduced, either both public and private MI coexist or only public MI exists. Exceptions to this general tendency include England, Italy and Spain (see Table 2). Australia also has only a private MI, but it was transformed from a public programme. Public MI tends to better target wealth-constrained households because it usually sets a maximum on the loan amount or the property value. One interesting case to mention is the Hong Kong Mortgage Corporation (HKMC). After being created in 1997, HKMC developed an MI program as a joint venture with private lending institutions and the maximum LTV on mortgages were raised from 70% to 95%.

Table 2 Mortgage Insurance in selected countries

Country	Type of MI, Pu	Loss Coverage
United States	Public MI: FHA, VA Private MI: 7 private insurers	Public: 100% Private: 20~30%
Canada	Public MI : CMHC; & Private MI providers	Public: 100% Private: Below 100%
Australia	Private MI: 3 private insurers	100% or below
New Zealand	Private MI: 3 private insurers	20~30%
England	Private MI providers Mortgage Insurance Guaranty (MIG)	Below 100%
France	Public MI	100%
Italy	Private MI	20~40%
Spain	Private MI	20~40%
Netherland	Public MI	100%
Sweden	Public MI	Below 100%
Hong Kong	Public-private joint MI	30% or lower
Lithuania	Public MI	100%
Latvia*	Public MI	22%
India*	Public-private joint MI	n.a
Thailand*	Public MI	n.a
Kazakhstan*	Public MI	30%

* for countries with MI being under development (as of June 2005)

Source: Korea Housing Finance Corporation (2005)

Pillar III – Risk-based capital requirements

The adoption of Basel II, the new and upgraded capital regulation being implemented in a number of countries, will enhance the measurement of mortgage credit risk. Furthermore, lending institutions will utilise the Economic Capital (EC) as a tool for internal allocation of capital across different business lines or mortgage products. The EC is a value-at-risk (VaR) type sensitivity measure that can be used in estimating unexpected, or stress, credit losses. In measuring the EC, the mortgage scoring model, along with PD (probability of default) and LGD (loss given default) models, should be used as input, first, to segment a mortgage portfolio and, second, to estimate the expected (mean) credit losses and unexpected (stress) credit losses. Along the model inputs, simulated future economies, e.g., a large number of future home price paths, are also used to measure the EC.

To illustrate, consider a bank with a large mortgage portfolio. For the entire portfolio (or alternatively, for a given segment of the portfolio), one can apply a large number of scenarios about the future home price to estimate credit losses (say, for the next year) corresponding to the generated home price paths. Next, the estimated losses can be rank-ordered from the lowest to the highest levels, as exemplified in Figure 3. The mean loss in this example represents the expected loss (EL), the base for computing the amount of cash to be reserved for the next year. The stress loss, say 95th percentile credit loss, represents the unexpected loss (UL), and the EC is defined as the difference between the two, i.e. EC = UL – EL. Furthermore, the EC calculated for different mortgage types can be used in the risk-based pricing of the credit risk (i.e., computing risk spreads). Table 3 below, taken from Lin, Cho and Yang (2009), shows that the EC varies widely across different mortgage products: 3.6% for FRM, 6.9% for conventional ARM and over

Figure 3 Rank-ordered credit losses

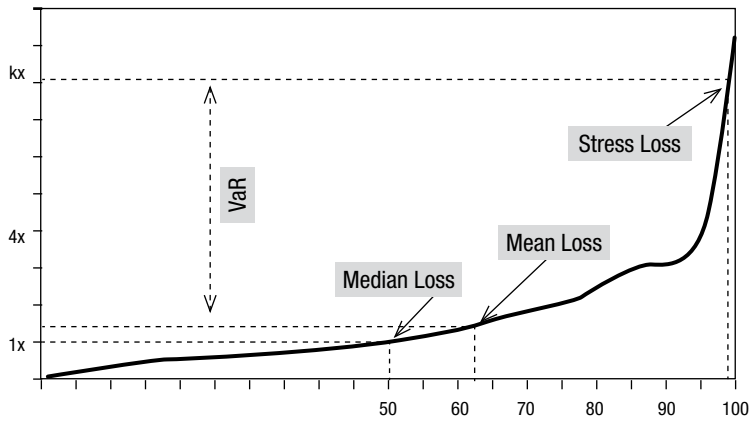


Table 3 Probability of default and capital requirements by mortgage loan type
PD and Capital among Products

Product	PD (Base)	PD Multiplier (Base)	PD (stress)	PD Multiplier (Stress)	Economic Capital	Basel II Regulatory Capital	RC Multiplier	EC as % of RC
FRM30	1.63%	1.00	7.35%	1.00	3.68%	6.19%	1.00	0.59
ARM NOCAPS	2.27%	1.39	17.95%	2.44	9.75%	7.59%	1.23	1.28
ARM511	1.69%	1.04	13.00%	1.77	7.04%	6.34%	1.02	1.11
ARM511_ TEASER	2.74%	1.68	13.67%	1.86	6.97%	8.50%	1.37	0.82
OPTION ARM	4.98%	3.06	32.10%	4.37	17.02%	11.83%	1.91	1.44

Note: Economic capital is computed assuring LGD 60 percent for PD (Stress) and LDG 45 percent for PD (Base Case)

17% for Option ARMs. The larger the gap between the EC and the Basel II required capital (the former being bigger than the latter) becomes, the riskier the loan product is. In general, the EC is a more refined and more continuous loss estimate and, as such, it can enhance the efficiency in measuring and managing mortgage credit risk.

To help prevent a market failure similar to the subprime mortgage debacle, there has been on-going debate on how to reform the capital regulation, in particular, in a more dynamic and countercyclical direction. One specific reform idea is to reflect the speed of leverage increase (by a financial institution), above and beyond long-term industry-wide average change, into the regulatory capital requirement.[7] Further research and policy discussions on how to enhance the current static capital regulation regime are expected to follow.

The Case of Korea

An overview of the mortgage market and rationale for government intervention

The Korean mortgage market has gone through a sea change since the outbreak of the Asian currency crisis in the late 1997. Prior to the crisis, mortgage lending was small in volume and was dominated by two public sector institutions, the National Housing Fund, a government fund, and the Korea Housing Bank, the state housing bank. The mortgage lending rate was controlled by the Government and non-price criteria were employed by lenders to ration housing loans among a large number of potential borrowers. The mortgage market was liberalised in 1998 and a secondary mortgage institution was established in 1999. Since then, the mortgage market has grown remarkably in terms of both the volume of mortgage lending and the variety of loan products available to consumers. The size of the mortgage sector measured in terms of the ratio between mortgage debt outstanding and GDP expanded remarkably from 13% in 2000 to 35% in 2006. Regarding the type of mortgage products, the predominant type is an adjustable rate mortgage, which comprises 92% of total mortgage loans outstanding. The share of long-term mortgages with 10 years or longer loan period rose from 20.7% to 59.6% in 2008[8] (Cho and Kim 2009).

The rapid growth of mortgage lending has helped more Korean households to become homeowners. However, it has also been singled out as a key driver of the house price increases since 2001. In fact, a strong positive correlation is found between the increase in mortgage lending and the appreciation of house prices. There is also a concern that the house price boom driven by cheap mortgage credit may become unsustainable and impair financial stability were house prices to fall sharply. House price stability has been the overarching objective of government policy in Korea. Although Korea's national average rate of house price appreciation was one of the smallest among the advanced economies (Renaud and Kim 2007), a sharp increase in the price of condominiums in the hottest submarkets of Seoul became a serious public policy issue. There was a fear that the price increase in the hottest markets could spill over to neighbouring districts and onto the whole city and the metropolitan area surrounding it. Consequently, the Government introduced various policy packages aimed at suppressing housing demand and containing the house price increase during the 2002-2007 period. The fact that house price increases were localised weakened the case for raising the interest rate. Therefore, the Government resorted to various regulations and also enacted a new tax. Regulations on LTV and DTI were introduced in this context.

LTV and DTI regulations

LTV regulation was first introduced in September 2002, until which time, the LTV limit had been between 70% and 80%. The maximum LTV was lowered to 60% for the areas designated as Speculation Overheated Areas comprising Seoul and some of the surrounding areas. The 60% limit was expanded to the whole country in October 2002. It was lowered further to 50%, and then to 40% to selected markets in June and November 2003, respectively. DTI regulation was first introduced in September 2005, whereby a 40% limit was to be applied to the buyers of houses worth 600 million won (or about $600,000 at that time) in those markets prone to speculation. As the house price boom cooled and took a downturn following the outbreak of the global financial crisis in 2008, the Government raised the maximum LTV back to 60% and lifted the DTI regulation altogether excepting in the hottest submarkets of Seoul. However, the regulations were introduced again in July and September 2009 as house prices started rising again.

The evolution of regulations on LTV and DTI described above demonstrates that the micro-prudential regulations were targeted at specific markets where house prices were rising fast. Such geographic area specific application of LTV and DTI regulations is unique to Korea and not found in other countries.

There are few other relevant characteristics of the Korean case. First, there is a possibility that the effective LTV might be higher than that on the primary mortgage because a piggy bag loan can

[7] See Brunnermeier et al. (2009) for further details.

[8] One reason for the increase was the introduction of a ceiling on DTI, which will be explained below.

be taken from non-bank financial institutions or chonsei deposit can be used as a further leverage[9]. This means that an effective LTV regulation should be designed in terms of the combined LTV comprising all such sources of funds.

Mortgage insurance

Korea has no public sector mortgage insurance system although private MI started in late 2007. As was mentioned above, this contrasts with the practices in many other countries in which the public sector MI is the only option, or it exists side-by-side with private MI. To be more specific, the Korean MI market consists of Seoul Guaranty Insurance Company (SGIC) and Genworth. SGIC provides mortgage credit insurance for loans with LTV of less than 60% and mortgage insurance for loans with LTV ranging from 60% to 80%. However, Genworth stopped operation in the aftermath of the global financial crisis. As a result, the market for mortgage insurance is currently a virtual monopoly and leaves room for improvement in risk management of mortgage loans.

The potential demand for mortgage insurance is substantial. Distribution of LTV in mortgage loans purchased by the Korea Housing Finance Corporation, the government-owned secondary market institution, suggests that 88% of such loans have LTV in the 50-70% range as can be seen from Figure 4.

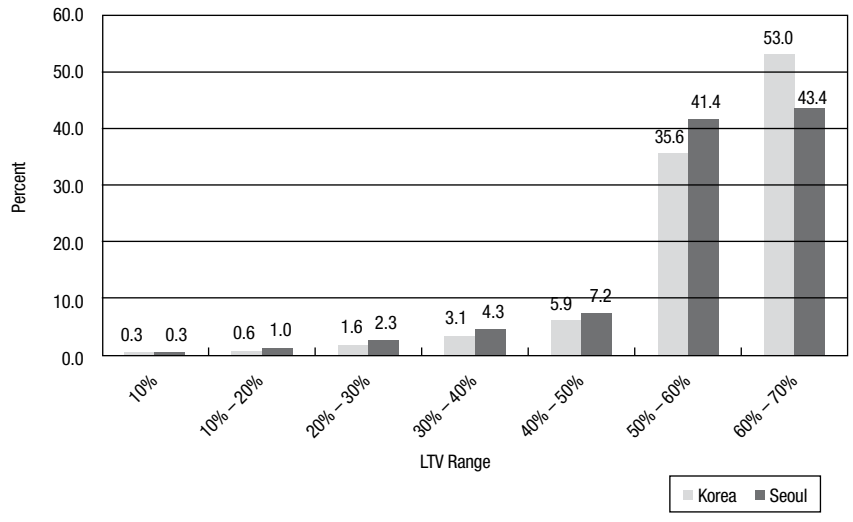
Also, mortgage loans would become much more accessible to lower-income households (i.e. below the lowest 40- 60% in income distribution) if the LTV ceiling could be raised from the current level of 60% to 80% through mortgage insurance. For example, Cho and Min (2009) show that, with 40% DTI and 8% mortgage interest rate assumed, the share of borrowing-constrained households in the 40-49 age group and the bottom second income quintile would drop from 75% to 53% if LTV was raised from 60 % to 80%.

Capital regulations for mortgage lending

Mortgage lending institutions and the supervisory authority in Korea are currently preparing the implementation of Basel II, which is expected to upgrade the credit risk measurement techniques in the Korean mortgage industry. For this new capital regulation regime, most major banks in Korea aim to adopt the Internal Ratings Based capital (IRB) estimation. To date, only one bank is approved by the supervisor for Advanced IRB approach, while most other big banks have acquired the approval for Standard IRB method.

There are several policy issues regarding the implementation of the new capital regulation. First, as discussed earlier, making the capital requirement more countercyclical via a dynamic provisioning method, is what policy-makers, practitioners and academia in Korea will have to deal with in further advancing this back-end risk management tool. Second, in the U.S., there has been empirical evidence suggesting that implementing Basel II, especially the IRB approaches, will benefit big banks more than their smaller counterparts, mainly because larger banks have an advantage in resourcing to implement IRB approaches (whether it is Standard or Advanced) that tend to lower required capital level compared to the Standard approach.[10] Investigating whether this is a likely outcome in Korea is also a task for in-depth analysis and remedial policy action if proven to be so. Third, under the new capital regime, having appropriate risk assessment tools, such as the mortgage scorecard and loan performance models (i.e., Pillar 1), is essential for accurate measurement of expected and unexpected credit losses, for which compiling quality data is also a critical element.

Figure 4 Distribution of LTV on mortgage loans purchased by KHFC



Concluding remarks and policy implications for Korea

Regulations on LTV and DTI as well as the Pillar I risk assessment tool are used in many countries as a major instrument for risk management in mortgage lending. Their importance will be further strengthened as a result of the U.S. subprime mortgage debacle. Korea needs to improve the design and implementation of these regulations. In addition, the use of a mortgage scoring model should be encouraged and supervised properly. A mortgage scoring model that takes into consideration DTI, LTV, consumer credit rating, and mortgage loan type constitutes a basic instrument to measure mortgage credit risk.

At the same time, efforts should also be made to extend mortgage credit to moderate-income groups by strengthening the mortgage insurance system. The Housing Credit Guaranty Fund could be used as a platform to introduce a mortgage insurance system similar to FHA of U.S., the Pillar II risk management tool. For example, the Government could enforce a 60% ceiling on LTV and a 40% ceiling on DTI on private mortgage loans while applying an 80% ceiling on LTV and a 50% ceiling on DTI to the market for mortgages with a government credit guaranty and funding assistance conditional upon a mandatory purchase of mortgage insurance for LTV of 60-80%.

Finally, as an integral part of the implementation of Basel II, industry practitioners and supervisory authorities will have to ensure collection of quality data, proper model building, as well as regular vindication of performance models to minimise the risk driven by inaccurate data and unstable model parameters. Essential for this purpose would be time series data on mortgage debt outstanding and new originations, data on delinquency and default rates on individual loans, and transactions-based house price indexes. Last but not least, the distributional issue mentioned above, i.e. a possibility of a differential effect of the new regulation between large vs. small banks, should also be a subject of thorough investigation.

[9] Chonsei is a unique tenure type in Korea. Under a typical chonsei contract, the tenant pays a lump sum deposit equal to a fraction (30~50%) of the asset value of the house to the landlord at the start of the lease. The deposit is returned to the tenant in its full amount at the termination of the lease. During the lease period, no monthly rents are paid. The Chonsei deposit is essentially a loan made by the tenant to the landlord in return for the right to occupy the house during the lease contract.

[10] See Calem and Follain (2005) for details.

References

Achariya, V., and M. Richardson, 2008, *Restoring Financial Stability: How To Repair a Failed System?* John Wiley & Sons Inc., New York, Chichester, Brisbane, Singapore, and Toronto.

Batchvarov, A., Collins, J., J. De Pauw, J. Spencer, and W. Davies, 2003, *Merrill Lynch Guide to International Mortgage Markets and Mortgage Backed Securities*, Merrill Lynch.

Brunnermeier, M., A. Crocket, C. Goodhart, M. Hellwig, A. Persaud, H. Shin, 2009, "The Fundamental Principles of Financial Regulation," *Geneva Report*, International Center for Monetary and Banking Studies.

Calomiris, C., "The Subprime Turmoil: What's Old, What's New, and What's Next," *Presented at the 2008 Kansas City Fed Economic Policy Symposium*, Jackson Hole, Wyoming, 2008.

Cho, M., 2009. "Managing Mortgage Credit Risk: What Went Wrong with the Subprime and Alt-A Mortgage Markets?" Forthcoming in the *International Real Estate Review*,

Cho, M., and Kim, K-H, 2010, "Mortgage Market in Korea: Current State and Challenges Ahead", prepared for *International Encyclopaedia of Housing and Home*, forthcoming.

Cho, M., and I. Min, 2009, "Lifecycle Effects of Borrowing Constraints: Evidence from the Korean Household Panel Dataset", *manuscript*.

Comptroller of the Currency, 2006, "Validation of Credit Rating and Scoring Models," *Presented at the Workshop on February 2-3*, 2006, Washington, DC.

Deng, Y., J. M. Quigley and R. Van Order, 2000, "Mortgage Termination, Heterogeneity, and the Exercise of Mortgage Options," *Econometrica* 68(2):275-307.

Greenlaw, D., J. Hatzius, A. Kashyap, and H. Shin, "Leveraged Losses: Lessons from the Mortgage Market Meltdown," *US Monetary Policy Forum Paper No. 2*, Rosenberg Institute, Brandeis International Business School and Initiative on Global Markets, University of Chicago Graduate School of Business, 2008.

Gorton, G., "The Panic of 2007," *Presented at the 2008 Kansas City Fed Economic Policy Symposium, Jackson Hole, Wyoming.*, 2008.

Gwinner, W., and A. Sanders. "The Subprime Crisis: Implications for Emerging Market." World Bank, Policy Research Working Paper 4726, September 2008.

Kau, J. B. and D. C. Keenan, 1995, "An Overview of the Option Theoretic Pricing of Mortgages," *Journal of Housing Research*, 6(2): 217-244.

Lin C. C., M. Cho, and T. T. Yang, 2008, "Default Risk and Relative Values of "Exotic" Mortgage Products: A Multi-Factor Simulation Approach," Working Paper presented at 2008 AREUEA Annual Meeting.

Linneman, P., and M. Cho, 2009, "The Great Capital Strike," *The Wharton Real Estate Review*, Fall 2009" 5-22.

Mason, J., and J. Rosner, 2007, "How Resilient Are Mortgage Backed Securities to Collateralized Debt Obligation Market Disruptions?" *Hudson Institute*, Working Paper.

Pennington-Cross, A. and G. Ho, 2010, "The Termination of Subprime Hybrid and Fixed Rate Mortgages," *Forthcoming in the Real Estate Economics* Vol. 38(1).

Reinhart, C., and K. Rogoff, "Is the 2007 US Sub-Prime Financial Crisis So Different? An International Historical Comparison," *mimeo*, 2008.

Renaud, B. , and K-H Kim, "The Global Housing Price Boom and its Aftermath", *Housing Finance International*, 22(2), 3-15, 2007.

New Policies to Facilitate Affordable Housing in Central and Eastern Europe

↳ By Wolfgang Amann[1]

1. Introduction

The present economic crisis started in the housing sector and, after spreading worldwide, it hit the housing sector more than other industries (Scheiblecker 2008). Economies in transition have been more heavily affected than well-developed western countries for several reasons. Generally, low economic power makes markets (as well as individuals and national economies) vulnerable to risks, and the risks that Central and Eastern European (CEE) countries face are considerable and manifold. This is because for many years, new construction of multi-storey dwellings in all CEE countries was largely orientated towards the upscale condominium market. There was hardly any social housing or rental housing construction. Housing development was, on the one hand, the business of international investors and, on the other hand, of construction companies which did not clearly divide their development business from their construction business. For years, the banking sector was very open to finance any project and borrower in order to establish a client profile and market share in Europe's emerging economies (Maechler & Ong 2009). Retail financing developed quickly and covered up to 100% of purchase prices. Foreign currency loans were increasingly promoted. However, banks have radically changed their policy today. It has become complicated for new private customers to finance housing and it is becoming increasingly difficult for existing customers to settle repayments. Unemployment is increasing dramatically and devaluation of currencies jeopardises all households which have financed their home with foreign currency loans. As a result, demand on housing markets has slumped and prices are following.

Is this how housing markets are intended to work? Is it inevitable that markets rise and fall? This paper argues that in some countries the conditions underlying the operation of housing markets have aggravated the current crisis, while in others, they have not. Indeed, there are several European countries with strong social housing sectors and rental markets, which have been more resistant to global economic turbulence and which, under these conditions, have been able to stabilise their overall economic development.

For a number of years IIBW, the Austria based Institute for Real Estate, Construction and Housing Ltd., has been providing advice towards the establishment of affordable rental housing sectors in transition economies (e.g. Amann 2005, Amann 2006, Amann et al. 2006). From the outset, this was based on the rationale that private housing construction was unlikely to satisfy housing demand of middle and lower income groups. This, of course, has not changed. Nevertheless, today we can provide another rationale for justifying the promotion of affordable rental housing schemes: as an effective strategy to stabilise housing markets and facilitate steady economic growth.

The main aim of this contribution is to outline two important requirements on how to cope with the low supply of affordable rental housing in transition countries. Therefore, it focuses on two projects undertaken so far by the IIBW. One is to establish a legal basis and a business model for Public-Private Partnership (PPP) housing companies and the other is to provide long-term and stable financing for affordable rental housing in transition economies.

The first two sections only summarise what have been the identified challenges of housing supply in transition countries, with a special highlight on the house price slumps during recent months. The following sections function as a bridge from the theoretical background and evidence of housing policy problems to two very concrete practical projects, which were initiated by the IIBW in order to address the identified challenges. The conclusions point to the strategy on how the reduction of risk involved in housing finance may be of positive influence to secure long-term financial investment in the region by old EU member states via their banking systems.

2. Present housing situation in CEE countries

Housing provision in CEE countries differs considerably. Housing outcomes are more favourable in those countries which joined the European Union in 2004 (Czech Republic, Hungary, Poland, Slovakia and Slovenia), whilst Romania and Bulgaria face significantly worse conditions, alongside non-EU countries of the region. Table 1 summarises key housing characteristics across the region. On average, aggregated across the EU, the housing stock per 1,000 inhabitants is 446 dwellings, but it is as low as 365 in Slovakia, 344 in Poland and only 260 in Albania. The number is atypically high in Bulgaria due to the immense out-migration. The contrast between the EU aggregate average is even more striking when considering useful floor space per capita, which is 36 m² for the EU and only around 25m² for Poland or Slovakia, and even lower for Ukraine, Romania, Montenegro and Albania.

Housing construction has developed impressively in most CEE countries since the mid-1990s, as shown in Graph 1. In terms of

[1] Dr. Wolfgang Amann is the Director of the IIBW – Institute for Real Estate, Construction and Housing Ltd., Vienna, Austria, www.iibw.at, amann@iibw.at. The Findings, interpretations, statements and conclusions expressed herein are those of the authors alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank or the institutions the author works for or is affiliated with. The author is not an employee of the World Bank Group.

[2] EU15-countries plus Czech Republic, Hungary, Poland, Slovakia plus Norway and Switzerland.

completed dwellings per 1,000 inhabitants, by 2007 the Central European countries have reached around two thirds of EU average, South Eastern European countries have been still below half of the EU average. However, the current crisis has generated a serious decline in housing production. Total housing completions in the *Euroconstruct*-countries[2] is predicted to decline from 2.6 million dwellings in 2007 to below 1.5 million in 2010 (Euroconstruct, 12/2009). A dramatic downturn can be observed in Ireland, Italy, Spain and the United Kingdom. Housing production is declining in CEE countries as well, but at a slower pace. Only Poland shows a positive development.

CEE countries have focused their housing production on the top end of the condominium market in high value and central areas. Existing rental housing stocks were privatised in huge quantities. There was almost no new rental housing construction after transition. As a result, most CEE countries have extremely low rental housing shares, as shown in Graph 2. Only the Czech Republic has rental housing stocks in quantities close to the EU average or above.

Market prices in the CEE capital cities have developed in line with the economic development and maturing real estate markets. Dynamic price increases were not only a result of scarce housing supply and growing incomes, but primarily of an expanding variety of retail financing products of the banking sector. Altogether, the banking sector has expanded very strongly. Mortgage financing of up to 100% of asset value and loans in foreign currency are today a major threat for the sector. In recent years, market prices have skyrocketed with a peak in most cases in late 2007 (Table 2). Prices for new condominiums rose in cities like Bratislava, Kiev, Ljubljana, Prague or Warsaw to levels above Western European capital cities, despite much lower incomes of domestic consumers and, often, lower standards of fixtures and fittings. In many Western European countries, the ratio of average house prices to average incomes is at about 4 or 5. That is to say, that an average condominium costs 4 to 5 average yearly gross incomes. In many CEE countries, this ratio was above 10, in some cases even above 20.

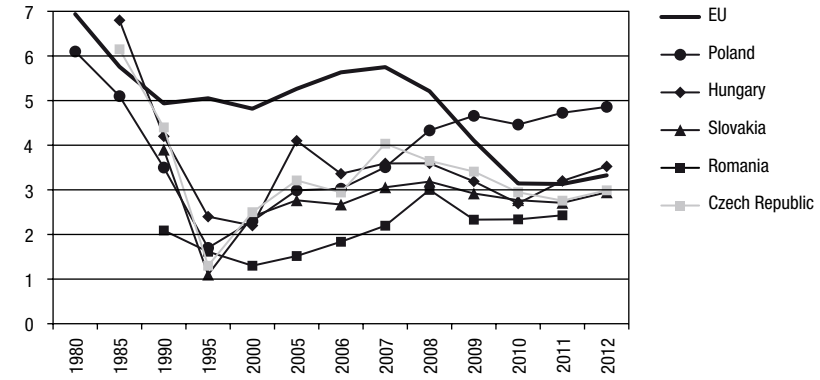
From a present point of view it is not quite clear which markets have produced bubbles and which ones may experience a soft landing of prices. The economic crisis brought a downturn of real estate prices in the market segment of used condominiums. For new condominiums the previous price level could be kept in several CEE capital cities, irrespective of slumping sale volumes. However, in some cases prices have dropped by one third within a year.

Table 1 Status quo in housing provision in CEE (2007)

	Housing stock in million dwellings	Housing stock per 1,000 inhabitants	Average household size	Average useful floor space per capita	Housing completions per 1,000 inh.
Albania	0.80	260	4.2	< 20 m²	< 1.0
Bulgaria	3.75	491	2.7	31 m²	2.5
Czech Republic	4.43	436	2.4	30 m²	4.1
Hungary	4.24	421	2.5	29 m²	3.6
Montenegro	0.22	340	3.4	22 m²	5.5
Poland	13.13	344	2.6	24 m²	3.5
Romania	8.27	384	2.9	20 m²	2.2
Slovakia	1.97	365	3.0	26 m²	3.0
Slovenia	0.82	404	2.6	33 m²	3.8
Ukraine	19.18	413	2.6	22 m²	2.0
EU27	ca. 220	446	2.4	36 m²	5.7

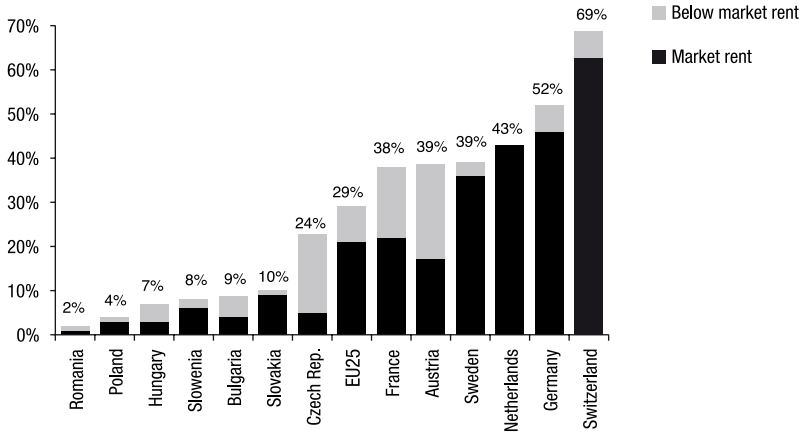
Source: IIBW, National Statistical Offices, different sources

Graph 1 Housing completions per 1.000 inhabitants



Re. EU = Euroconstruct-countries, see footnote on previous page
Source: Euroconstruct 12/2009, National Statistical Offices, IIBW

Graph 2 Rental housing stock in Europe (2007, as percentage of total housing stock)



Source: IIBW, Eurostat (EU SILC), UIPI (for Switzerland, 2003), Statistik Austria (for Austria)

Table 2 Market prices in CEE capital cities for new condominiums

	mid 2008	early 2009
Bratislava	Ø 1,500-2,500 EUR/m²	Ø 1,500-2,500 EUR/m²
Budapest	Ø 1,400-1,800 EUR/m²	Ø 1,000-1,200 EUR/m²
Bucharest	Ø 1,500 EUR/m²	Ø 900-1,100 EUR/m²
Kiev	Ø 1,500-2,500 EUR/m²	Ø 900-1,500 EUR/m²
Ljubljana	Ø 2,800 EUR/m²	
Podgorica	Ø 1,300-2,600 EUR/m²	Ø 1,000-2,400 EUR/m²
Prague	Ø 2,800 EUR/m²	
Sofia	Ø 750-1,200 EUR/m²	Ø 700-1,100/m² EUR/m²
Tirana	Ø 800 EUR/m²	Ø 700 EUR/m²
Warsaw	Ø 2,500 EUR/m²	Ø 2,200 EUR/m²

Source: IIBW, local realtors and housing researchers

3. Housing challenges in CEE countries

Housing policies in CEE countries nowadays face the following challenges:

- Housing market prices at western levels with household incomes far below: Incomes in industry are at about €2,600 EUR per month as an aggregated average of the EU27 (Eurostat), but below €250 EUR in countries such as Bulgaria, Ukraine and Albania, with a growing spread of incomes. As a result, middle and lower income groups face serious problems of housing affordability.

- Deteriorated housing stocks with insufficient tools for housing management and maintenance: A major part of the housing stock was erected as industrialised panel-block buildings with a technical life-span that, in many cases, has already expired. Housing privatisation did not solve questions of maintenance of the common parts. Housing management was previously organised by the public or cooperatives and, after transition, left without clear competences. Altogether, buildings with multiple owners are very difficult to handle, both for management of facilities and for refurbishment works (PRC 2005).

- Insufficient supply of housing construction for lower and middle income groups as well as in regions with weak economic performance: The boom in housing construction of the last few years benefited small groups of the population, mainly in prosperous regions. Increasing house prices were more and more driven by non transparent markets for building land and construction services. Insufficient housing provision, particularly for young households and migrants to the cities, increasingly affected labour mobility. Major challenges are the improvement of transparency of land and construction markets but, also, the establishment of PPP-schemes in housing provision to increase supply.

- Small and even diminishing rental markets: Housing privatisation reduced the rental markets close to zero in many countries. It was frequently argued that people in CEE countries preferred owning property to rental housing, but consumer choice was misdirected because of insufficient supply of affordable rental housing. Public housing never was able to close the gap and, in many cases, was disregarded because of high public expenditure, frequent misuse of allocations and the threat of creating future ghettos (Dübel et al. 2006). Rental housing should be an option in housing markets, particularly for young households and domestic migrants. In the past, house price risks were increased by giving out mortgages to households that could not really afford them. Again, the establishment of PPP-housing sectors or of cooperative housing seem promising.

- An inadequate legal framework: A growing number of transition countries have introduced condominium legislation, but lack enforcement. Legislation on rental housing, social housing, maintenance and related topics is inadequate in many cases. There is an explicit demand for effective new solutions (UNECE 2005a).

- Housing finance: The financing markets are targeted at retail financing products for purchase of condominiums and have strongly contributed to the heating up of this market segment. On the other hand, there is still hardly any long-term investment capital available at attractive conditions for rental housing (OECD 2005, UNECE 2005b). The availability of eligible financing products is an important precondition for the establishment of new products on the housing market.

- Unclear messages from the EU regarding housing policy development: Housing policy is under the authority of the EU Member States. On the one hand, the Union is dismissing housing policy authority but, on the other hand, related EU regulations have a deep impact on national housing policy. Examples are the Directive on the Energy Performance of Buildings (Directive 2002/91/EC) or measures taken for urban renewal and regional development. Only recently has a coherent EU judicature for social housing been introduced. The general rule for the interaction of the EU with social housing was determined through the "Altmark Case" (ECR I –7747 2003) and further specified through several decisions about competition law (Mundt 2006). A pro-active legislative attempt is noticeable by the opening of the Regional Fund (ERDF) for housing in 2007 and recent financing programmes by the European Investment Bank (EC 2006/1080). Nevertheless, clearly committed to liberal market principles, the EU shows difficulties to esteem existing social housing schemes time-tested in several Western Member States. Altogether, there is no explicit support for the development of housing policy schemes including legal regulations or the implementation of best practice. The interest group of social housing providers in Europe, CECODHAS (European Liaison Committee for Social Housing), embraces social housing umbrella organisations at the national level. As the new Member and Candidate States practically have no working social housing sectors, they are not represented at the European level. This is hardly supportive to the development of efficient social housing sectors based on European best practice (Amann et al. 2006, Dübel et al. 2006).

These challenges are aggravated by the current economic crisis, which poses serious problems for many private households in repaying their mortgage obligations. The housing industry is not only suffering from the breakdown in local demand, but foreign direct investment has evaporated. Hence, market prices are under heavy pressure and new projects are held back. For several CEE countries it has been reported that housing sales have decreased virtually to zero. Assisted by the financial sector, which is concerned about out-

standing mortgages that might lose coverage from decreasing value of the assets, housing developers try to keep up the previous price level. Anyway, taking into account the formerly very high price level and the lack of transparency of land and construction markets, in many cases there is only limited scope to decrease house prices without risking bankruptcy. On the other hand, customers are expecting declining prices and hold back investment. Financing of housing purchases has become much more difficult (OENB 2009, pp. 11-3). Banks require higher down payments than before, require extensive securities and charge higher interest rates. Hence, the crisis causes a downturn of production output and increasing unemployment in the construction sector. Altogether, the economic crisis has much heavier effects on the real estate and construction industry in the CEE countries than in many Western countries.

Yet, via the banking system, some old EU Member States are heavily exposed to the financial risks in the CEE countries. Notably, Austria started to become involved at a very early stage via numerous subsidiaries of Austrian banks. As a result, the CEE business segment in the operating result of Austrian banks constitutes a vital part of their overall performance (Walko 2008). Austria, as a country, has by far the biggest exposure to the region relative to the size of its own economy. Total claims on CEE countries account for 49% of its total foreign claims, and approximately 70% of GDP (Maechler & Ong 2009). Other countries, such as Italy, Greece, Sweden and Belgium are also highly exposed to the financial risk within CEE countries via their banking systems. Any housing policy recommendations, therefore, have to take into account that risks involved in housing finance in transition countries have to be reduced in order to secure long-term investment of European financing institutions in the region and put a halt to the increasing withdrawal of foreign investment.

Addressing these challenges, IIBW has developed projects in two fields of action. Both are regarded as major levers to establish affordable housing provision, to increase housing production and to better maintain the existing housing stock (EU Parliament 2006, UNECE 2005c). The first field of action concerns the development of sound legal regulations and, linked to this, the establishment of a business model for Public-Private Partnership (PPP) in housing. The second field of action involves the design of structured finance for affordable rental housing and thus, the development of an economic basis for a PPP-housing sector.

4. A new housing law for Romania

Commissioned by the Romanian Ministry of Development, Public Works and Housing in 2007, IIBW has developed a new Housing Law, based on European best practice while meeting EU requirements.

The rationale for this work stemmed from major inefficiencies in the Romanian rental housing sector. As a result of mass privatisation in the 1990s involving 27% of the total housing stock (accounting for some 2.2 million dwellings), virtually no rental dwellings remained (Graph 2). Only an informal rental sector exists which is largely self-organised on an irregular basis. An estimated 1.0 million privatised condominiums are rented out privately, without any consumer protection and, very often, even without written contracts (Tsenkova 2005, PRC 2005, IIBW 2007).

The condominium sector had previously undergone some legal reforms. Yet, the restructuring of regulations showed inconsistencies and, in certain occasions, some regulations were even missing. Homeowners' associations are organised in a fairly operative way, but their formation is voluntary and, consequently, not widespread.

Housing management and maintenance is partially regulated within the condominium legislation. However, as common across all CEE countries, enforcement is inadequate. Today, housing administration is mostly organised by single owners and rarely by professional service providers. Nevertheless, in Romania private initiative has achieved the licensing of administrators requiring the completion of basic training. Housing maintenance continues to be a major challenge, particularly thermal refurbishment, which has only been realised in a few projects. Despite rather generous subsidies, improvements have been impeded by a decision-making process which now involves multiple owners, including many with very few resources.

There are some subsidy programmes in place, e.g. to promote the completion of unfinished residential buildings or to shelter young families. For thermal refurbishment, subsidies of up to two thirds of construction costs are available, but they are rarely applied. Unfortunately, subsidy programmes tend to stem from short-term political motives and, for this reason, lack a more strategic approach.

In order to re-establish social housing, a National Housing Agency (ANL) was established in the late 1990s. This was originally assigned to organise financing of social housing, but has since changed its focus to own housing assets. Towards this aim, ANL has realised some remarkable projects, e.g. the rental housing estate Brâncuşi in Bucharest with approximately 1,500 social dwellings of fairly high quality. However, rents are decided politically. They are extremely low and the allocation of the dwellings lacks transparency. Currently, the Government has decided to sell the dwellings to the sitting tenants for far below market prices with the effect of, again, diminishing the newly established social housing stock.

The proposed new Romanian Housing Law consolidates all previous regulations pertaining to housing and supplements them with European best practice to provide a comprehensive canon of housing regulations (IIBW 2007):

The Housing Law (Umbrella Law) provides a framework to ensure the legal consistency of the six laws that constitute Romanian housing legislation. Importantly, it contains regulations that are common to each of the single laws and provides the following main contents:

- a comprehensive list of definitions;
- information of parties;
- the creation of one single legal form of all residential units (condominium property), with the target to simplify housing management and maintenance;
- the submission of energy performance certificates; and
- the introduction of out-of-court arbitration.

The Rent Law resolves common deficiencies which can undermine relationships between tenants and landlords, by providing the following:

- formal requirements of the rent contract, including obligatory written form and incentives to register them legally;
- duration and termination of tenancy;
- terms of utilisation of the dwelling, including regulations on refurbishment;
- price mechanisms for subsidised dwellings (including privatised dwellings from the previous social housing stock), referring to the German model of rent comparison lists,[3] in a fairly liberal way (cf. UIPI 2003); and
- specific price mechanisms for the new PPP-housing sector.

The Condominium Law provides the following main contents:

[3] The German Law on the Amount of Rent ("Wohnungsbindungsgesetz") applies when the original rent is raised by the landlord. The tenant must accept the increase only if the rent does not exceed the customary rent for a comparable dwelling and if the rent has not been raised by more than 30 % (in some cases, 20 %) over a period of three years. The effect of all this is that rents in long-termed tenancies are lower compared to new tenancies because the possibilities to raise rents are limited.

- regulation on the creation and purchase of property on housing;
- shared housing property;
- terms of utilisation of the dwelling and common parts;
- owners' associations, including regulations for better efficiency;
- a privileged lien of the owners' association against the single owner to enforce housing refurbishment; and
- consumer protection in housing purchase.

The PPP-Housing Law introduces a new type of housing provider whose aim is to overcome existing inefficiencies in several European countries. It combines the functions of a housing developer, an investor and a housing administrator, and is particularly eligible for rental housing construction, the takeover of social housing stock and the refurbishment of existing residential buildings. The law provides the following main contents:

- regulation on the legal form, accreditation as PPP-housing company and revoking of accreditation;
- field of operation of PPP-housing companies;
- regulation on minimum and maximum rents and prices;
- regulations limiting withdrawal of profits and safeguarding the assets within the welfare regime of PPP-housing;
- auditing and supervision procedures, formation of an auditing association;
- authorities in charge; and
- subsidies and tax exemptions.

The Housing Management and Maintenance Law covers all regulation in the field of housing operation, administration, accounting, maintenance and refurbishment. It provides simple regulation for the whole housing stock, because the ownership regimes shall be reduced to one (condominium property in all buildings). The law provides the following main contents:

- definition of regular management of a realty;
- definition of operating costs, running costs, maintenance and refurbishment costs;
- duties of the housing administrator; and
- accounting regulations.

Finally, the Housing Subsidy Law defines a legal basis for all activities of the state in (co-) financing housing construction, refurbishment, housing benefits and related activities. For this Law, detailing with by-laws and orders of the minister in charge is particularly relevant. The law considers the strict requirements of EU legislation regarding housing subsidies (services of general economic interest, competition policy and others). The main regulations are:

- authorities in charge;
- funding of housing subsidies;
- development of strategic programmes of housing promotion;
- implementation of a Housing Policy Committee;
- general provisions of subsidies, whereas the detailed financing models refer to by-laws;
- division between construction based subsidies and subject-oriented subsidies;
- conditions for an obligatory option to buy; and
- regulations on procedures and obligations of the recipient.

The systematic approach in creating this new Law has a number of strengths:

Solidity in structure – flexibility in details:

The six single Laws that constitute the Romanian housing legislation are designed in a systematic and complimentary manner. The regulation focuses on general determinations, to be complemented with by-laws. The Laws are designed for infrequent amendments. Necessary reforms may be decided in any of them without contradicting others. This is because the content of each law concerns a distinct area of the housing system, avoiding the problem that changes in one law will contradict regulations in others. In this way an undesirable casuistic future development of housing legislation can be prevented. Details are determined with by-laws (decisions of government, ordinances or the like) and – for particularly flexible aspects – as orders of the minister in charge. These regulations may be adopted in the most flexible way in everyday legislative practice.

Clear patterns:

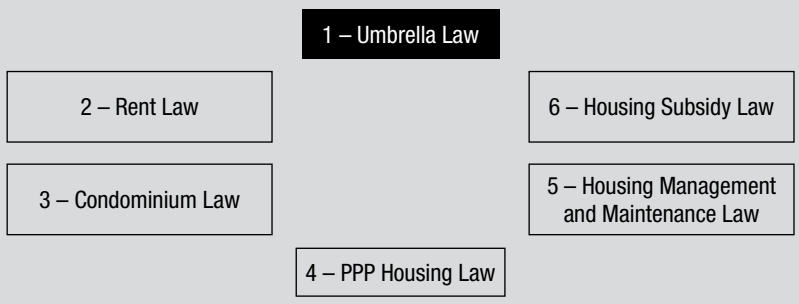
Each of the Laws covers a highly specified field of regulation. The specification not only follows the context of regulation, but also the different target groups of the laws. Laws that address consumers (Rent Law, Condominium Law) use a language which is easy to comprehend whilst laws that address professional bodies (PPP-Housing Law, Housing Subsidy Law) use terms more familiar to such professionals.

Innovations on the basis of European best practice:

The Romanian Housing Law introduces a number of new approaches to increase the efficiency of the Romanian housing markets and promote housing provision substantially. A number of these approaches are summarised below.

- With the creation of condominium property in all buildings it becomes possible to have one single legal regime for the whole housing stock, which eases rent regulations, administration, maintenance, refurbishment, subsidies etc.
- The proposed rent regulation scheme is, compared to European best practice, the most simple and liberal one. By contrast to existing models, it works with one single price mechanism to be applied for the large stock of rented condominiums that were privatised after transition and social rental dwellings.
- The scheme of comparative rents with the tool of rent comparison lists will be a major challenge in implementation. New technologies may be applied in collecting consensual market information.

Graph 3 Structure of the draft new Romanian Housing Law



Source: IIBW

- The PPP-Housing Law takes the example of the best European models of limited-profit social housing and turns it into a model applicable to the specific environment faced by countries in transition. It combines the strengths of the markets (privately run companies) with the backing up of the State (privileged access to subsidies, public control). In this way, it is expected to promote a strong sector for the provision of affordable dwellings.
- Maintenance, administration and refurbishment for all sectors of housing is regulated in one integrated law. This allows for simple procedures for all buildings. A particular target of this law is the enforcement of large-scale thermal refurbishments.
- The housing subsidy scheme is designed as execution of a housing strategy, implicit in the Romanian Housing Law. Similar to the other Laws it is based on a long-term strategy. Strategic regulations and funding need to be concentrated at state level. Yet, the implementation takes place at regional and municipal level. Particularly social policy measures in housing need to be allocated at the municipal level.
- A Housing Policy Committee with the same political composition as the Parliament, but staffed with experts, is installed to determine the allocation of subsidies and housing policy reforms.
- The National Housing Agency (ANL) will be developed to become a key player in improving the financing tools for affordable housing. For this reason, it will be established as a Holding Fund to acquire loans from national and international sources (e.g. the Jessica Programme of EIB/CEB[4]).

Combined, these innovations will have a strong and positive impact on urban and regional development.

Implementation of EU requirements:

The Romanian Housing Law will implement the following EU directives, initiatives and standards:

- The EU Directive on Energy Performance of Buildings (2002/91/EC) with the regulation on the submission of energy performance certificates.
- Regulation in the Rent Law follows decisions of the European Court of Human Rights, even though they do not go to such lengths in state interventions into valid contracts.
- The PPP housing sector is designed fully in line with European positions. The European Union has communicated quite plainly its support for the establishment of social housing sectors in the new Member States. PPP-housing companies fulfil public service obligations and may be compensated for these obligations without interfering with EU regulations on competition (EC 2005/179; EC 2005/842).
- The Housing Subsidy Law may be employed as a core instrument to implement the National Strategic Reference Framework in order to implement EU cohesion policy in terms of financing housing measures.
- The Housing Subsidy Law is designed to enable the acquisition of European funds (Regional Fund, Jessica Programme of EIB/CEB). State subsidies may be designed in a way that they are not classified as state expenditure according to the Maastricht-Criteria. This is the case if state subsidies are repayable (low interest loans, repayable interest grants etc.), notwithstanding interest rates below market level.

Division of authority between state and municipalities:

The centralised organisation of the Romanian State allows for simple and transparent housing regulations. The State covers the biggest part of regulatory authorities. For some regulatory items, e.g. the execution of the Housing Subsidy Law, the State authority shall be represented by local agencies. The municipalities have clearly defined responsibilities, particularly in terms of social policy items and the execution of state competencies. They shall install Boards of Arbitration and undertake tasks including the announcement of annual rent comparison lists and design of the housing subsidy scheme.

Integration of operative existing regulations:

In general, the Romanian Housing Law is designed to maintain operative existing housing regulations, particularly Law Nr. 114/1996 (on condominiums), Law Nr. 230/2007 (on owners' associations) and Law Nr. 152/1998 (on ANL). Nevertheless, the systematic approach of the new Laws contradicts the subordination under the fairly casuistic previous laws. However, many previous regulations, which have proven effective, shall become part of the new Laws or be integrated as by-laws or orders of the Minister. In this way, the new Laws efficiently maintain existing tools, procedures and standards which are already established and are working well.

Consumer protection:

Several regulations specifically aim to protect consumer interests, particularly the regulations concerning out-of-court arbitration and information of parties (Umbrella Law), the protection of tenants (Rent Law), consumer protection in housing purchase (Condominium Law) and accounting for operating costs (Housing Management and Maintenance Law). Indeed, the PPP-sector as a whole is orientated towards the protection of consumers through the provision of decent, affordable rental housing.

The illustration above concerned Romania. Similar legislative reforms are currently being proposed and developed for Montenegro and Albania.

5. Structured financing for PPP-Housing

PPP-housing legislation has been described as one strategy towards the establishment of a new business sector, targeting at affordable housing, particularly rental housing (UNECE 2005a, Lux 2006). This is unambiguously a top-down approach, which requires political will to facilitate. However, in order to establish PPP-housing as a new business sector, a second strategy is necessary, i.e. financing schemes that allow for affordable rents, without leaving the paths of market based operations. Together, the aim is to develop social housing as a bankable product.

In 2005 and 2006, IIBW completed research which paved the way for the development of a Housing Finance Agency for Countries in Transition (H!FACT, cf. Amann et al. 2006, Amann, Lawson, Mundt 2009, see graph 4). Initiated by the Stability Pact for South Eastern Europe and in cooperation with some commercial banks and financing institutions active in CEE, new ways of financing affordable housing were sought. The need for action was, and still is, evident: within the next decade, around 5 million dwellings will be required in CEE countries and a very large part of the existing 40 million dwellings is in urgent need of refurbishment.

The theoretical basis of our approach is built on the numerous studies IIBW has completed concerning the Austrian system of housing finance and housing promotion (Amann & Mundt 2005, Lugger & Amann 2006, Lux 2006). The approach to PPP-Housing as executed in the PPP-Housing Law for Romania and the H!FACT financing scheme has its roots in the Limited-Profit Housing Associations (LPHA) model of Austria that dominates both the affordable rental housing and new residential construction markets. Approximately 20% of the total housing

[4] The Jessica Program focuses on the support and development of financial engineering instruments in the field of sustainable urban development with the use of equity, guarantees and subordinated loans. National Structural Funds Managing Authorities shall establish Urban Development Funds with grants from the Structural Funds and loans from the European Development Banks – EIB and CEB. These Urban development Funds should, in turn, attract further national contributions.

stock in Austria has been built by LPHA, comprising 800,000 dwellings, thereof around two-thirds rental housing units and one-third as affordable condominiums. LPHA are responsible for more than 60% of multi-apartment new construction. Notably, social housing in Austria is rooted in an ideological background which stems both from the socialist idea of solidarity and the catholic social doctrine. For this reason, the LPHA sector is supported by the two major political parties, the Social Democrats and the Peoples Party (Kemeny et al. 2001). This aspect is certainly of some significance when attempting to transfer and establish a PPP-housing sector in countries in transition.

Financing of affordable housing in Austria is quite complex but, nevertheless, rather efficient. Even though more than 80% of new construction is co-financed by the state, public expenditure on housing promotion only amounts to approx. 1% of GDP, which is well below Western European average. The main reason for this cost-efficiency is the focus on construction based subsidies, specifically including the LPHA sector (Amann & Mundt 2005). Their housing products are targeted at lower and middle income groups, which may be defined as the 2nd to the 8th income decile. The majority of beneficiaries are able to cover their rents or annuities without the need of additional housing benefits. Hence, subject-oriented subsidies amount to only approx. 8% of total public expenditure on housing policy. That is to say, prices of LPHA rental dwellings are not cheap, but they are usually below private rental market prices. With a broad accessibility and a remarkable market share, LPHA rental housing influences the price level and price development on the private market effectively. It is mainly because of this interference that house prices did not boost in the boom period and did not slump since 2007. For this reason the Austrian model of rental housing may well be described as a unitary or integrated market, as classified by Jim Kemeny (1995; et al., 2001).

As private companies, LPHA are responsible for an economical execution of construction works and financing. Multiple incentives contribute to a sound performance, despite the limitation of profits. A typical housing project is financed by 30-50% with capital market mortgage loans, by 30-40% with low interest public loans, by 10-20% with equity of the LPHA, mostly for land purchase, and by up to 10% with equity of future tenants. The subsidised public loans have a maturity of above 25 years and interest rates of mostly only 1%. The diverse financing models aim at reducing the necessary public funding, steering effective costs for the tenants below market levels and other policy targets.

The different tranches of financing have quite different characteristics. The PPP-housing business model leads to a good equity position of most of the LPHAs, which allows them to purchase land and afford bridging finance for the construction period from own capital. The low interest public loans are not just cheap money. Adherent to the strict audit and supervision of LPHA and the occasional disposition as subordinated claim, public loans are treated as equity capital. For capital market financing, additional tools to increase efficiency are in place. All major banks in Austria have their own special housing bank as a subsidiary that issue tax-privileged housing construction convertible bonds. The acquired capital has to be invested in affordable housing in Austria that also qualifies for public subsidies, i.e. mainly in LPHA housing (Schmidinger 2008). This reduces the capital costs of LPHA by about 0.8%. More than this, it turns competition of banks and borrowers upside down. As the banks are limited to investing in the affordable housing sector, they must compete for the LPHA with the best credit history. LPHA altogether pose very few risks due to their mostly solid equity basis, very low vacancy rates, public support and the strict auditing procedures. Capital funding with housing construction convertible bonds allows for interest rates equivalent to the Euribor flat rate for the best social housing developers (Amann & Mundt 2005).

Combined, affordable housing finance in Austria can be considered as a risk-averse model of structured financing. In contrast to more common models of structured financing in commercial real estate financing (UNECE 2005c), it not only lowers capital costs, but it also contributes to a stabilisation of financing markets (Springler 2008).

Based on this model, the following principles for financing affordable housing in Transition Economies have been developed (H!FACT financing):

1. Legal framework:

As financing is bound to public funding, a legal framework is inevitable, which is achieved via PPP-housing legislation. Both PPP-housing and H!FACT financing are a top down approach, which requires clear commitments of the State authorities in a target country.

2. Affordability:

Affordability is basically defined with cost coverage, which implies condominiums at own costs and rents of about €2 EUR/m² of useable floor space. This is only possible by drawing on public support at several levels (Graph 4). Rents and prices shall never be determined by political decision, but in principal by sound financing schemes. Mortgages have to be repaid by rent incomes, which rise according to the consumer price index (CPI) or slightly above. The break even should not exceed 10-15 years.

3. Target groups:

Beneficiaries of affordable rental housing shall be households from the 2nd to the 6th income decile, i.e. lower and middle income groups. Affordable condominiums may address evenhigher income groups. Lowest income groups and vulnerable households may be served as well, but require additional housing allowances. There shall be no housing estates with predominantly lowest income households. The inclusion of lowest income groups is a social policy task and has to follow criteria of integrative development of communities.

4. Consumer choice:

The share of rental dwellings and condominiums shall be determined by transparent parameters, such as availability of retail financing for buyers or equity of the developer, but first and foremost by demand and consumer choice. Rental housing shall be established in a way that it is economically rational for tenants to enter rental markets.

5. Management and maintenance:

Today, a big part of the housing stock lacks sound management and maintenance. The H!FACT financing scheme includes monthly fees for operating costs of the building, including housing administration, costs for common parts, sewage disposal, savings for a reserve fund and others. These costs are estimated to be €0.50 EUR/m² of useable floor space.

6. Subsidies

Subsidies must be available. This may be low interest loans of 30-40% of construction costs or grants of about half the amount.

7. Cooperation with municipalities:

H!FACT financing requires the cooperation of municipalities. Land and infrastructure should be provided free of charge, by concession or at a low price. In return, municipalities should play a main role in allocating the dwellings. H!FACT financing will apply to very different local markets. Compared to Western European States, countries in transition show much higher economic disparities between underdeveloped areas and areas of strong economic development. There is urgent need for affordable housing both in poor and rich areas but, of course, the ability to pay differs widely.

8. Equity:

The housing developer (PPP-housing company) should have sources of equity to invest in affordable housing. This will be rather limited at the commencement of operations, but may grow to a substantial quantity over time.

9. Cross-subsidies:

Sources of cross-subsidies should be tapped, i.e. from richer to poorer regions, from for-profit condominiums or from commercial space to affordable rental dwellings.

10. International Financing Institutions (IFIs):

H!FACT financing includes international financing sources. Most helpful are mortgage loans from a housing fund, such as *DIGH – Dutch International Guarantees for Housing*. These loans are guaranteed by Dutch housing associations to cover the risk of first loss. Hence, they are regarded as being equal to equity capital. In the medium-term, other International Financing Institutions shall be attracted.

11. Capital market financing

Capital market financing is addressed for bridging-financing during the construction period and, in the medium-term, for strategic long-term investments in rental housing. Taking the risk position of the other tranches, capital market financing shall be addressed only for senior loans with appropriate conditions (Graph 4). Affordable rental housing may develop as an important property sector attracting investment from the capital market, as shown in Austria or Switzerland (UNECE 2005b). Decreasing the risk involved in housing finance will be a main requirement of securing future financial involvement by commercial banks.

12. Allocation of dwellings

Allocation of dwellings must follow transparent procedures. Similar to the housing developer, who is bound to a limitation of profits, the tenant shall be limited to 'cash up' or extract public subsidies. Resale of affordable condominiums shall be allowed only with regulated prices for a defined period e.g. ten years. Sublease of affordable rental dwellings shall be prohibited.

A sizeable rental sector has important functions for a national economy, far beyond social policy goals. Rental housing not only offers low entry prices, it also promotes the mobility of the workforce. A rental market for housing is crucial for young households and domestic migrants who have not accumulated sufficient capital to access financial and mortgage markets for home purchase. In the long run, establishing a rental market offers substantial institutional investment opportunities. Altogether, affordable housing should be developed which integrates social and private rents, following the integrated market concept of Jim Kemeny (1995; et al., 2001) (see above). The supply of affordable condominiums and rental dwellings should be developed to sufficient and considerable quantities in order to influence the private markets and stabilise its development.

The following Graph 4 illustrates principles of structured financing in H!FACT financing.

The following aspects classify this financing scheme as structured financing: H!FACT financing is a specific way to securitise financial assets, which aims to reduce financing costs and minimise risks. The borrower is released from parts of the financing risks. Hence, the financing model refers to the cash flow of the projects and is only subordinated to the assets of the borrower. Therefore, monitoring requirements are extensive (CGFS 2005).

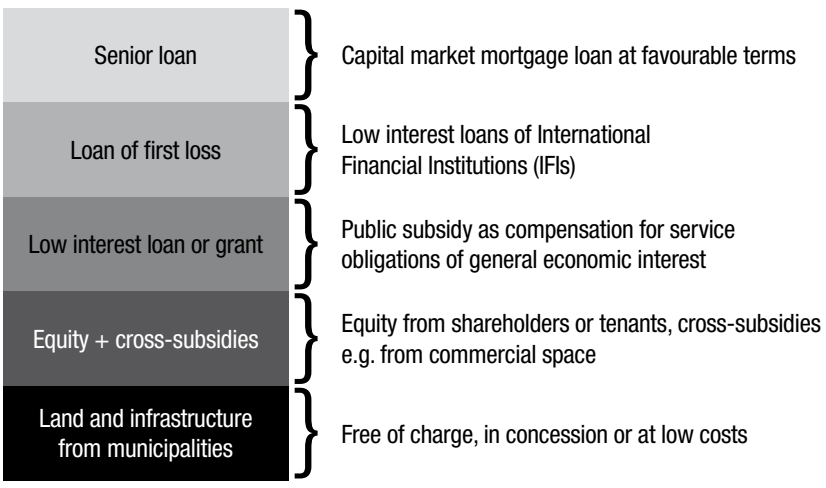
Liabilities are divided into tranches with different risk-return profiles, backed by the respective asset. As a major difference to common structured financing, H!FACT financing operates with very low risks. The bigger part of the tranches may be characterised as equity capital. This applies to the provision of land and infrastructure by the municipalities, own equity of the borrower, cross-subsidies and state subsidies, as well as to the low interest loans of IFIs. Remaining financing demand may be covered by senior loans. There is no need for junior loans or mezzanine capital.

The scheme relies on a comprehensive economic and legal framework. The development of a standardised product is unlikely. H!FACT financing will always require customised solutions and at considerable quantities (CGFS 2005). Rental housing requires the establishment of a rent organisation. While such a business unit may be installed with a volume of some 500 rental dwellings, an economically self-sufficient organisation takes 1,000 to 2,000 rental dwellings, as seen from experience of Austrian LPHA.

H!FACT financing is, of course, in line with EU-legislation, particularly regarding state aid. Analysing current jurisdiction, a set of rules is identifiable: clear definition of services of general economic interest in the field of social housing (target groups), limitation of subsidies to additional costs of these services and transparent and separate accounting principles (EC 2005/179, ECR I-7747/2003 The "Altmark Trans GmbH" Case). The new financing model may very well be combined with PPP-housing legislation.

The financing model described above has been applied to Montenegro and is in preparation for being applied to Albania. The preconditions in Montenegro have been particularly advantageous. In 2007, a key political player was identified which held the capacity to influence housing policy. The Unions Fund for Solidarity Housing Construction (SFSSI – Sindikalni fond za solidarnu stambenu izgradnju) or Unions Fund had established a funding scheme from member companies, established contractual agreements with a number of municipalities on the provision of land and infrastructure free of charge and gained experience with realising first residential buildings with affordable condominiums in the capital city Podgorica. The dwellings produced were to be sold to the beneficiaries at slightly above own costs. Costs for land and infrastructure were not charged. In this way prices of the dwellings were about two thirds below market level at that time (which has decreased meanwhile, see Table 2). Even though the allocation of dwellings followed an objective procedure, social targeting was deficient and the dwellings could be sold at market prices after only two years. With this model, the entire flow of subsidies was channelled towards the purchaser with few benefits for sustaining the housing organisation.

Graph 4 Tranches of structured financing for PPP-housing



Source: IIBW

H!FACT financing provided both an opportunity and a challenge for the Unions Fund. Co-financing with a low interest loan of an IFI to cover risks of first loss promised an important increase in their capacity. Availability of international funding also enhanced the position of the Unions Fund within the political dynamics in Montenegro. Nevertheless, it was demanding to realise the required changes in housing policies. Affordable rental housing was identified with public housing, which raised past institutional memories of former times when rental housing generated many problems for the landlord. Indeed, privatisation of the former social housing stock in the 1990s was experienced by the responsible public authorities as a relief. Rethinking rental housing therefore required a significant paradigm shift. Most helpful was the reasoning that rental housing entails long term returns and the creation of assets in the hands of the housing organisation. Considering affordable rental housing not only from a social policy point of view, but also from an economic perspective, implied a division of the subsidy flows. From the acquired subsidies, whilst a considerable part benefits the tenants, another important part builds capacity in housing organisations.

2008 brought major changes. The Unions Fund was re-established as a social partnership model. The Trade Union, together with the Government and the Federation of Employers, established the Montenegrin Fund for Solidarity Housing Development (CFSSI – Crnogorski fond za solidarnu stambenu izgradnju) with funding from all three shareholders. With this political action, the new Fund made previous plans for policy development factual.

IIBW and DIGH designed a financing model, following the principles of H!FACT financing described above, towards the implementation of an affordable rental housing market in Montenegro. On this basis, in 2008 and 2009 first loan applications for the realisation of mixed tenure residential buildings with some 130 rental apartments were accepted and are currently being developed. Within a few years, approximately 500 to 1,000 rental dwellings shall be developed, which will build upon an efficient and self-sufficient rent organisation within the Solidarity Fund.

Since then, IIBW has been invited to contribute towards the ongoing process of developing housing legislation for Montenegro. In January 2009, the Montenegrin Government drafted a PPP-housing Law to be further developed and disclosed within the current year. Further, rent regulations and subsidy regulations linked to the PPP-housing Law will also be developed.

The approach to establish the legal framework for a new business sector in affordable housing as Public-Private Partnership and to create a financing scheme on the basis of structured financing is not only a perspective for transition countries; it also provides opportunities for developing countries (UNHABITAT 2003), but this is beyond the scope of this contribution.

6. Summary and conclusions

Considering the effects of the current worldwide economic crisis, the impact of the housing sector on the economic development is obvious. Despite the need for further detailed analysis, at first glance it shows that integrated social housing sectors of adequate size contribute not only to the more stable development of housing markets, but also have a beneficial impact on the economic development as a whole. If this is the case then social housing must not only be considered as sound social policy but even more importantly, as a strategic instrument of economic policy. Towards this goal, a PPP-housing sector offers persuasive opportunities as a new business model operating within the private sector, but with support and under strict supervision of the public sector. PPP-housing can address urgent housing problems in transition economies, as it has done in many Western countries for the past sixty years as a core feature of the European social model.

Analysing the opportunities to establish affordable housing in CEE, IIBW has identified two important anchors. First, the business model of PPP-housing companies must be defined by law, as building up assets is promoted by public funding. Second, a sound financing model is required. Both features are described in detail in this contribution.

PPP-housing is designed as an alternative to private housing and to public housing. The companies are managed on a private market basis, but have to accept thorough public supervision and audit. Over the years, business operations may generate quite substantial assets. This results in economically strong companies with a sound and secure position on financing markets and markets for construction services. However, it also requires strict regulations regarding the treatment of profits and assets. Therefore the PPP Housing Law, proposed for Romania and Montenegro, defines that profits should be made, but must be reinvested in housing, and that assets cannot be 'cashed in' by the owner, but have to remain within a closed circuit of social welfare housing.

H!FACT financing is described as a model of structured finance, aimed at rents of below €2 EUR/m². It is composed of several tranches, including land and infrastructure for low or no costs, public subsidies of 30-40% of construction costs, loans to cover the risk of first loss provided by the Dutch Fund DIGH and capital market financing, classified as senior loans.

The model is to be implemented in Montenegro. There are preparations to do the same in Romania and Albania.

References

Amann, W. (2005) *How to boost rental housing construction in CEE-/SEE-Countries*, The Housing Finance International Journal, IUHE, 12/2005.

Amann, W. (2006) *Rental housing for middle income groups a challenge for PPP-models*, in: Proceedings of the World Bank Conference Housing Finance in Emerging Markets, March 15-17, 2006.

Amann, W., Beijer, E., Komendantova, N., Neuwirth, G., Roy, F., Schimpel, M., and Schwimmer, W. (2006) *H!FACT - A Housing Finance Agency for CEE/SEE. Feasibility Study*, Vienna, IIBW.

Amann, W. and Mundt, A. (2005) *The Austrian System of Social Housing finance*, www.iibw.at.

Amann, W., Lawson, J., Mundt, A. (2009) *Structured financing allows for affordable rental housing in Austria*. The Housing Finance International Journal, June 2009.

CGFS – Committee on the Global Financial System (2005) *The role of ratings in structured finance issues and implications*, Bank for International Settlements.

Dübel, H.-J. (2003) *Housing Policy in Central European Countries in Transition*, Vienna, Center of Legal Competence.

Dübel, H.-J., Brzeski, W.J., and Hamilton, E. (2006) *Rental Choice and Housing Policy Realignment in Transition, Post-Privatization Challenges in the Europe and Central Asia Region*, Washington, The World Bank.

EC (2005/179) *Community framework for state aid in the form of public service compensation.*

EC (2005/842) *Commission Decision of 28 November 2005 on the application of Article 86(2) of the EC Treaty to State Aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest.*

EC (2006/1080) *Regulation of the European Parliament and of the Council of 5 July 2006 on the European Regional Development Fund and repealing Regulation (EC) No 1783/1999.*

EC (2006/177) *Communication from the Commission. Implementing the Community Lisbon programme Social services of general interest in the European Union.*

EU Parliament - Urban-Housing Intergroup (04/2006) Proposal of a European *Charter for Housing.*

Euroconstruct (2008) *Summary of the European construction markets* 12/2008, Brussels, Euroconstruct.

European Court (ECR I-7747/2003) *The "Altmark Trans GmbH" Case.*

IIBW (Ed.) (2007) *Implementation of European Standards in Romanian Housing Legislation. Final Report.* Research study commissioned by the Romanian Ministry of Development, Public Works and Housing. With the collaboration of Wolfgang Amann, Ioan A. Bejan, Helmut Böhm, Nadeyda Komendantova, Mihai Mereuta, Alexis Mundt, Theo Österreicher, Ciprian Paun, Gerhard Schuster, Andreas Sommer, Arin O. Stanescu, Walter Tancsits. Vienna, IIBW.

Kemeny, J. (1995) *From Public Housing to the Social Market, Rental Policy Strategies in Comparative Perspective*, London, Routledge.

Kemeny, J., Andersen, H.T., Matznetter, W., and Thalman, P. (2001) *Non-retrenchment reasons for state withdrawl developing the social rental market in four countries.* Institute for Housing and Urban Research Working Paper 40, Uppsala University.

Kemeny, J., Kersloot, J., and Thalmann, P. (2005) *Non-profit Housing Influencing, Leading and Dominating the Unitary Rental Market. Three Case Studies*, in: Housing Studies, Vol. 20 (6), pp. 855-872.

Lugger, K. and Amann, W. (Ed.) (2006) *Der soziale Wohnbau in Europa. Österreich als Vorbild*, Vienna, IIBW.Amann, W., Ball, M., Birgersson, B., Ghekiere, L., Lux, M., Mundt, A., Turner, B.

Lux, M. (2006) *Gemeinnütziges Wohnen Eine Herausforderung für Mittel-Ost- und Südost-Europa*, in: Lugger/Amann (Ed.) (2006), pp. 77-91.

Maechler, A. M. and Ong, L. L. (2009): *Foreign Banks in the CESE Countries: In for a Penny, in for a Pound?* IMF Working Papers 09/54.

Ministry of Environmental Protection and Urban Planning of Montenegro (2005) Housing Policy Action Plan.

Mundt, A. (2006) *Sozialer Wohnbau und EU-Recht*, in: Lugger/Amann (Ed.) (2006), pp. 93-100.

OECD (2005) *Housing Finance Markets in Transition Economies. Trends and Challenges*, Paris, OECD.

OENB (2009) *Konjunktur akturell. Berichte und Analysen zur wirtschaftlichen Lage*, Vienna, OENB.

PRC Bouwcentrum International (2005) *Sustainable Refurbishment of High-Rise Residential Buildings and Restructuring of Surrounding Areas in Europe*, Report for European Housing Ministers', in: conference proceedings 14-15 March 2005, The Netherlands, PRC.

Scheiblecker, M. (2008) *Auswirkungen der Finanz- und Immobilienkrise auf die Realwirtschaft,* in: WIFO-Monatsberichte 8/2008, pp. 577-91.

Schmidinger, J. (2008) *Wohnbaubanken und gemeinnützige Bauvereinigungen – eine Partnerschaft für nachhaltig günstiges Wohnen*, in: Lugger, K. and Holoubek, M. (Ed.) *Die österreichische Wohnungsgemeinnützigkeit – ein europäisches Erfolgsmodell*, Vienna, Manz, pp. 259-68.

Springler, E. (2008) *Wohnbaufinanzierung aus volkswirtschaftlicher Sicht*, in: Lugger, K. and Holoubek, M. (Ed.) *Die österreichische Wohnungsgemeinnützigkeit – ein europäisches Erfolgsmodell*, Vienna, Manz, pp. 281-92.

Tsenkova, S. (2005) *Trends and Progress in Housing Reforms in South Eastern Europe*, Paris, CEB.

UIPI – International Union of Property Owners (2003) *Immovable Property in Europe Report 2003 about Protection of Property, Taxation, Rentals, Technical Requirements and Services for Property Owners*, Conference Proceedings, Berlin.

UNECE (2005a) *Guidelines on Social Housing*, Geneva, UNECE.

UNECE (2005b) *Housing Finance Systems for Countries in Transition. Principles and Examples*, Genova, United Nations Publications.

UNECE (2005c) *Guiding Principles for Public/ Private Partnerships (PPP) in Land Administration*, Genova, United Nations Publications.

UNHABITAT (2003) *Rental Housing. An essential option for the urban poor in developing countries*, Nairobi, UNHABITAT.

Walko, Z. (2008) *The Refinancing Structure of Banks in Selected CESEE Countries*, in: ÖNB Financial Stability Report 16, pp. 76-95.

Biographical Note

Wolfgang Amann is the director of the private research and consultancy company IIBW – Institute for Real Estate, Construction and Housing Ltd., based in Vienna, Austria and associate professor at FHW – University of Applied Sciences in Vienna. IIBW has executed numerous projects for public and private clients in Austria, CEE and other EU countries. The projects focus on financing, housing policy, legislation and market research. Wolfgang Amann is an expert consultant for the Austrian Parliament, member of the UN consulting group REM – Real Estate Market Advisory Group and coordinator of the working group "Legal aspects of building, land and planning" in the European Network for Housing Research. He has published approximately 150 scientific articles and studies.

An Alternative Financing Method for Affordable Housing

↳ By Dr Janet Xin Ge[1]

I. Introduction

Although the global financial crisis (GFC) slows down economic growth and pushes up the unemployment rate, Sydney house values jumped 5.2% in the first five months of 2009 [1]. According to Saulwick [2], the median Sydney house and apartment price were $529,926 (AUD) and $367,751 respectively, recorded in May 2009. The reasons of prop up prices are suggested as the attraction by low mortgage rates and the Federal Government's first-home owner grant of up to $21,000 [1].

House prices have increased substantially during the last two decades. Since 1996, the Australia-wide average price for a detached house has risen more than 80% in real terms [3]. Incomes have increased far less than house prices have increased during the last 25 years [4]. Australia, in particular Sydney, has been rated as one of the severely or seriously unaffordable places in the world where the national Median house price was 6.6 times annual income (Sydney was 8.5), more than double the "affordable" standard of 3.0 [5]. Figure 1 shows the situation in all markets of Australia where there has been a marked loss of affordability over the past 10 years. Without government support, many households are not able to access homeownership.

This paper provides a financing model improving housing affordability using superannuation[2] funds. The study is organised in the following sequence: First, a brief review of finance models supporting housing affordability and government housing policies is provided; second, a description of the proposed financing model and study of benefits is delivered; finally, risks of the model are discussed, leading to a conclusion.

II. Reviewing finance models for housing affordability and government policies

Income not only influences the ability of a household to afford the continuing cash flow burdens of housing, but influences a household's lifetime wealth prospects [6]. Lack of down-payment for accessing home ownership and lack of income to pay rent or mortgage over time are the two main issues for the low-moderate income families [7]. In recent years, many families have benefitted from the much reduced down-payment requirement and long amortisation period which have allowed them to become home-owners.

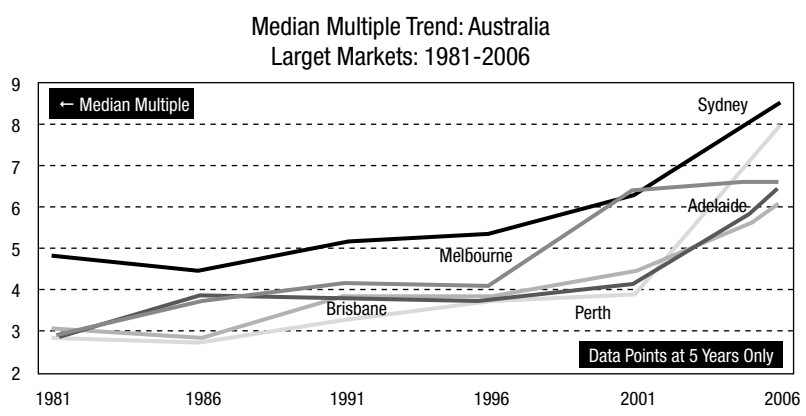
There are three sources of financing the purchase of a home: (i) the individual family's own available funds; (ii) borrowing from others; and (iii) government support [8]. Low-moderate income families have limited capacities to provide own funds. As they are often not considered creditworthy, they have to rely on government policies to improve their access to homeownership.

Gibb and Whitehead [8] evaluated four housing finance systems provided by the UK government for the period of 1975-2000. The four finance models were: 1) removal of mortgage tax; 2) the right to buy their own home at a discount related to the length of time in the tenancy; 3) restructuring social housing finance suing mixed funding such as private loans; and 4) demand subsidies such as a means-tested personal housing subsidy. The results from the evaluation concluded that all models have successfully serviced its own terms, but they are far from being a coherent and sustainable housing finance policy.

Whitehead [10] studied a supply side finance policy for supporting housing affordability through the land-use planning system in England. The system is a regulatory mechanism aimed at increasing the efficiency of land use and ensuring greater equity [11]. For example a zoning system or a local government development plan can state or designate particular areas only to be used for housing. The findings suggested that using the land-use planning system is one valuable tool to support the provision of affordable housing but the implementation must be used along with other policies to enhance its effectiveness.

Some of the different models and structures of Housing Provident Funds in the Asian countries were discussed by Chiquier and Lea [16]. The Housing

Figure 1 Affordability Scenarios in Australia [4]



1 Dr Janet Xin GE is a Senior Lecturer & Director at the School of the Built Environment, Faculty of Design, Architecture and Building, University of Technology Sydney, Australia. Xinjanet.ge@uts.edu.au. The Findings, interpretations, statements and conclusions expressed herein are those of the authors alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank or the institutions the authors work for or are affiliated with. The author is not an employee of the World Bank Group.

2 Superannuation is a retirement (including pensions) scheme in Australia. It has a compulsory element whereby employers are required by law to pay an additional amount based on a proportion of an employee's salaries and wages (currently 9%) into a complying superannuation fund, which can be accessed when the employee meets one of the conditions of release contained in the Schedule of the Superannuation Industry Supervision Regulations 1994. Wikipedia (2009) Pension, Access on 12 January 2010 at http://en.wikipedia.org/wiki/Superannuation.

Providing Fund (HPF) is a housing finance model implemented by the Chinese government [12] in 1994. The HPF is a mandatory housing fund whereby the employer and employee contribute 5% equally of the total salary [13] for the sole purpose of purchasing a home including down-payment, monthly payment and building repairs. The employees are allowed to simultaneously borrow from the HPF and commercial banks for housing purchase, i.e., personal housing loans in advancing homeownership and the remaining funds will be returned to the employee upon retirement. The effects of the model have shown a dramatic increase in homeownership in China. In Singapore, it is suggested that the Central Provident Funds (CPF) is a technically and politically feasible model for affordable housing. Residents are required to contribute a large portion of their gross income (around 35% for those 35 years of age or younger) into the CPF [16]. The household can borrow up to 20% of the housing loan from their savings in the CPF for down payment and loan repayment from a government agency, the Housing Development Board. The distinct feature of the CPF is that the borrowing from CPF must be repaid over time, and the housing lending is separated from the provident funds operations [16].

According to the definition of the Australian government, housing is affordable "if it costs no more than 30% of a household's gross income".

Table 1 Income categories in Sydney

Categories	Definition
Very Low Income Less than $31,600	Households receiving less than 50% of this gross median income
Low Income Less than $50,600	Households receiving between 50% and 80% of median income
Moderate Income Less than $75,900	Households on incomes between 80% and 120% of the median

Note: the gross median annual income for the Sydney metropolitan region is considered to be $63,300 for the financial year 2008-09.

Source: NSW government [3]

Table 2 PROGRAMMES PROVIDED BY AUSTRALIAN GOVERNMENT – CASE OF NSW

Programmes	Summary
The First Home Owner Grant Scheme (FHOGS)	Eligible first home owners can receive a $7,000 grant regardless of their income.
The NSW First Home Buyers Supplement (extended to 30 June 2010).	Eligible persons for the First Home Owner Grant is granted an additional $3,000 payment
The First Home Owner Boost scheme For contracts made 14/10/08 to 30/09/09 (inclusive)	First home buyers receive a boost of $14,000 for purchasing established homes and $21,000 for building a new home or purchasing a newly constructed home.
First Home Plus Scheme	First home buyers are exempted from stamp duty on properties valued up to $500,000 and on land valued up to $300,000.
Public housing - Rentstart	Provides financial help for homeowners experiencing temporary difficulties with repayments due to illness, unemployment, accident or some other unexpected life crisis
A Social Housing Growth Fund (Nov 08)	For Homelessness, Remote Indigenous Housing, and Social Housing
Affordable rental housing - the Centre for Affordable Housing	Provides and manage rental housing through, e.g., City West Housing Pty Ltd[3].
Affordable Housing Innovations Fund (AHIF)	Increase the supply of affordable housing through the Debt Equity model, e.g., St Marys and Rouse Hill Affordable Housing Projects[4]
Joint ventures, partnerships and planning instruments	Partnerships between state and local government, non-profit housing developers, community housing organizations and private financial institutions
Shared Equity Scheme	Allow the homebuyer to purchase greater equity from the other partner(s) over time

Source: NSW Government [3]

For example, the gross median annual income for the Sydney metropolitan region is considered to be $63,300 for the financial year 2008-09.

Table 1 categorises Sydney household's income as very low, low and moderate respectively.

However, many factors affect a household's income, such as number of children, health problems and work-related travel costs. A broad range of assistance programs have been offered by the government, in particularly to the low-moderate income households. Some examples of the programmes are listed in Table 2.

The next section provides an alternative finance method for supporting low-moderate income families gaining home ownership.

[3] City West Housing (CWH) was established in 1994 to implement the State Government's "Affordable Housing Program" in Ultimo/Pyrmont NSW Australia. It is a not for profit organisation, takes the role of a developer as well as a manager of its properties, and operates independently under the guidance of an expertise deriving from the Board of Directors. The CWH provides affordable housing for people in high need either living or working in Ultimo/Pyrmont or Green Square who are unable to secure affordable, long term housing in the local area. Housing is provided to people with gross household incomes of up to a maximum $80,180 per annum. Allocation of housing is determined by the level of an applicant's needs. City West Housing, accessed at http://www.citywesthousing.com.au/development.html on 12 January 2010.

[4] The NSW Government has secured land contributions to affordable housing in private developments in St Marys and the New Rouse Hill. These are longer term projects that seek to ensure that affordable housing is provided in new developments.
St Marys is a 15 to 20 year project where 150 land lots are expected to be secured for affordable housing. The first stage of the project involves the construction of 70 affordable rental units. The Centre for Affordable Housing has secured $10.4 million from the Rental Bond Board to fund the construction of the units. Stage 2 will involve the development of 80 units, potentially with a mixture of affordable purchase and affordable rental housing. At Rouse Hill, the NSW Government has secured 3% of all lots for affordable housing. This is expected to deliver 50 affordable lots for affordable housing. NSW Government Initiatives (2009) accessed on 12 January 2010 at http://www.housing.nsw.gov.au/Centre+For+Affordable+Housing/Affordable+Housing+in+NSW/NSW+Government+Initiatives.htm.

III. An alternative finance model

The proposed alternative financing model for low-moderate income households in improving their ability to access homeownership is the utilisation of superannuation funds (or super funds). Superannuation funds are the retirement funds (including pensions) schemes in Australia. The Australian government has identified that superannuation funds are an effective way for people to save money for their retirement. Employers are required to make compulsory contributions to superannuation on behalf of their employees by law. This is based on a proportion of an employee's salaries and wages (currently 9%) into a complying superannuation fund, which can be accessed when the employee meets one of the conditions of release contained in Schedule of the Superannuation Industry Supervision Regulations 1994 [14]. The funds are generally managed by financial institutes, such as UniSuper. The financial institutes construct investment portfolios based on the company goals and the preference of employees. The investment portfolio consists of long-term equities, bonds, real estate and cash investments both locally and overseas. Accordingly, the proposed model is applicable for households who have permanent jobs. The super funds can be estimated (without tax) in Table 3.

The reasons for suggesting super funds to be used as an alternative way financing affordable housing are as follows:

- Housing provides a shelter for households and a long-term investment [8],[9]. Households which commit to mortgage repayments for 25 to 30 years not only have the benefits of homeownership and expected capital gains in the property but also as an investment vehicle to hedge against inflation.
- Housing can be a component of investment portfolios for super fund investments. Scarcity of land resources with sustainable increasing of demand for housing can generate positive investment returns in the long-term. The performances of the Australian housing market over the last two decades have demonstrated the effects.
- Improve ability to pay mortgage commitments. Super funds provide an additional cash flow that improves the ability of the low-moderate households to pay their mortgages.

To demonstrate the benefits of super funds in improving housing affordability, the three income categories listed in Table 1 are used as the scenarios for this analysis. In this analysis, it is assumed that most low-moderate income households are first home buyers. Statistical data shows that the proportion of owner-occupiers in the 25 to 35 age group is less than 10% in Australia. A house price of $500,000 is used. Under the First Home Plus Scheme NSW [15], a first home buyer will receive stamp duty exemptions on homes up to this value. As a general rule, to purchase a property valued at $500,000, the lending institution will require a 20% deposit - i.e. $100,000.

A. Super Funds Help Savings for Housing Down Payment

Many families have permanent jobs but they are not able to access home ownership because they lack the initial down payment. Assuming the Table 2 super fund contributions are true, first home buyers purchasing a $500,000 house require an initial payment of $79,000, i.e. 20% of $500,000 equal to $100,000 minus the $21,000 received from the First Home Owner Grant. If families are to rely on super funds only for accumulating their housing down payment, it will take less than six years for moderate income households to access homeownership, and less than nine years and 14 years for low and very low income households respectively (excluded earned interest and investment returns). Table 4 illustrates the years required for the first home buyers saving enough for a down payment for a $500,000 home. With the help from super funds, at least families with low to moderate incomes have the ability to access funds for the initial down payment for homeownership.

B. SuperFunds Help Mortgage Repayments

Many families have to stay out of the housing market because they cannot meet the monthly mortgage payments. Super funds can perform very important roles to improve housing affordability. Assume 30% of the low-moderate household incomes are used to pay mortgages. The current standard variable rate is 5.74% stated in the Commonwealth bank. A rate of 6% and a 30 year loan period are used in this analysis. Three scenarios are illustrated below.

Table 5 shows the payment capacity for very low income families. 80% of mortgage from various levels of property prices are depicted in column (b) of the Table. 30% of income, i.e., $31,600 per year, from the very low income families is $790 per month. This amount is far less than the required monthly mortgage payments. If they can use their super funds, which is $5,600 per year without tax, their mortgage payment capacity will be increased. However, they are only able to buy a property under $250,000, in which the property is either far away from the Sydney city region, or they can only obtain very small units that do not meet most families' needs. For the very low income family group with a yearly income of $31,600, they must rely on public housing or government subsidies.

Super funds can make a big difference for the low-moderate income family groups regarding their monthly mortgage repayments. Figure 2 indicates that the monthly mortgage payment capacity increases 60% from the "without" to "with" Super plus 30% income line for the low income families. They are originally only able

Table 3 Yearly Super Funds

Income category	Super Guarantee Payment (9% p.a.)	Employee Payment (9% p.a.)	Total (18% p.a.)
Very low ($31,600)	$2,844	$2,844	$5,688
Low ($50,600)	$4,554	$4,554	$9,108
Moderate ($75,900)	$6,831	$6,831	$13,662

Table 4 Year savings by Super Funds

Income category	Yearly Super Funds	Year savings	Total savings
Very low ($31,600)	$5,688	14	$79,632
Low ($50,600)	$9,108	<9	$81,972
Moderate ($75,900)	$13,662	<6	$81,972

to afford a $250,000 property with their income level. However, with super funds, they can afford to pay a mortgage at a price of $375,000.

For the moderate income families, the scenario is optimistic. Without super fund supports, the family group is only able to purchase property at a price level of $375,000. Nevertheless, they are now able to pay for a property priced at $630,000 when super fund is used (Figure 3). In this case, the moderate income families can afford a home within the Sydney region.

IV. Summary and conclusions

This paper has investigated an alternative method for improving housing affordability through finance by superannuation. The model has shown that the low-moderate income families can afford their down payment to access home ownership and the capability of monthly payment increases by 60%. The results suggest that the model has improved families' affordability for housing both by reducing the number of years to accumulate the down payment and the monthly mortgages. The model is sustainable because the housing value is expected to increase in a long-term investment.

Many families are not able to access homeownership without government support. However, there are constraints of government spending on housing subsides, in particular in the economic downturn. The use of superannuation finance is a win-win solution for both the low-moderate income families and the government, in which the government achieves its goal improving housing affordability and the families benefit from accessing homes as long-term investments.

The above scenarios imply that the very low income family groups and households that are unemployed have been neglected from the super funds' finance models for housing. This result agrees with the findings from Chiquier [16] that the lower end of income families receive limited benefits from Housing Provident Funds (HPF). Some low-moderate income families may also be prevented from entering the housing market when house prices are increasing persistently since the amounts lent are based on households' gross incomes. There are also concerns on the accrued savings being insufficiently remunerated for retirement needs [16]. Administrative costs are involved in managing super funds and lending performance. Lessons can be learnt from other countries for the management and implementation of the super fund model for improving affordability.

Table 5 Mortgage payment capacity for very low income families

(a) Income	(b) Borrow	(c) Mortgage	(d) Very Low Families		(e)
Property	80%	per month	without super	with super	(d)-(c) Difference
Price			$31,600	$5,688	
$250000	$200000	$1,199	$790	$1,264	$65
$312500	$250000	$1,499	$790	$1,264	-$235
$375000	$300000	$1,799	$790	$1,264	-$535
$425000	$340000	$2,038	$790	$1,264	-$774
$450000	$360000	$2,158	$790	$1,264	-$894
$475000	$380000	$2,278	$790	$1,264	-$1,014
$500000	$400000	$2,398	$790	$1,264	-$1,134

Figure 2 Mortgage payment capacity with and without super funds for low income families

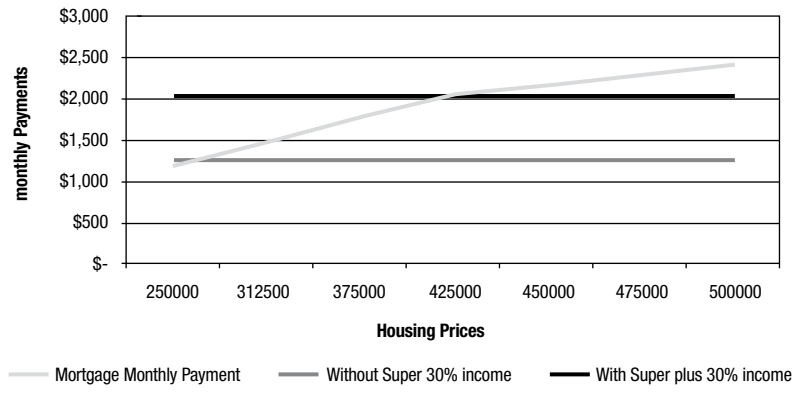
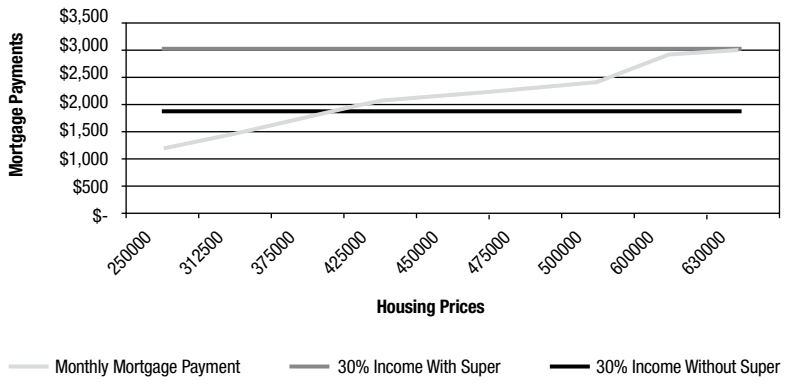


Figure 3 Mortgage payment capacity with and without super funds for moderate families



References

[1] C. Yeates (2009), Sydney house prices defy downturn, The Sydney Morning Herald, 1 July 2009. Accessed on 02 July 2009 at http://business.smh.com.au/business/sydney-house-prices-defy-downturn-20090630-d3ty.html.

[2] J. Saulwick (2009), House prices down 4% in a year, The Sydney Morning Herald, 1 May 2009. Accessed on 02 July 2009 at http://business.smh.com.au/business/house-prices-down-4-in-a-year-20090430-aozy.html

[3] NSW government (2009), Affordable housing frequently asked questions overview, Access 01 July 2009 at www.nsw.gov.au.

[4] J. Wilkinson (2005), Affordable housing in NSW: Past to Present, NSW Parliamentary Library Research Service, Briefing Paper No 14/05, 2005.

[5] W. Cox and H. Parletich (2007), 3rd Annual Demographia International Housing Affordability Survey: 2007 - Ratings for Major Urban Markets. Demographia & Parletich Properties Limited.

[6] R.J. Pozdena (1988), The modern economics of housing, Westport, CT: Quprum Books.

[7] J. X. Ge (2008), A conceptual model for improving housing affordability in Sydney, in The 13th Asian Real Estate Society (AsRES) Annual Meeting and International Conference Proceedings (Wang, H Wand Wang, K (Eds), Shanghai Institute of Economics and Finance, pp. 3-11. (ISBN: 978-7-5642-0263-7/F – 0263).

[8] K. Gibb and C. Whitehead (2007), Towards the more effective use of housing finance and subsidy, Housing Studies, Vol. 22, No. 2, pp. 183-200.

[9] I.F. Megbolugbe, A.P. Marks and M.B. Schwartz (1991), The economic theory of housing demand: a critical review. The Journal of Real Estate Research, Vol. 4, No. 2, pp..91-210.

[10] C.M.E. Whitehead (2007), Planning policies and affordable houisng: England as a successful case study? Housing Studies, Vol. 22, No. 1, pp. 25-44.

[11] A.W. Evans (2004), Economics and land-use planning, Oxford: Blackwell.

[12] S. M. Li and Z. Yi (2007), Financing home purchase in China, with special reference to Guangzhou, Housing Studies, Vol. 22, No. 3, pp. 409-425.

[13] Ministry of Finance, PR China (1994), Caizhengbu Guowuyuan Zhufang Zhidu Gaige Xiaozu zhongguo Renmin Yinhang Guanyu Jianli Zhufang Gongjijing Zhidu de Zanxing Guiding (Interim provisions on establishing the system of housing provident Fund) (Document No. 126). Accessed at http://www.realestate.gov.cn/file.asp?recordno = 2450&teamno = 103&line = 100 on 03 December 2007.

[14] Wikipedia (2010), Superannuation in Australia, Accessed on 12 Jan. 2010 at http://en.wikipedia.org/wiki/Superannuation_in_Australia.

[15] NSW Government (2010), First Home Plus, Accessed on 12 January 2010 at http://www.osr.nsw.gov.au/benefits/first_home/general/fhplus/.

[16] Chiquier, L. (2009) Housing provident funds, in Chiquier, L. and M. Lea (editors), Housing Finance Policy in Emerging Markets, The World Bank, page 277 accessed on 20 January 2010 at http://books.google.com.au/books?id=1x3U5hyAo8sC&pg=PT535&lpg=PT535&dq=Chiquier,+Lea+(editors),+Housing+Finance+Policy+in+Emerging+Markets,+The+World+Bank,&source=bl&ots=EGkk0JoKxT&sig=Sl_0cRZ4g7_4UlYZYS7_buqY9SM&hl=en&ei=BhdXS7feM82TkAWA15TrBA&sa=X&oi=book_result&ct=result&resnum=3&ved=0CBAQ6AEwAg#v=onepage&q=&f=false

The SwapRent℠ Transactions for Homeowners, HELM and FARM – A New Alternative Housing Finance System

↳ By Ralph Liu[1]

1. Background and Introduction of the SwapRent℠ Concept

The history of SwapRent℠ can be traced back to an effort to develop a consumer-oriented real estate derivatives business that included an Internet based on-line real estate index futures and options exchange in the US, back in 2001. The purpose was to bring the economic benefits of simplified financial derivatives to consumers who are already, or intend to be, involved in property investment related transactions.

Bearing in mind that conventional financial derivatives, in the way they had been practiced before, had too many potential problems if not managed carefully and they were typically way too complicated for the average consumer, the goal was aimed at inventing something totally new from scratch and developing a fool-proof business methodology so that the new concepts and financial transactions could keep the similar economic benefits for consumers to enjoy but, at the same time, avoid all those potential pitfalls of conventional financial derivatives.

Therefore, the original objectives of the invention of SwapRent℠ and its embedded suite of consumer housing financial products were to create a totally new set of consumer financial concepts and products, as well as a new system of fool-proof uses of related financial transactions. The aim was that homeowners and property investors could take advantage of the economic benefits of conventional financial derivative contracts, similar to what stock market investors have been doing for decades, without the complexity, opaqueness and the danger of potential abuses by either the consumers or the financial institution vendors.

The best example in the past of such successful consumer banking products in housing finance is the prepayment option that was built into a conventional fixed rate long-term mortgage loan offered in the US market. The prepayment option is the choice for borrowers to re-finance for whatever reasons, with the usual main economic reason being that a new lower borrowing rate has become available. This option is, in fact, a form of an interest rate derivative contract (a call option on the interest rate level).

However, banks that offered this economic benefit to homeowners have never marketed it as a derivative contract and consumers have been taking advantage of its economic benefits without any potential dangers or problems for decades. These objectives were exactly what SwapRent℠ and its embedded housing finance products such as HELM (Home Equity Locking Mortgage) and FARM (Flexible and Reversible Mortgage) were originally designed to achieve in a similar way.

The research and development breakthrough came in early 2006 and, hence, the birth of the new "economic owning", "economic renting" and the "temporary own-rent switching" financial concepts. A new type of financial transaction was created to facilitate the temporary own-rent switching concept by homeowners or commercial property owners. The name chosen for it was "a SwapRent℠ transaction".

Therefore, a SwapRent℠ transaction has become the realisation of the newly created consumer financial concepts of "economic owning, renting and temporary own-rent switching", while keeping the existing legal ownership structure for homeowners and other investment property or commercial property owners during the entire contract period.

A conventional legal ownership of a property entitles a property owner the right to occupy and use the property (a usufruct), which we could call the "Shelter Value" (Use Value), as well as the right to obtain future financial upside appreciation gains and, along with it, the obligation of bearing downside depreciation loss, which we could call the "Economic Value" (Investment Value). A SwapRent℠ contract aims to separate the economic value of a conventional property ownership from the shelter value in order to allow the owners to better manage the financial risk and return aspects of a property ownership, while maintaining their shelter value at all times.

A generic SwapRent℠ transaction will allow a property owner to efficiently and effectively switch between owning and renting for a part or all of his economic ownership in the property for a finite period of time at any time and at a very low cost. It also allows the owner reversibly to switch back later on if it has become desirable at any time at the same low cost. This could all be done while the property owner keeps the legal title of his property and the right to occupy and use the property at all time. Therefore all the economic benefits of shared appreciation on the upside in exchange of a stream of present cash flow income, or those of downside protection hedging objectives, could be automatically realised when he/she simply does the reversible switch between economically owning and renting for a finite period of time.

From a commercialisation perspective, by focusing on the newly created consumer financial concepts of either full or partial "economic owning, renting and temporary own-rent switching" will make the education and promotion of those inflexible conventional Shared Appreciation Mortgage (SAM) or Shared Equity Mortgage (SEM) concepts and products redundant. Since the new SwapRent℠ concept and its embedded mortgage product could deliver the same economic objectives as a much better alternative. It offers many more benefits due to its flexibility, i.e. in that the appreciation component

[1] Ralph Y. Liu is the Founder and Chairman of the Southern California-based Advanced e-Financial Technologies, Inc, http://www.SwapRent.com. The Findings, interpretations, statements and conclusions expressed herein are those of the author alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organizations, or those of the Executive Directors of The World Bank or the institutions the author works for or is affiliated with. The author is not an employee of the World Bank Group.

could be easily detached, traded in a secondary market and be re-attached to any conventional mortgage product again.

Nor will there be any need to educate the consumers and promote the complicated derivatives trading strategies such as selling a covered call option strategy or deciding when and how to buy call options and put options, etc. since a SwapRent℠ contract automatically delivers the same economic benefits of these derivative trading strategies by simply letting property owners switch between owning and renting for a period of time.

For consumer-oriented business, sometimes the best way to introduce a new economic concept to consumers may be to introduce something new through something old that they are already very familiar with. Every consumer around the world is already familiar with the difference between owning and renting a real estate property. For example, by being an owner of a real estate property, the owner knows he will be entitled to the future financial appreciation of the property in the future. At the same time he knows he will have to bear the risk of downside depreciation.

By being a renter, the tenant of a real estate property knows that he will not have any benefits of future appreciation or the risk of losing money if property value declines. Therefore similarly, by becoming an "Economic Renter" a consumer will understand that similar to being a conventional renter, by definition, he will not have the benefits of any potential future upside appreciation or the risks of potential future downside depreciation.

For example, if a person chooses to reduce monthly expenses that he/she spends on housing every month, he/she sells his house and becomes a conventional renter for the next five years. He/she gets to pay a lower monthly rental payment than the previously much higher monthly mortgage payment. Five years later if the house has appreciated in value by 20%, he/she will have no right to go back to the new owner and ask for a part of the financial gains. No matter how dumb this person may act for his failure to read the fine print, no laws or liberal politicians would be on his side. The proceeds he received from selling his house five years ago could have had many other better uses, including some investment profits on any other financial assets.

A very important thing to note is that as a new concept and methodology, a SwapRent℠ transaction will only function as a tool and add a well-defined time horizon to help property owners realise their investment objectives or to face up the monthly income reality when he/she is forced to make the temporary own-rent switch when he loses his economic monthly income capability. It will not alter the original reasons why people may want to switch or be forced to switch between owning and renting. People make own-rent switch based on normal economic reasons or personal factors such as monthly income reality, investment views, change of household economic situations, etc.

The SwapRent℠ transaction will only facilitate this situation and make the transition easier, since the transaction cost is drastically lowered as compared to the conventional own-rent switching that involves the buying and selling of the conventional legal title ownership in a real estate property. Therefore, the SwapRent℠ methodology should not have to bear the burden of the questions why do homeowners or investors want to make certain switching transactions. It is only a more efficient methodology to make the switching more flexible and reversible in a very low cost way.

When a homeowner has already decided at his own will, or is forced to make an own-rent switch when he faces an imminent foreclosure, or when an investor has already made the decision that it is time to for him to invest in real estate, both the homeowner and the investor could save plenty of money and administrative hassles by using the SwapRent℠ alternative, as compared to the conventional own-rent switch. The traditional way requires to transfer the legal title of a real estate property in a purchase and sale contract, which usually requires brokerage commissions, title search fee, property taxes, insurance cost and property management expenses to find a renter for the property, etc.

The following chapters of this paper comprise further descriptions and applications of both the transactional mechanics of a SwapRent℠ contract and its related consumer housing financial products such as HELM and FARM. Put together, they are meant to outline a generic blueprint to develop an alternative housing finance system and to stimulate readers' further thinking and research on how to customise these new innovations according to local real estate market practices for a potential implementation in various countries around the world.

From the governmental perspective, tightening the credit spigot slightly and introducing non-lending based FARM type of housing finance products to homeowners could stabilise the society without sacrificing any overall homeownership level for its citizens. In fact, FARM may actually help increase it and build the homeownership on a much sounder footing.

For the first time, governments in many countries would be able to perform economic stimulus without resorting to using interest rates only. The new dimension offered by the SwapRent℠ contracts will allow governments to increase or decrease the demand for real estate property by simply adjusting the availability of monthly cash flows used for shared economic co-ownership with property owners as provided by the free market based economic landlord investors.

As shall be fully explained below, while HELM seems to be able to offer timely aids to the current mortgage default problems through the shared appreciation concept, as a new alternative, FARM seems to be much better suited to build stronger foundations for a new housing finance system going forward for our society.

2. How Does A SwapRent℠ Contract Work

In the past few years the fictitious housing affordability in the US was created based on transient short-term variable interest rates. When rates were already trending to be higher, the low-income borrowers were still lured into owning real estate properties by the "teaser rates". Those subprime borrowers were originally not qualified as owners. They could, at most, rent to have a shelter to sleep in. They should have been renters to begin with, given that there was no other true affordable housing alternative offered through any effective conventional shared equity or shared appreciation finance product in the US.

The answer to the perennial question of whether to own or to rent varies as time evolves. Sometimes the rental rate is higher (say at 2% of house value per annum) and more expensive than buying (say at a temporary teaser rate of 1%). Other times the reverse is true (say at a 5% mortgage rate when teaser rates expire). It would be optimal if property owners could have a choice by which to separate the legal ownership from the economic interests and hence the financial risks and rewards of owning a property; a way to continue the legal ownership and synthetically switch back and forth between owning and renting only economically and temporarily according to the market conditions and their monthly income reality at the time.

That goal is what the SwapRent℠ market was designed to achieve. Homeowners could use them in a SwapRent℠ embedded mortgage HELM (Home Equity Locking Mortgage) either with their existing lenders through a loan mod conversion or with any other new lenders that offer them through a refinancing arrangement. Alternatively they could be offered through FARM (Flexible And Reversible Mortgage), which is a new way that allows renters to flexibly and reversibly enjoy partial or full future appreciation of the real estate property that they occupy. If the generic SwapRent℠ rate is trading at 2% of the current house value and the current cost of owning as expressed in the mortgage funding cost is at 5% of the current house value in a 5-year SwapRent℠ contract example, there will be an annual 3% cost

differential between the SwapRent℠ payments and the mortgage payments. That means renting would be cheaper than owning at this point in time in this example.

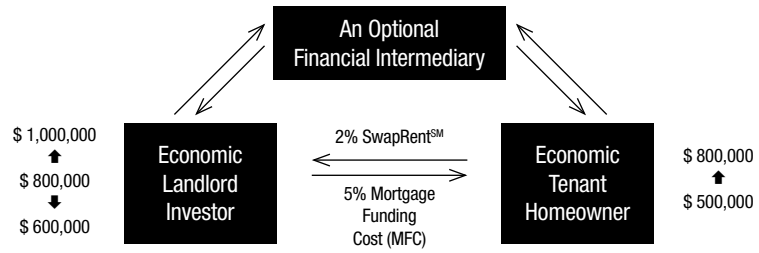
So, if the defaulting subprime borrowers decide to switch back to the more affordable renting only economically for a period of time they would be able to receive 3% annual saving subsidy in monthly payments from the economic landlord investors so that the borrowers could afford to continue to legally keep and stay in their homes. If they were to agree to become economic renters (of their own houses) for a period of time, they would not have any future appreciation benefits or downside depreciation risks during that time period, just like a conventional renter. The investors who act as the "economic landlords" by receiving the SwapRent℠ payments and paying out the mortgage funding cost would.

The homeowner or mortgage borrower could switch back to the full economic ownership when the SwapRent℠ contract expires or whenever they want to unwind the contract without restrictions before the contract terminates automatically at maturity. This may become desirable for them because they may have more monthly income to acquire more economic ownership later on, because they may decide to move and sell the house or simply because their views on the real estate markets have turned more positive.

The SwapRent℠ enabled economic renting could easily be done for only part of the house value, say 25%, 50% or 75% of the current house value instead of the entire 100%. That means that the homeowners could decide to be only partial economic renters for a period of time so that they could get just enough monthly subsidies to afford a home while still enjoy the remaining partial appreciation benefit. The low-income working family, first time homebuyers and the senior citizen community could all benefit further from the flexibility on both the notional amount and the duration of the economic renting period offered by a liquid SwapRent℠ trading market for their specific property, neighbourhoods or cities.

Conceptually, SwapRent℠ is a new invention which provides an alternative way to both the buying/selling and the renting of a real estate property. The idea is to provide a very simple way in the minds of the property owners, which allows them to protect the gains from their home or commercial property equity value. As long as a property owner has the mental capability to sign a contract to purchase a house or to sign a lease to rent an apartment he or she should have the ability to sign a SwapRent℠ contract in order to stay out of the price fluctuation of his/her home or a commercial building that he/she owns for either a short or a prolonged period of time.

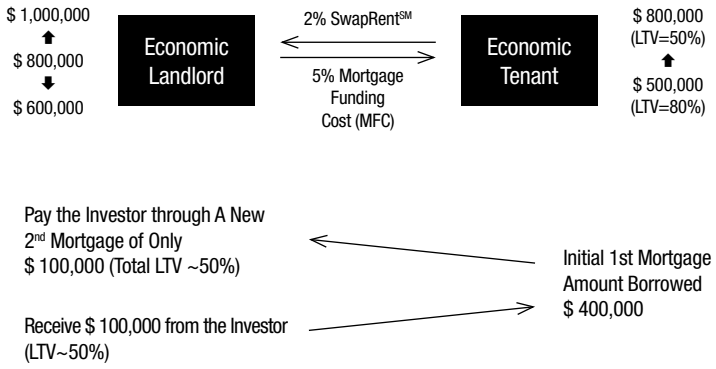
A Generic SwapRent℠ Transaction



The intermediary could be a bank, mortgage lender, a city, county or state government, Peer-to-peer business model operates without a middleman.

Settlement of A SwapRent℠ Transaction

50% Economic Renting Using Generic SwapRent℠ Example



The core principle and goal of these new user-friendly consumer financial product innovations is that homeowners or commercial property owners do not need to have advanced knowledge or education in financial derivatives or any other sophisticated institutional capital markets instruments in order to make the SwapRent℠ transactions. This goal was specifically set out so that a broader audience of homeowners could really learn, participate and enjoy the new economic benefits. Over time, consumers will develop expertise on using these new instruments from a fresh new consumer perspective without much of the legacy baggage of some of the undesirable practices of conventional financial derivatives developed on other financial assets in the past.

The business idea is to design and create a very simple concept and methodology for property owners to simply "rent" ("SwapRent℠") (to pay a "rent" or to pay a "SwapRent℠" to stay in) their own house for a certain period of time and therefore to achieve the objective of not having a potential future loss or gain in their home equity value during that same time period, while keeping the existing legal title ownership of the property.

Currently, the only business method available to a property owner in order to lock in the gains or losses in the home equity value is to make a "sale and lease back" transaction. This includes a real property sale transaction and the renting from the new owner of a property that the original property owner had already been occupying. The high transactional cost associated with it, as well as the tax and legal considerations are usually the deterrents for property owners to widely adopt the "sale and lease back" transaction as a temporary tool for the purpose of simply locking in the financial gains or loss for a specified period of time.

Using exchange traded futures and options could be another way to lock in the home equity value but the index-based contracts do not offer a sufficient close relevance to the real fluctuation of the house value of a homeowner. The method involved is also way too complicated for most normal homeowners without advanced

derivatives or market trading knowledge and experience. From the consumers' perspective, a SwapRent℠ transaction could, therefore, be viewed as a synthetic version of "sale and lease back" that only captures the economic benefits of a "sale and lease back" without the legal title transfers, triggering of a tax events or the associated high transactional brokerage cost.

As a derivatives instrument, the SwapRent℠ could be used with any kind of property price indices or no index at all. For example, the contract could be valued and settled by using property appraisals or the real transaction prices of the property. As could be easily understood, the trading liquidity for a specific property will be very small. When the use of a house price index is selected in a SwapRent℠ contract, the trading liquidity will increase with the size the geographical area or number of households that are covered in the particular index. More trading liquidity would attract more investor's interest.

The transaction services between the homeowners and investors could be undertaken directly through a peer-to-peer (P2P) format or via a financial intermediary. Either banks or local governments could be engaged to be the financial intermediaries in between the property owners and investors.

As illustrated below, there are three ways to bring the monthly subsidy from investors to homeowners in return for a part of the future appreciation, P2P (peer-to-peer), B2C (through financial intermediaries such as credit unions, banks, mortgage lenders, etc. or local governments using FARM or HELM to offer services to homeowners) and B2B (trading SwapRent℠ contracts between financial institutions or local government housing agencies). The interests and participation from institutional financial intermediaries could greatly help create the critical mass of transaction liquidity necessary to provide the best pricing for end users that are either homeowners or investors.

3. The Benefits of SwapRent℠ Transactions for Homeowners and Property Investors

The new ability of SwapRent℠ to separate the economic ownership from the legal ownership has many advantages. For example, the moral hazard and the home improvement issues of the conventional renting could be alleviated through the economic renting concept of a SwapRent℠ transaction. To put into an investment professional terms, having the legal ownership will give you the alpha of holding an asset, while switching to economically renting will let you hedge away the beta (the market risks) of owning a specific property.

Therefore, a public housing project with SwapRent℠ based economic renting would become a much better neighbourhood than the one with a conventional renting only because people will invest in home improvements freely since they would be the legal owners of the apartment that they live in. However, by being an "economic renter", they will be insulated from the potential fluctuation of the financial value of the real estate markets in general. They will be shielded from the neighbourhood's appreciation/depreciation potential represented by a neighbourhood or city property price index in exchange for receiving the monthly subsidy that represents the own-rent cost saving by being an "economic renter".

Whatever home improvement investment they have already made to the properties they will be able to recoup those investments when they actually sell the properties on legal terms later on. The development of this new economic concept would have great implications for urban planning and public housing policy for city and county local governments in the future.

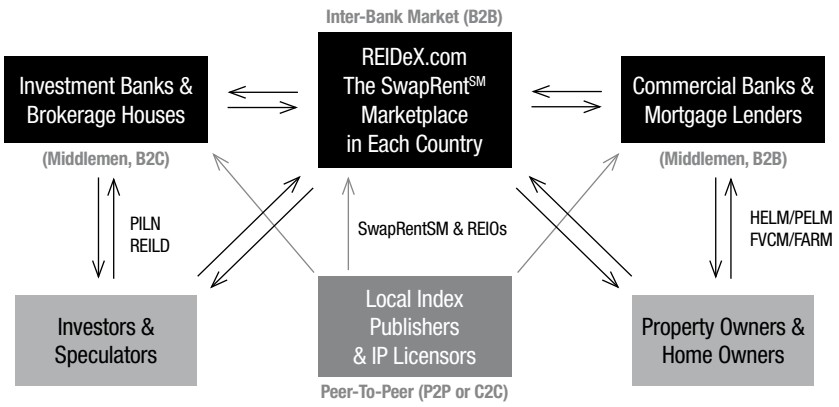
Upscale neighbourhoods may not have a conventional affordable housing complex or even the conventional apartment rental units. While more affluent people may enjoy the full ownership (both full legal title ownership and full economic ownership, i.e. with the entire upside financial appreciation potential) of the houses because of their high monthly income earning power, low income families could also choose to become legitimate residents with equal civil rights in the same neighbourhood if they are willing to forgo the financial aspects of the potential future appreciation or depreciation, i.e. the economic value, of their homes.

While upon a first thought, acquiring the future appreciation potential of properties could be a desirable thing to have, it does come with a cost and the cost of this investment could be totally wasted as we have seen in recent years if the value of real estate property declines instead, let alone the risk of bearing further financial losses that usually come with economic ownership when the property market actually collapses. Houses may appreciate in value slowly through time under most usually competent governments but we cannot always count on governments to do the right things to foster gradual growth of property markets. Therefore, the inability of low-income people to participate in the boom and bust cycles of the property investment market may not necessarily be a bad thing after all.

Through SwapRent℠ contracts, these low-income families could simply continue to enjoy the comfort and the security of their homes by having the legal title ownership and becoming the "economic renters" of their own homes, irrespective what may happen to the financial value of the property markets in the future. An investment in a home ownership could finally become a true long-term shelter and be removed from the financial ups and downs similar to that of a casino game.

The main implications of this are that first, cities may not need to waste taxpayer's money to build that many low-income housing complexes with substandard building materials anymore, which often end up slums and fostering class distinctions and prejudice in our societies. Second, low-income people would no longer be forced, duped, coerced or, in some other occasions, be allowed to wilfully borrow and try to own something they could not afford in the first place (i.e. the combined cost of both legal title ownership and future appreciation potential as expressed in economic ownership) based on their current and foreseeable future monthly earning power.

The SwapRent℠ Industry Participants



B2B: Business to Business, B2C: Business to Consumers, C2C: Consumers to Consumers, P2P: Peer to Peer

After this new housing finance methodology has been adopted, the abuse of irresponsible borrowing/lending and over-leveraging with a hope to get rich quickly, which has caused our current default-led global financial crisis will have much less chance to be repeated on a massive scale again. People will learn that success in life may have to be earned in an old fashioned way through hard work instead of hoping to gamble with borrowed money. The practice of the simple economic concept of shared appreciation or shared ownership will indeed automatically discourage the abuse of over-stretched borrowing in our economic societies. SwapRent℠ and its secondary marketplace, REIDeX[2] could be the right solutions as the newly invented business method and marketplace to make that simple economic concept a reality in the most effective and efficient way.

To summarise, among many other applications, the five key economic advantages of the SwapRent℠ contract and its related consumer housing finance products are:

1. For those informed and educated homeowners, to hedge the financial value of the properties that they own by switching between owning and renting economically only based on their views on what the overall real estate market will do in the near future while keeping the legal title ownership of all their properties at all time.

2. Considering the relative cost of owning and renting, the less affluent homeowners could decide to be economic renters or owners solely based on their monthly income reality and how much monthly subsidy they could receive to afford legally owning the properties while being partial or entire economic renters for a period of time. This will increase the housing affordability for young first-time would-be homeowners, low-income working families and retired senior citizens. For senior citizens, it also offers a much better alternative to the ineffective, inefficient and expensive reverse mortgage product for the seniors.

3. Due to the alleviation of moral hazard associated with conventional renting, SwapRent℠ will improve the neighbourhood quality of both the public housing projects and the conventional apartment rental complexes. It could, thus, reduce crimes and improve the overall well being of the urban environment anywhere in the world. In addition, with this newly created portable housing affordability, municipalities would no longer have to waste taxpayers' money in building low quality affordable housing complexes that often turn into slums.

4. For both institutional and individual investors to become synthetic "economic landlords" by simply receiving SwapRent℠ payments and paying out mortgage funding cost for a particular neighbourhood or city for a period of time. They could establish such cross border reversible long property exposures easily all over the world without having to worry about the management of these properties and incurring the normally high transactional costs and taxes.

5. For current apartment or house renters to establish an "anticipatory hedge" position through receiving SwapRent℠ payments based on a particular city level property price index so that they can lock in today's real estate price levels for intended purchases of real estate properties in that city in the future. They would not be priced out of the market if indeed real estate prices rise sharply in the future since they would have locked in the cost level through the SwapRent℠ contract.

4. The Pricing Methodology of a SwapRent℠ Contract

From the investors' perspective, they will be paying the annual 3% subsidy to the homeowners every year in exchange to obtain the upside appreciation potential and incurring the downside depreciation risk at the same time. In the example given above, the value used for a Generic SwapRent℠ rate (GSR) for a sample neighbourhood is 2%, with the mortgage funding cost (MFC) being 5% as a starting example. Both rates will change, driven by the forces of supply and demand in their respective trading markets. If the GSR trades up to 3% by supply and demand factors and the MFC remain unchanged at 5%, then the annual subsidy will become only 2% per annum, for example.

So the investment decision for an investor could be very simple. Using an annual 3% subsidy outlay for the investor as in the existing example, the cost for a five-year SwapRent℠ contract is 15% (without considering compounding effect for illustration simplicity), which is the approximate total cumulative subsidy for five years. If he thinks the potential appreciation of the underlying property (or the underlying property price index if an index is used by choice) will be higher, then it could be a good investment for him. For the 10-year SwapRent℠ contract, he can compare the potential expected appreciation and the cost of 10-year subsidy outlay of approximately 30% etc.

Although SwapRent℠ was never intended as a bailout tool, its ability to offer true housing affordability co-incidentally makes it convenient to help the distressed homeowners to avoid foreclosures as one of its potential applications. However, when it comes to rescuing distressed homeowners, the SwapRent℠ approach is based on true free market principles to the current economic problems. No charity or give-away assistance using taxpayers' money that causes moral hazards would be necessary. The monthly subsidy amounts would have to be derived from the true market rates as they are freely traded in an uninhibited marketplace.

The numerical examples below show what some sample SwapRent℠ rates for a local city might look like. The level of these rates should be best decided by the pure supply-and-demand forces of the free market participants that are primarily composed of homeowners, investors and their intermediaries.

As of Friday, October 12, 2007, given the then negative sentiment for the near-term outlook on US residential real estate, the SwapRent℠ market rate levels (mid-point between bid and offer rates) for the MSA (Metropolitan Statistical Area) of Los Angeles could look like the following. The arbitrarily suggested example scenarios are for illustration purposes only:

1Y	2Y	3Y	4Y	5Y	...	10Y	15Y	20Y
15%	10%	5%	3%	2%	...	1%	0%	-2%

If the Mortgage Funding Cost (MFC) remains the same at 5% for all maturities, it means the annual subsidies from the "economic landlord" investors to the "economic tenant" homeowners (i.e. the MFC minus the GSR) are as follows: (the annual subsidy rate = the MFC rate - the SwapRent℠ rate)

-10%	-5%	0%	2%	3%	...	4%	5%	7%

The simplified break-even points for the investors of cumulative general US residential real estate market appreciation (negative sign means depreciation) represented by the MSA level property index are when the returns of these indices will have to go up by the following amount that represent cumulative subsidy outlays (multiplying the number of years to the annual subsidy rates, without considering compounding and the time value of money for illustration simplicity):

-10%	-10%	0%	8%	15%	...	40%	75%	140%

Since SwapRent℠ rates capture more than the information of the current physical rental rates in a given neighbourhood or city in the real world and it also reflects the market expectation of the

[2] The REIDeX name originally came from the abbreviation of "Real Estate Index Derivatives Exchange".

expected return from the price changes during the holding period, the very high Generic SwapRent℠ rates for the shorter maturity contracts indicate the extreme bearishness in the US residential real estate market at this moment in time.

As long as the drop in prices at the end of the contract period, as represented by the local MSA index, does not go below 10% for a one-year contract the investors would be interested. The same is true for the cumulated returns for a two-year contract. The flat annual subsidy and expected return for a three-year contract simply indicates that people may think the market could recover to where we are at today in three years' time. Starting from a four-year contract there will be positive annual subsidies for the homeowners, similarly for all the longer-term maturity contracts.

As could be seen by these simplified examples, the supply and demand forces as well as the general market expectation will drive where the Generic SwapRent℠ rates could be traded in a given local market although they will also be bound by any risk-less arbitrage opportunities that might exist.

It also illustrates that, in the current environment, if the homeowners want annual subsidies such as in the case of the defaulting subprime borrowers whose ARM rates had been reset higher may need to commit to longer terms contracts, say four or five years and longer in order to attract proper investors' interests. The homeowners could always unwind their SwapRent℠ positions that were built in their SwapRent℠ embedded mortgages after one or two years for the remaining maturities if it becomes desirable at that time. However, they would need to understand that the market levels and the general real estate market sentiments may have already changed by then. Unwinding a remaining position could generate unexpected mark-to-market losses or gains.

These examples only serve as a concept illustration of how the trading mechanics of the Generic SwapRent℠ rates could be like under the then (October 12, 2007) bearish market outlook for the US residential real estate market. It could change drastically when the market sentiment changes, just like how market rates or prices behave in any other financial markets. The point is that if the SwapRent℠ markets had been implemented and had become a widely accepted practice soon enough, a general US real estate market recession could well have been avoided.

It could easily be understood why that would have been the case since, if those existing lending banks had started offering these five-year or 10-year SwapRent℠ contracts soon enough to the defaulting homeowners, those borrowers would not have had to default and be foreclosed. Massive foreclosures could have been avoided or, at least, be postponed for another five years, 10 years or even longer. So there would not have been massive selling pressure in the property market and of course the residential real estate market would have been able to hang on without a major collapse.

5. Simple Potential SwapRent℠ Application Examples

Although the settlement of a SwapRent℠ contract could be done with a property price index, a property appraisal method or the real transaction price, let's use a simple application example of an index-based SwapRent℠ contract to illustrate the basic economic benefits of a SwapRent℠ contract.

A homeowner who lives in Los Angeles may decide to be the "economic tenant" of his own home in Los Angeles by paying SwapRent℠ rate (at say 1.5% of the house value per annum) based on the Los Angeles metropolitan area index to an investor who is willing to be his/her "economic landlord" investor for a contract maturity of 10 years and, simultaneously, receiving an annual mortgage funding cost (MFC) rate of say 5% from this investor for the duration of the SwapRent℠ contract.

It would be a great way for investors to invest as an "economic landlord' since he would only have to pay 3.5% of the house value to enjoy the entire upside appreciation potential (and bear the downside depreciation risk), just like a conventional investor except that he would get to avoid all the transactional costs involved such as brokerage fees, property taxes, insurance cost and the expenses to hire a management company to find and manage a renter, … etc.

Once this contract is executed, during this 10-year contract period, the homeowner would have locked in the current price level of his own home and would not have any future appreciation potential or any downside depreciation worries anymore. The homeowner could decide to unwind and terminate this SwapRent℠ transaction any time (e.g. six months, one year or two years later) before maturity due to relocation, new jobs with higher monthly income, investment timing views (i.e. cutting loss, taking profit, being bullish about the LA property market again) or any other reasons based on pure free will.

The reason why this decision is to be made could be based on either a hedging purpose, an equity withdrawal or appreciation give-up cash-out purpose since in this contract he would receive a netted monthly payment from the investor, both as explained above, or even simply a pure life style change purpose.

For example, this person may be retiring in 10 years and may decide to relocate to Hawaii for his retirement. He could then enter into another SwapRent℠ contract of similar remaining maturity based on the Honolulu metropolitan area index with another counter-party homeowner in Honolulu by receiving a SwapRent℠ rate (at say 2.5% per annum) and simultaneously paying an annual MFC of say 5.5% so that he could become an "economic landlord" himself in Honolulu. By doing so he would be able to move to Honolulu 10 years later to look for an ideal dream house in that city and purchase the chosen house then at a price level (say per sq ft price) that was locked in 10 years earlier through the SwapRent℠ contract.

Both of these two separate SwapRent℠ contracts could be unwound and terminated earlier before or on the final maturity dates, either together or separately, at some freely traded secondary markets such as REIDeX, the SwapRent℠ marketplace. Of course they would have to be unwound at the then market rates to reflect a profit or loss, just like how any other financial instruments operate in their own markets.

In the foreseeable future, homeowners might be able to apply this on an international scale. For example, a homeowner in London could decide to make a retirement life style change plan through SwapRent℠ contracts so that he/she could retire to Nice in the south of France. Homeowners could easily do the same between Tokyo and Singapore, between Beijing and Taipei or even between Dubai and Kuala Lumpur.

The decisions could also be financial and investment view driven. A resident family in Toronto may think that the future real estate property appreciation potential in Australian metropolitan area could be higher for the next five years than Canadian metropolitan area. She/he could then make arrangement through city index based SwapRent℠ contracts and be a 80% "economic tenant" in his/her own house in Toronto and be a 40% "economic landlord" investor in both Sydney and Melbourne.

Financially speaking, with very little hassle and transactional cost, he/she would then have a diversified investment exposure composed of 20% Toronto, 40% Sydney and 40% Melbourne in his/her medium-term investment portfolio on the residential real estate markets. Socially speaking, he/she and their children will continue to enjoy the comfort of occupying 100% of their own house and the associated neighbourhoods in Toronto for the next five years and more.

From the providers' delivery perspective, on the Canadian side, in addition to the usual banks or other financial institutions, the Ontario Provincial Government or Toronto Municipal Government could also channel the net positive monthly subsidies from an "economic landlord" investor whom it has a separate SwapRent℠ contract with to this Toronto homeowner. The Toronto homeowner could then use part of these net monthly proceeds he/she

has received from the local government to become the "economic landlord citizen" in Australia.

On the Australian side, again in addition to the usual banks and other financial institutions, the State Governments of New South Wales and Victoria, their housing agencies, or the Municipal Governments of Sydney and Melbourne could also administer these SwapRent℠ programs for their local residents. Among many other sources, they could even have a SwapRent℠ contract with this Toronto homeowner directly to treat him/her as an "economic virtual citizen" of their cities and channel these net positive monthly subsidies to many other homeowners in their own cities who may be in need of these monthly subsidies through another SwapRent℠ contract or an embedded HELM contract, thus creating housing affordability for their own local low-income citizens.

For better managing the homeowner counterparty credit issues, the best way would be for the municipal or state/territory and provincial governments at different geographical locations to communicate with one another for managing the credit risks of both "economic tenant" homeowners and "economic landlord" investors in their cities, states or provinces in order to make sure only ethically responsible and economically eligible law-abiding citizens get the chance to participate in these reciprocal programs.

These new social innovations derived from the cross-city and cross-border aspects of the SwapRent℠ business provide certain privileges to people who behave in a morally decent way in our societies. Local governments' active participation and proper regulations could ensure that this would remain the case.

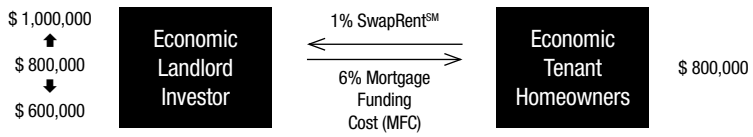
In this way, the Australian state/territory or municipal governments could simply accomplish their goals of providing housing affordability to their local low-income families or other homeowners in need without having to resort to any of their own local taxpayer's money since the money will be provided from private free market sources that may include both foreign or domestic institutional investors and the individual "economic virtual citizens" of their municipalities.

In addition, by being the middlemen to administer these SwapRent℠ programs, the local governments could generate a reasonable fee to enhance the local governments' own finances for offering these services to their local real citizens and many virtual citizens around the world so that they could reduce the local property and other tax burdens to their own local residents.

Wouldn't this be a better free market based alternative addition to offer housing affordability that could discourage the abuse of irresponsible borrowing/lending in the various national housing finance systems for the future of our capitalism society?

Sample Business Model for the Financial Intermediaries

50% Economic Renting Using AG SwapRent℠ Shared Appreciation Example



As an example, if the total annual spread that the financial intermediary will get is 4.9% (after 0.1% SwapRentSM transaction service fee to REIDeX), it could keep say, 0.2% to 0.5% if it is a not-for-profit entity or 0.5% to 2.0% depending on the homeowner's credit score, history, LTV lien seniority, ... ect., as its revenue sources for a for-profit operation.

The net spread that the homeowners will get after the intermediary's fee is 4.4% to 2.9% depending on each of the individual situations.

6. Using SwapRent℠ as an Economic Policy Management Tool

The SwapRent℠ transaction could be used as an immediate solution to the current legacy mortgage assets held by the US GSEs (Government Sponsored Enterprises) such as Fannie Mae, Freddie Mac as well as those held by the Fed itself, Ginnie Mae and all other financial institutions under the TARP program.

Since the SwapRent℠ solution is not based on a further lending concept but rather a co-ownership type of equity financing, it does not have to rely on a low interest rate environment for it to be effective. In fact, it offers a totally new dimension on its own to the property market dynamics. Therefore its implementation could also free up the Federal Reserve Board to manage interest rate levels in a much more independent way. Furthermore, the policy makers could also consider influencing SwapRent℠ rates for different contract maturity as a new economic stimulus policy tool going forward in order to adjust the real estate property value or home equity levels as a major source of our national wealth that could further stimulate or restrain the economic activities in local communities which represent the foundation of the national economy.

Due to the fact that the SwapRent℠ solution is similar in concept to a debt-for-equity swap so that homeowners could hold on to their homes and mortgage investors could avoid financial losses. The most direct consequences of implementing this new non-lending, co-ownership based housing finance system are that homeowners will be able to de-leverage through this new realisation of the debt-for-equity swap concept, GSEs such as Fannie and Freddie could de-leverage because the mortgage assets would get to be fixed up and sold to other free market investors, and the nation could de-leverage because taxpayer's money would no longer be tied up to rescue all these troubled financial institutions. Nothing is more effective than tackling the problem right at its roots, i.e. to help homeowners avoid foreclosures and design new ways to increase home equity value without inappropriate borrowing.

In order to understand why a liquid SwapRent℠ rates market could help the nation's policy makers with a new policy tool to manage the national economy, let's make a quick review on how a SwapRent℠ contract technically operates again. What a SwapRent℠ contract does is to allow both existing and would-be property owners to switch between owning and renting economically back and forth with very low transaction costs at any time they want for a specified period of time for whatever reasons they may have. Therefore the pricing of a SwapRent℠ contract relies on the cost differential between the cost to own a property (say 5% of the current house value per annum) and the cost to rent a property (say 2% of the current house value per annum) for an intended period of time.

Using the same numerical example of a $800,000 house in southern California as used before, the annual 3% (difference between 5% to own and 2% to rent) own-rent cost differential will translate into $2,000 per month for a 100% "temporary own-rent switching" or "economic renting" for a period of time, say five years. That is where the quantified monthly subsidy would come from. Whoever wants to own the future appreciation in five years' time similar to a convention owner will pay the monthly subsidy to the current property legal owner.

For a 50% "temporary own-rent switching", the monthly subsidy will be only half of that, i.e. $1,000 per month. Therefore, the current property legal title owner could still enjoy the remaining 50% appreciation potential; hence the conventional understanding of the "shared appreciation" concept could be more flexibly and reversibly realized by a SwapRent℠ contract. The cost to own in the Western financial system such as the US is simply to current interest rate level derived from the interest rate term structure. The best proxy for the cost to own in the US is the corresponding Interest Rate Swaps (IRS) rate level published by the Federal Reserve Board at its web site every day.

The corresponding maturity SwapRent℠ rate level would be determined from trading activities by free market participants at REIDeX or the interbank markets. The Federal Reserve Board could go through GSE such as Fannie Mae, Freddie Mac or even government owned Ginnae Mae and let them act as one of the free market participants to assume the role of the "economic landlord investors" themselves first to provide the monthly subsidy to homeowners. They could alter the supply and demand factors through being either more or less aggressive in bidding for the SwapRent℠ rates in this freely traded marketplace, not unlike how the Fed currently conducts its interest rate policy through the short term repo markets with the banks.

Using the same five-year contract as the example, if the Government wants to stimulate the local economy at grassroots level it could be more aggressive in granting monthly subsidy through being willing to accept a lower SwapRent℠ rate of 1.5% or 1% (instead of the previous starting point of 2% in the example). Therefore the monthly subsidy the homeowners receive would be equivalent to a higher annual 3.5% or 4% of the current house value instead when the homeowner decides to enter into a SwapRent℠ transaction with the GSE. Remember that the annual subsidy numbers are simply the difference between the cost to own, i.e. IRS rate of 5% and the SwapRent℠ rates.

Given an interest rate level fixed at 5% for a certain contract maturity, say five years, the more aggressive (i.e. the more generous) the Government is willing to offer the monthly subsidy amount to homeowners in the form of a lower SwapRent℠ rate it is willing to receive, the more likely more property owners in the community will take up the offer as a free market choice.

The more people that have signed up, the more it would create buying demand the more likely there is a perception that the local properties will indeed appreciate in the future and the local economy will indeed strengthen, the more likely the SwapRent℠ contracts that capture the financial value of partial future appreciation of these underlying properties will then increase in value and, therefore, the more likely the GSEs could sell them at a higher price to other free market investors in order for the GSEs to regenerate the capital to provide more assistance to other American homeowners to own homes.

It is indeed a self-fulfilling prophecy that may let expectation evolve into reality, quite similar to what adjusting the interest rate levels by the Fed. could do to the investment psychology and perhaps reality of our future national economy. From a local property owner's perspective, a 100% ownership of future appreciation potential in five year's time will mean zero financial gains when there is no appreciation at all. There could even be further losses when the property value further depreciates. Sharing and maintaining a remaining 50% appreciation potential in order to help stop foreclosure selling and increase overall buying demand in the local community may still entitle the property owner a 10% gain when there is an overall 20% rise on the value of the specific property or on a house price index. In short, 100% of zero is still zero but 50% of a 20% appreciation will be a 10% gain to enjoy at the end of the time horizon. Not a bad deal when you are also getting paid handsomely every month to wait for that to happen.

The homeowners could do the SwapRent℠ transaction with GSE directly or the GSEs could decide to engage a fee-earning local financial intermediary, housing agency of a local governments etc. in order to better administer and better monitor the on-going credit risks.

As explained before, the GSE or financial intermediary could also better manage the transactions through converting the homeowner's existing mortgages into a SwapRent℠ imbedded HELM (Home Equity Locking Mortgage). A HELM could simply be a wrap-around package of the existing first mortgage and a contingent second mortgage that settles the payoff of the SwapRent℠ contract at contract maturity date automatically, as the new unpaid balance of HELM at that time, in order to accomplish all the desired economic outcomes with very little or no cost and administrative hassles to the homeowners.

After offering that new HELM to the homeowners either directly or through local financial intermediaries, the GSE itself could then use another new offsetting SwapRent℠ to cancel out the exposure of the embedded SwapRent℠ contract in the HELM in order to lay off their property value risks and appreciation potentials (similar to an equity co-ownership piece) with other free market based investors through the inter-bank market or REIDeX. These ultimate investors of these co-ownership SwapRent℠ contracts could be state and local pension funds, hedge funds, insurance companies, foreign sovereign wealth funds or in short, any free market participants.

Many state, county and city pension funds could benefit directly by acting as the ultimate "economic landlord" investors to provide the needed monthly cash flows to homeowners for a fair share of the future appreciation potential of the property in return. A successful implementation will not only help many state/county/city treasuries and the state employees' pension funds with higher returns, but also it may help stabilise or boost the local property value and, hence, the entire State's economic prosperity. At the same time, the programme will get to accomplish its goal of maintaining social stability through helping the distressed homeowners in their state hang on to their homes very effectively without having to spend any taxpayer's money for preferential bailout treatments that cause moral hazard and make things worse.

In a sense, as a temporary conduit, GSEs will finally be able to provide funding for American homeownership not just in the form of debt, but also through a new additional form of a non-lending based economic version of tradable home equity co-ownership. The new alternative system could greatly lower the chance of a repeat of the previous subprime mortgage lending abuse fiasco in a purely lending based housing finance system that may often create boom-and-bust cycles and hence social instability.

Next, let's take a look at how policy makers could influence SwapRent℠ rates traded in the free marketplace in order to use it to stimulate or restrain economic activities in the local communities throughout the country.

In order for the SwapRent℠ market to work as a policy tool the politicians will have to break out of their socialist mentality and treat the new SwapRent℠ programme as a 100% free market operation, i.e. let the local property speculators and entrepreneurs participate freely. Make the SwapRent℠ transactions and the monthly subsidy available to anyone who wants it as long as they have a property to be able to share a part of the future upside appreciation with another investor, not just whoever needs a subsidy for survival purpose.

There should not be any restrictions other than the credit quality, moral, ethical or legal eligibility to participate. Entrepreneurs who are willing to trade off some of the future appreciation potential of the properties they own in order to receive current monthly cash flows so that they could use it to start a new business or to hire more people represent a major target users profile that this policy oriented SwapRent℠ program is intended to accomplish with.

There are currently many other ineffective bailout plans that create moral hazards by giving preferential treatments to distressed homeowners already in place. That is actually a good thing since these necessary perceived politicians' obligations may be finally done and over with. Now the policy makers could put the free enterprise based SwapRent℠ programme in conjunction with, or on top of, those ineffective bailout plans to really get the necessary work done in order to be able to create wealth for the nation again.

So as explained above, when the five-year IRS rate is at 5%, if the policy makers want to provide stimulus to the local economy they could bid for the five-year SwapRent℠ rate at 1.5%, 1% or even lower so that the monthly subsidy to property owners is larger (3.5% or 4% of the property value per annum). If they want to cool the heated economy down they could bid for it at 2.5%, 3% or even higher so that the monthly subsidy to property owners is smaller (2.5% or 2% of the property value per annum).

The most important intended concept to illustrate here is that all these could be done irrespective where the current interest rate levels are or will be at in the future. So that when the cost to own or the five-year IRS rate moves up to 8%, the SwapRent℠ rates would simply move up in tandem and be trading at 4.5% or 4% for a stimulus policy (the same larger subsidy of 3.5% or 4% of the property value per annum) or be trading at 5.5% or 6% for a cooling policy (the same smaller subsidy 2.5% or 2% of the property value per annum).

When the five-year IRS rate moves down to 2%, the SwapRent℠ rates would simply move down in tandem and be trading at -1.5% or -2% for a stimulus policy (the same larger subsidy 3.5% or 4% of the property value per annum) or be trading at -0.5% or 0% for a cooling policy (the same smaller subsidy of 2.5% or 2% of the property value per annum).

The main point is that the monetary policy of where the interest levels are will no longer be the main driving force of the property value any more. The property value in the US could be determined in part by the SwapRent℠ rates for local communities that the policy makers could use as an alternative tool to adjust. That is what it means for SwapRent℠ transactions to offer a new dimension in the economic policy tools for the policy makers. It would not just be the previous (and only) two tools of using monetary policy on interest rates or using fiscal policy on tapping taxpayer's money anymore.

The obvious advantage of this added power in the new policy strategy is that the federal government could impose to avoid blowing up asset bubbles again in many other asset classes or risking causing higher inflation further down the road by artificially keeping interest rates low. The Federal Reserve could therefore, freely increase the short term discount rates or Fed. fund rates to curb bubbles from happening in the stock markets, the precious metals markets and the commodity markets in order to avoid a possible run-away hyper-inflation. The high interest rates will no longer hurt the property value or be the sole force to negatively impact the economy anymore as the property value and job creations at the local communities throughout the country could be accomplished separately through a very generous co-ownership monthly subsidy offered through influencing lower SwapRent℠ rates in the marketplace by the GSEs. The Fed could finally be freed up to make these monetary decisions on a much more independent basis to focus on fighting potential inflation.

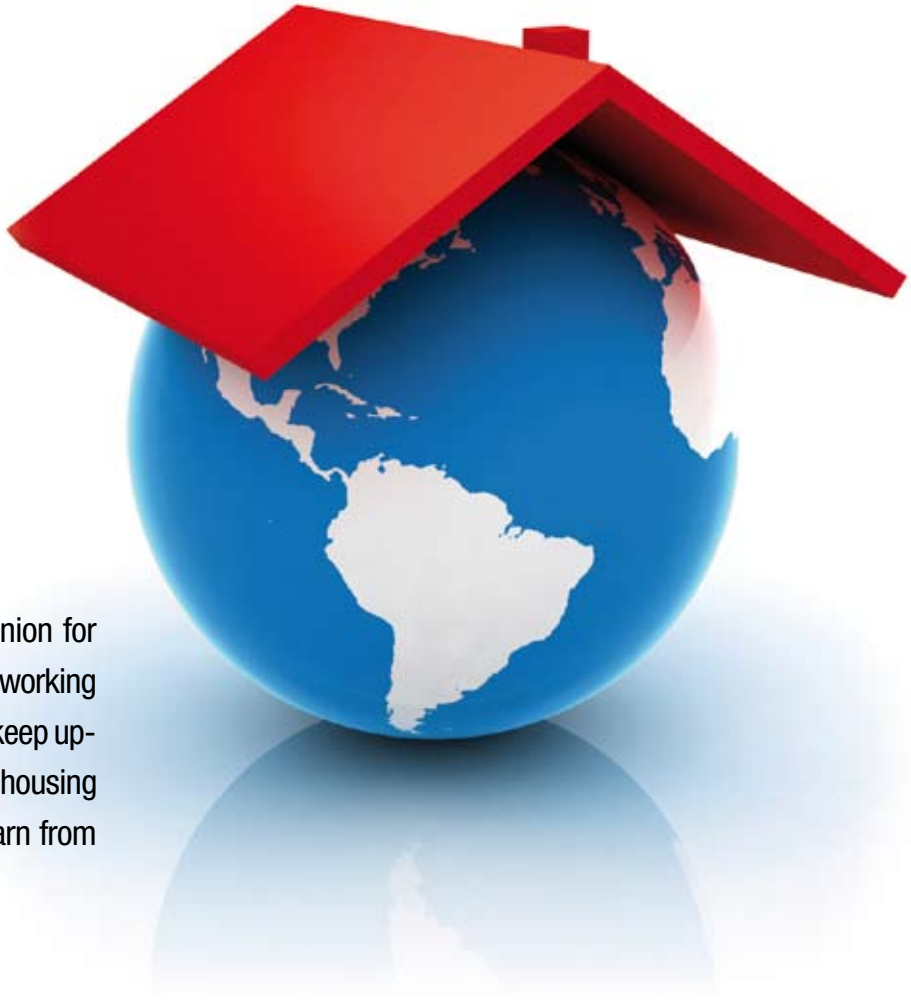
Through influencing the SwapRent℠ rates separately, it is likely that we may have a double digits long-term interest rates to fight inflation and still have a strong property market and a robust economy as the local home value could finally be properly detached partially from the Fed's short term monetary policies. This is exactly the third dimension as a policy tool that the new SwapRent℠ based non-lending or co-ownership housing finance system could provide as a part of its many advantages.

The beauty of this new SwapRent℠ housing finance system is that capitalism will also be able to best manifest its value and become more politically popular with the mass population as the profit driven motives will allow the Main Street local property investors, speculators and business entrepreneurs at the local community grassroots level, instead of always having to rely on the fat cats on Wall Street as in the past in a primarily securitisation based housing finance system, to all participate and to become the locomotive engine to help create wealth for our nation.

Adding this new alternative SwapRent℠ housing finance system would only make everybody happier since not only does it makes economic sense but also political sense, due to its inherently more democratic wealth sharing capability. By helping create wealth at the grassroots level of the local community first and driving the country's economic recovery and growth, this would certainly help de-polarize the current imbalance and the tension between Wall Street and Main Street.

INTERNATIONAL UNION FOR HOUSING FINANCE

IUHF
www.housingfinance.org



Established in 1914, the International Union for Housing Finance (IUHF) is a worldwide networking organisation that enables its members to keep up-to-date with the latest developments in housing finance from around the world and to learn from each other's experiences.

How does the Union do this? **By communicating!**

The Union does this in five different ways

- The Union runs a website - www.housingfinance.org. Please pay a visit!
- The Union publishes a quarterly journal, *Housing Finance International* (HFI)
- The Union organises a World Congress every two years
- The Union actively participates in events related to key housing finance issues around the world
- The Union facilitates the exchange of information and networking opportunities between its members

For more information, please see www.housingfinance.org
or contact us at:

International Union for Housing Finance | 8th Floor, Avenue de Cortenbergh 71, B-1000 Brussels, Belgium | Tel: +32 2 285 40 36 | Fax: +32 2 285 40 31