



Risk allocation in housing development: A cross-national comparison between Sweden and China

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Abstract

The recent global financial crisis points to the importance of the allocation of risks among different housing market actors. The purpose of the paper is to provide taxonomy for identifying and comparing the allocation of risks typically in China and Sweden during housing development and ownership. The risk assessments are based on a number of research reports and our direct knowledge concerning the typical situations in Sweden and China. The main findings are as follows. The banks and governments appear to take more risks in China, especially as the Chinese developers have a weaker financial situation than in Sweden. Political risks are higher in Sweden as the planning process gives the citizens a number of opportunities to appeal against government decisions. It is argued that these differences can be related to the higher priority given to housing construction in China.

Key Words: Risk, Housing Development, China, Sweden.

1. Introduction

The recent subprime crisis has clearly shown the importance of how risk is allocated on the housing market and also that institutional differences can be very important, e.g. how the burden is allocated between banks and households if house prices fall. The aim of the current paper is to make a broad comparison of who carries various housing related risks in Sweden and China during the development stage¹ and the market for existing houses. The result of the comparison is used both for discussing how the different countries might be affected by various external events, and also point to certain sideeffects of the specific systems. Risk is here used in a sense that covers both what is technically defined as risk (events with known probabilities) and uncertainty (events where no objective probability can be assigned.)

In order to understand the actual risks, and various actors' possibility to handle these risks, a broad knowledge of the specific markets, specific rules and the situation of various actors is needed, and this knowledge is not easy to get unless one has a first-hand knowledge of the market in questions. This determined the choice of China and Sweden, but we welcome others to do a similar analysis of other countries. Both written sources and more general knowledge of the specific markets have been used.

Many articles and books have been written about risk on the housing market, and in order to position this study in relation to some of the existing literature, it is necessary to first clarify what we are *not* looking at.

Risks during the ownership stage is not discussed in this paper, but are analysed in Hou & Lind (2009), where for example financial risks, price risks, risks related to operating costs and technical risks concerning the quality of the building are important. Scanlon, Lunde, & Whitehead. (2008), e.g., described the tendency for households to choose riskier products.

The relation between risks on different parts of the housing market will not be studied. An interesting analysis of this can be found in Sinai & Souleles (2005), who argue that owning can be seen as a hedge against fluctuations in housing expenditure - in a situation where the rents fluctuate with demand and supply on the rental market.

In the literature there is also a number of studies of housing risk from a broader investment perspective. The starting point for this literature is that from a portfolio perspective it is not a very good situation when the typical household has most of its capital invested in one asset - their own home or apartment. Caplin et al (1997) discuss "housing partnerships" (with a passive partner) as a way to make diversification possible. Englund, Hwang & Quigley (2002)

estimate the value of such hedging possibilities, and there has been a discussion about how various derivative markets could make it possible to hedge against price risks in certain situation (see also Quigley 2006 and de Jong, Driessen & van Hemert 2008). Our focus is, however, on the current institutional structure, and more radical innovations like these derivative markets are not discussed, as they do not exist in either of the countries. Life-cycle aspects on risk as discussed in Nordvik (2001) will also be left out.

It should also be mentioned that risks related to natural events are not discussed, except that insurance markets are commented upon briefly. Examples of such risks can be found in e.g. Daniel et al (2007) who look at flooding risk, Leicester, et al (2008) who look at termite attacks in Australia and Nagakawa (2007) who studies earthquakes.

The structure of the article is as follows. In section 2 relevant parties and risks are identified. Section 3 describes risk allocation in Sweden, and section 4 covers risk allocation in China. Section 5 provides a comparison of risks between the two countries and the conclusions can be found in Section 6.

2. Identification of parties and risks

In a typical development project the following parties might be involved:

1. The initial landowner who can be a private owner, a municipality or the state.
2. The firm that acts as a developer, buys or leases land, hires construction companies and becomes the owner of the completed building.
3. Construction companies that are hired by the developer to build the houses.
4. The financing institutions that supply capital, e.g. banks.
5. The local governments typically responsible for various permits and for building infrastructure.
6. Insurance companies, if it is possible to insure against certain risks.
7. The state, which might also be involved in permits, infrastructure and also financial provision.

In the development stage four main risks will be discussed.

1. Problems of getting access to land at a reasonable cost, and problems of getting permits to build.

2. Uncertainty about construction costs.
3. Uncertainty about financing possibilities and financing costs
4. Uncertainty related to the demand for the ready house and the risk for vacancies and falling prices.

There can also be political risks, related to changes in the framework for the housing market that may affect both the profit of the developer and the costs for the households.

3. Risk allocation in Sweden

3.1 Introduction

Housing developments in urban Sweden can be divided into two main cases where the risk profile differs somewhat.²

Case 1: Development on municipal land.

Many Swedish municipalities bought large amounts of land especially during the 1950s and 1960s, land that were leased to farmers while waiting to be developed. After land-use planning has been carried out, the land is either leased or sold to a developer at market prices.

Case 2: Development on privately owned land.

The four large Swedish property developers, those beside the municipal housing companies, dominate large housing development developments, and typically buy land long before being developed. The time span can be anything between 5 years and 20 years. However, they also build on originally municipal land (case 1 above) where planning horizon is considerably shorter.

Considering the different risks identified above, the following discussion can be provided.

3.2 Land costs and getting the necessary permits

Formally there is a municipal "planning-monopoly" in Sweden, which means that a private developer cannot appeal against a "no" from the municipality to a proposed development, and in the typical case there is no economic compensation if development is refused. A private developer that buys land in an early stage therefore takes the whole risk for not getting a municipal approval to their plans. The "positive" side of this risk is that the developer can buy the land in early stage at a rather low price. It should also be noted that there are no long-run

binding master plans in Sweden, so the municipality can say no even if it is an area that has been designated as an area for housing construction. The large private developers usually have good contacts with the municipality and have informal discussions with the municipality in earlier stages (see e.g. Kalbro & Lind 2000).

If the land is bought in a late stage from the municipality there is an approved plan, but when the land is sold on an auction there is a risk that the price will be rather high. There are however a small number of developers that have the resources to carry out large development and usually they have several alternatives so the bidding is not so fierce.

A large risk, both for private and municipal developers, is that both an approved plan and later a building permit can be appealed against by a number of actors, both neighboring landowners and e.g. environmental groups. This often happens especially in central parts of larger cities, where various NIMBY-groups are active. This can delay the development for several years even if the municipality supports the development.

The costs for these delays are borne by the developer, and Kalbro & Lind (2000) argue that this risk for delays is one explanation for why big firms dominate as developers. Only big firms can handle such large risk.

In some cases, there is an option contract between the private developer and the original landowner that relates the price to the number of houses that the developer is allowed to build according to the municipal plan. Risks related to getting the necessary permits are shared between the landowner and the developer, but typically the land is bought by the developer and the whole risk is then taken by the developer.

3.3 Construction costs

The large private developers can at least partly build with their own workers but are more and more using subcontractors in order to reduce fixed costs. The smaller developers either use an all-on-one contract or use several subcontractors. Warsame (2009) describes how the contractual structure has changed over time in the Swedish house-building sector. As described in Lind (2003) the labour costs also fluctuates considerable over the business cycle.

As the process for getting building permits is so uncertain, the contractor and subcontractor will be hired rather late in the process and this makes the costs rather difficult to estimate for the developer, as demand and prices on the construction market can change quickly. The cost risk is then born by the developer. When the contract is signed, it is usually a fixed price contract where the final risks related to the cost of construction are borne by the contractors.

3.4 Financing possibilities and financing costs

The large Swedish developers have a strong financial position and can use a lot of equity when they develop an area. The rest of the capital is typically borrowed from private banks. Historically the state was much involved in financing housing development, both municipal and private, but this is no longer the case. In the main cities it is very rare that financing cause any problems, even if this issue was raised for the first time in many years during the spring of 2009. When the business cycle turns down it is the private developers themselves that stop a number of planned project, as it then is judged to be more profitable to wait. Profitable projects that cannot be financed are rare. As most developed apartments and houses are sold directly after completion, only short-run lending is necessary for the developer.

There are some private developers that are active in the rental housing market and then the long run interest rate will determine the profitability of the project, but they are typically financially strong companies that use a considerable amount of equity. The loans from the banks are not related to a specific project and all assets of the firm can be seen as collateral for all loans, so the failure of a specific project will usually not affect the banks.

Financing cost varies with the interest rate and when the profitability of a project is estimated to be low, the project will be postponed. In 2008-2009, there were also some projects that were sold by private developers to municipal housing companies that built rental apartments instead of condominiums, but this was primarily a response to weakening demand and problems for potential buyers to finance their acquisition. Major reductions in the interest rate, following aggressive monetary policy by the Swedish Riksbank (the Swedish central bank), reduced the problems for the developers during Spring 2009.

3.5 Demand for the ready houses

In Sweden, most apartments are sold late in the process, even if some people have made a reservation and also paid a deposit. This means that almost the whole risk is borne by the developer if demand changes. The prices are however rather sticky and if demand has fallen, the first step is to give more symbolic discounts (less than 10%) and the second step by the developer is to keep the apartments vacant and wait for demand to recover. In apartment buildings every apartment has to pay a monthly fee covering common costs, and the developer guarantees the fees for vacant apartments for a number of years. This decreases the risk for other buyers of apartments that otherwise would have to share the cost for the vacant apartments.

The background to these guarantees is that there is a special rule that an owner of the Swedish form of condominiums can, with a few months notice, return the apartment to the association of owners that manages the building - but they have no right to get their money back. When some owners returns their apartments, the remaining owners must share the cost if they cannot sell the vacant apartment. In the early 1990s, when the price for buying an new apartment was low and the monthly fee high, this led to bankruptcies in a number of cooperatives when more and more people returned their apartments. Both banks and the government lost a lot of money in such bankruptcies (see Rönnerberg 2002). The current situation is such that in new condominiums the price is high and the monthly fee low (the buyer borrows instead of the association), and this means that it rarely is rational for a buyer to return an apartment.

3.6 Political risks

The developer often buys land long before development is carried out, and there are no binding master plans in Sweden. Thus, there is a considerable risk that political changes can affect the developer's possibility to carry out a project, or at least the number of apartments that the developer is allowed to build. The changes are most likely on the local level, but political changes can also affect whether an appeal against a development process will be successful or not.

As underlined by Kalbro and Smith (2008), many municipalities do not have a clear policy for how infrastructure costs should be divided between developer and the municipality. Even late in the process, the developer might have to pay more than expected, especially if there is a policy change by the local government.

Building regulations have in recent years also been changed a number of times, and the changes are related to especially environmental factors and accessibility. In a number of cases this has also led to cost increases late in the process.

3.7 Summing up

To sum up, the developer in Sweden carries almost all risks during the development process. They buy land and other necessary inputs at a fixed price, invest a lot of equity and sell the apartments late in the process. In some cases they build on planned municipal land and then risks related to permits are carried by the local government, otherwise the developer carries most risks in this case also.

4. Risk allocation in China

4.1 Introduction

The risks in the stage of housing development are mainly concerned with the uncertainty or possibility of potential losses for developers. Unlike the short production period of common goods, housing development generally lasts two years or longer. Accordingly, there exist a number of rarely controllable or predictable factors that affect the return of investments in the process.

4.2 Risk related to land cost and permits

Land is state-owned and controlled by the state. To meet the aim of improving macro economy, it is a major policy for the central government to adjust the structure of land-use by ways of limiting or suspending the supply.

Land is the most important consideration for Chinese developers, and they cannot compete without land at hand. Developers have to acquire enough land for a sustainable development even if competition between developers pushes up the price to very high levels. Land is typically sold to the highest bidder in an open tender. When the land is leased from the state the right to build on it is already decided and this means that the only risk from the developer in this early stage is only the price risk. The maximum tenure of land-use is under 70 years in China that creates potential long-term risks for developers and property owners.

The policies of land control can lead to the risks of imbalance between land supply and demand. First, the land supply is challenged by the over fast urbanization in some cities. The amount of suitably located land can fall short of the urban expansion, and new areas have to be made ready for development. Earlier limits for development has to be broken which can lead to conflict with those who want to continue with the current use. Slow increase in land supply in relation to the demand creates the above-mentioned price risk for the developers.

Secondly, land is sometimes excessively supplied and some tracts stand idle. According to the regulation of land laws, if a tract bought by a developer lies idle for less than two years but more than one year, the developer has to pay the vacant land tax and other additional fees. Moreover, if the tract lies idle for more than two years, it will be regained without any compensation by the government. Under the conditions of adverse economic environment or tight financial policies, most small and medium-sized developers will therefore be confronted with much financial strain. This can in extreme cases force developers to go out of operation:

Once a project is closed for two years and the tract is confiscated by the government, not only do developers risk bankruptcy but banks also risk failing to recover loans from those developers.

Therefore, developers often follow the development strategy of fast land acquisition, fast development and fast selling in order to recoup funds rapidly especially when the market is in a boom stage. However, when housing prices fall down and sales slow, developers may be under considerable financial pressure. For financial institutions, if housing markets work well, the mortgage credits from land reserves or housing belong to high quality assets. Otherwise, there possibly appear a number of idle tracts or vacant housing, leading to non-performance loans in banks.

4.3 Risk related to construction cost

The quick urbanization process means that there is a lot of migrant workers that can be hired by the developers and keep these costs low. During rapid expansions there can of course be bottlenecks concerning certain type of personnel and technical equipment, but both the number of professional staff and the production of equipment expand rapidly and this reduces the risk for increasing costs. In general the elasticity of supply of production factors is rather high.

4.4 Financing possibilities and financing costs

The developers rely to a large extent on bank financing, but excessive reliance on bank loans appears to a potential factor that make it difficult for housing developers to have the necessary liquidity during the development process. In China, the property development fund comes from four channels like domestic loans, foreign investments, self-provided fund and other sources, which account for around 18.7%, 1.7%, 31.6%, and 48% respectively in 2007. The domestic loan used for property construction is almost totally borrowed from the bank, and a considerable part of self-provided fund also come from banks. As for the channel of other fund, it comes mainly from down payment from the future owners, of which some 30% fund is the mortgage loans borrowed by housing purchasers from banks as well. Totally, it is a conservative estimate that about 55% of the fund is from the banking system. In fact, it is generally believed that at least 70% of the property development fund comes from commercial banks in the real estate sector. Though real estate investment trusts (REITs) can provide an alternative source of financing, there are rarely REITs for Chinese developers (Quek and Ong, 2007)

During a boom stage, the supply of funds in the real estate sector can achieve a crest at some time. Then, the increment of the fund supply will begin to go downward, and the fund of sources tends to become tight. The dramatic fluctuation of housing markets over the period 2006-2007 leads directly to the tight monetary policy from the Chinese central bank. Banks hence begin to reduce loans to developers and it can also be seen that banks will reduce further loans to avoid the potential risks if the housing markets declines. On the other hand, it also became difficult for the developers to finance through the securities market when the market is in a recession stage. This implies that developers may encounter a difficulty in raising working capital.

4.5 Demand for the ready houses

A drop of housing sales will worsen the financial situations of developers, by reducing the income from down payments, since it becomes more difficult for potential purchasers to get mortgage loans as well. Moreover, the land reserves and vacant housing volume will increase the operating expenses for developers. In such cases, it is difficult to spur the demand for housing or reverse the declining tendency by increasing fund supplies, as market has its intrinsic adjustment mechanism. Therefore, the fund supply for property development tightens further. The sudden contraction of financing channels, along with the stern conditions in housing markets, will cause developers to fall into a considerable fund strain. Once the increasingly tight fund chain link breaks, developer cannot do nothing but sell land or housing at lower prices. This will produce big losses for developers and can result in the bankruptcy of developers, or even large non-performing loans in the bank system, since banks are the main providers of property development fund. Considering the potential risks in the financial system from the end of 2008, the Chinese government issued continually promotion policies to stabilize the development of the real estate sector. These policies have taken considerable effect in curbing the rapid decline of housing prices in the third quarter of 2008. In a recovery period, the government cuts interest rates to stimulate demand, the price rises again gradually, and developers will increase the investment.

The national average housing price has not declined yet from 1987. However, the housing price growth varies considerably in different periods and the variation shows a periodic pattern. In light of the cycle in the domestic economy, the GDP growth is higher than 10% continuously for 5 years with low inflation during the period 2003-2007, which is the best period since the reform and open policy in 1978. However, the booming economy ceased in

the late 2008 and began to slow down because of global financial crisis. Compared with the 1997 Southeast Asian financial crisis, the breadth and the depth of the American loan crisis are more serious and have stern impact on the Chinese economy. However, the powerful policies from the end of 2008 have curbed the decline of housing prices and pushed up the price quickly in 2009. During such a period, it is a big challenge for developers to adjust their business strategy. Developers appear to have experienced the dramatic fluctuation of a cycle within two years, though it is generally believed that a housing cycle last longer.

Statistically, unlike the international definition of vacancy rate, which includes both the increment market and the stock market, the index of vacancy in China refers to vacant buildings merely in new construction. In particular, the housing units vacant for less than one year are treated as 'housing to be sold', those vacant over one year but within three years as 'dull sale housing', and those above three years as 'overstock housing'.

Vacant housing does not mean toxic assets since it does not necessarily cause depreciation in the value. However, vacant housing implies that housing supply is to some extent in excess of demand. If housing depreciates, the property will become bad assets for owners. The current vacant housing appears to be still in reasonable scope in spite of the increase in 2008. However, if the vacancy rate keeps rising, the profit margin of developers may possibly become negative. Niu and Li (2009) suggest that the volume of vacant housing will increase quickly in 2009, perhaps 2 or 3 times that in the preceding year. Developers may fall into a financial stress if the volume of vacant housing remains increasing, but as mentioned above the policies of the Chinese government seemed to have stabilized the situation that has reduced the risk both for developers and the banks.

4.6 Political risks

As in Sweden it can be important for Chinese developer to have good contacts with the authorities in order to make more likely a predictable and orderly development process. Given the high priority of high growth and high construction levels, the main risk is related to the macroeconomic policies that are introduced if the government believes that there is a serious risk for overheating and increasing inflation.

4.7 Summing up

The risk in the development process in China is to a large extent carried by the developer and the banks. Given the high dependency of bank finance from the developer problems with

sales will rather directly affect both developer and banks. Changes in macroeconomic policy can both increase and reduce risk.

5. Comparison

5.1 Land acquisition and permits

If we start with land acquisition, the first difference between China and Sweden is that the big Swedish developers acquire land in two ways, while the Chinese firms are mainly limited to one option. The Swedish firms buy some of the land long before it is time to develop it. They build up a land bank and may hold certain land more than ten years before it is developed. When the time start to seem right, they start discussions with the local authority about possible developments and this negotiation procedure may go on for several years before a final plan that both parties agree on is ready.

The second way the Swedish firms get land is rather similar to the Chinese way: The (local) government in Sweden owns a piece of land, and when the plans for an area is ready, the municipality allocates different parts of the land to different developers, both private companies and municipal housing companies. Nowadays this is often done through some form of auction in Sweden, just as in China, but not always.

The two strategies available for the Swedish developers can reduce the risk of not getting any land to build on. The procedure to allocate state-owned land seems more transparent in China as it is an auction where the land goes to the highest bidder. In Sweden it is important for the developers to have good contacts with the local authority and a good reputation in order to get land, and there has been a number of complaints from small developers that they do not get land to build on even if they can build at lower costs. The Chinese developers know that in most cases if they just pay enough they will be able to get land.

Swedish developers seem to face much larger risks related to the legal process of getting the detailed plan approved and getting building permits. First, the local politicians may demand various adjustments, and then there are a number of opportunities for Swedish citizens to appeal against a decision made by the local government. This legal process can delay a project with up to several years, and there is a lot of debate in Sweden about making the planning process more transparent and predictable (Kalbro & Lindgren 2008).

5.2 Adjustment to changes in demand

When a Chinese developer has bought the right to use a piece of land they have to build within a couple of years. In Sweden, the approval of a plan can include a time limit that a new plan has to be approved if the current plan is not implemented within a certain period of time. This time period is typically rather long (5-10 years) and there are no real sanctions if the developer postpones building on the area for a long time. The adjustment to changes in demand is therefore much smoother and these risks are therefore smaller for Swedish developers compared to the Chinese.³

5.3 Economic and financial risk

The big Swedish developers have been on the housing market for several decades and they have a strong balance sheet and are used to handling swings in construction activity. In the recession they quickly cut down on the number of projects and also on their staff. Subcontractors have to find other types of work.⁴ The developers in Sweden are, of course, dependent on bank loans, but not to such a high degree as the Chinese firms. It can also be noted that during Spring 2009 the government in Sweden introduced a (temporary) state guarantee for loans from banks to developers during the building period. This was made in order to reduce the risk for developers of not getting finance even though the project seemed profitable.

If there is a serious recession in Sweden most of the losses are taken by the owners of the development firms (and the staff and subcontractors that lose their jobs)⁵. As the developers are taking this risk, they will demand a higher rate of return that not only means lower housing construction but also higher prices. The stock market value of the Swedish developers has fallen with around 50% from 2008 to 2009. They can however still pay their loans to the banks, and the risks in banks related to development loans are very small. In China a serious recession put more strain on developers, first because they have to build in order not to lose the right to build on land (which means vacancies or lower prices), and secondly because most developers do not have so strong balance sheets and are more dependent on bank loans. This also means that the Chinese banks - and in the end the central government - carry much more of the financial risks related to the property cycle than the Swedish banks and the Swedish government.

6. Concluding analysis

The first conclusion is, rather naturally, that some markets are much more developed in Sweden than in China. An obvious case is related to insurance markets, even though new construction is covered by an insurance against technical faults and serious quality problems in both countries. The second conclusion is that in some respects the rights and obligations of some of the parties are not as clear as they are in Sweden, partly because they relate to situations that so far have not been very common. One example is that typically a developer in China has the responsibility to manage common structures in a building through a property management company. The procedure for handling these decisions seems far from clear if the developer goes bankrupt.

A general conclusion is that the banks seem to take a larger risk in China than in Sweden. The developers borrow more in China and have less equity which increases the risk for the banks. As weak banks will have to be saved by the government in the end if there are serious problems in the banking sector, this implies that the Chinese government appears to take much larger risks than the Swedish government. Given the history of the countries and the current political priorities this seems to be a logical situation.

If it is a high priority for the Chinese government to increase, or at least keep up construction activity, the risk allocation described above seems rational. The developer has to build quickly in order not to lose expensive building rights. By changing the terms for the banking system the government can control the flow of funds both to the developers and the households. This can actually be compared to the situation in Sweden in the 1950 and 1960 where the government to a high degree controlled housing production and housing finance, but also carried most of the economics risks, e.g. costs for vacant apartments in the downturn.

The current risk allocation in Sweden can be seen as a reaction to the very serious real estate and banking crisis in the early 1990s. The current system seems logical given that the goal for the government is to minimize their own risks. The typical developer is strong financially and can wait with their development if there is a downturn on the market, or simply not bid for the right to build on municipally owned land. The household take all almost all risk if prices fall (see Hou & Lind 2009) and therefore it is unlikely that the government has to save the banks because of heavy losses on household lending. By aggressively using interest rate reductions during the last year, it became easier both for both developers and households to handle the downturn, and that also reduced the risks for the banks and reduced the risk that the

government would have to step in. The “price” that Sweden has to pay for putting all the risk on the actors in the market is a comparatively low level of housing construction (Boverket 2005).

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