

Mechanics of Informal Land and Housing Markets: A Theoretical Exposition

by

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Submitted to the Department of Urban Studies and Planning on May 22, 1997 in Partial Fulfillment of the Requirements for the Degree of Master in City Planning.

ABSTRACT

Most of the theoretical literature on housing has focused on formal housing markets, whereas the literature on informal housing has mainly been descriptive. This thesis attempts to extend the implications of the theoretical approach to informal housing markets.

A formal housing model is adapted to explain market forces in the informal housing market. Issues such as low income household constraints, tenure security, cross-market infiltration, are discussed and how they impact the supply and demand of informal housing. Low income households determine their demand for housing on factors based on household productivity, which differs from higher income households who have greater flexibility in determining housing attributes based on preferences. Tenure security impacts the market in two ways: it measures the risk of housing and it helps determine the value of housing. Cross market infiltration highlights that formal and informal housing are imperfectly segmented markets, therefore the informal sector is susceptible to movements and constraints in the formal housing market.

The case study of Bangkok, Thailand, was used to illustrate how informal housing markets operate in conjunction with formal housing markets. The policy of the Thai government to increase the down-market penetration of housing, although successful, had a negative impact on the conditions in informal settlements. Using the issues raised above, the cause for this negative impact is traced to policies that are rooted in the formal sector but cannot be translated to help those in the informal sector.

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*The house of every one is to him his castle and fortress, as well for his
defence against injury and violence, as for his repose.*

--Sir Edward Coke, Semayne's Case (1605)

To my parents,

Richard and Loan Tinsley

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Chapter I Introduction

Outline

- A. Role of Informal Housing Markets
 - B. Thesis Objective
-

A. Role of Informal Housing Markets

Informal housing provides shelter for over 50% of the world's population, yet there is little understanding about how informal housing markets work. If our objective is to improve, as well as to increase the supply of housing available to the poor, clearly it makes sense to understand the most prevalent housing market available to the poor -- informal housing. Much of the debate on improving housing conditions has focused on either sites and service schemes, providing tenure security, access to credit, etc. but the literature does not adequately deal with how informal housing markets operate, or what factors influence the supply and demand for housing. Instead the literature has narrowly concentrated on problems identified within the informal housing delivery system rather than understand how it operates, therefore often failing to see the forest for the trees.

Housing markets offer a wide range of housing products to serve a broad range of preferences. Hence housing markets are often considered segmented, or as having multiple sub-markets. Each sub-market is subject to a variation in its set of supply and demand constraints. For the purpose of simplicity, this thesis identifies two segments of the market: the informal and the formal. The informal is typically characterized as generally inferior in quality, of questionable tenure security, and in non-compliance with the regulatory system. The formal sector would be in compliance with the law and whose property rights will be protected to the

full extent of the law. However, the dichotomous labeling of informal and formal housing belies the fact that they are imperfectly segmented, implying that their demand and supply curves overlap into the other's markets, hence these markets are not autonomously functioning segmented markets. However, for the purpose of analysis, this thesis focuses on the functioning of the informal housing market as it differs from the formal housing market, whose operations are better understood and well-studied.

A starting point for examining informal housing markets is to look at how the formal housing market operates. Housing markets, either informal or formal, have similar characteristics due to the nature of the product. First, housing is both a consumption and an investment good. Second, it is immobile and therefore location is a significant factor. Third, housing tends to consume a considerable portion of the household budget. However, a more interesting question is how informal housing and formal housing differ. Formal housing market models cannot explain informal housing market behavior because each market faces different constraints and influences. Parts of the formal housing model will be mimicked in the informal housing market, and understanding how their differences make them react will clarify what policy interventions can be used to stimulate the informal housing market.

B. Thesis Objective

The objective of this thesis is to identify and explore the factors which influence the informal housing market. Since little work has been done to explore the whole facet of informal housing within a specific city, this thesis uses empirical evidence from the literature to build a case of what influences and affects the supply and demand of informal housing. A

model is adapted from the formal theory to explain the shifts in supply and demand as the market reacts to exogenous effects. To demonstrate these impacts, a case study of the Bangkok slums is used. Information on the informal housing markets of the Bangkok slums was conducted during three weeks fieldwork in Klong Toey, Bangkok's largest and oldest slum settlement. The basis of the fieldwork was to collect anecdotal information from slum residents. In addition, interviews with community leaders, credit union officers, and an urban development agency helped to fill gaps in the knowledge.

In order to understand the conventional real estate theory, Chapter 2 outlines some of the key theoretical concepts of the formal housing market theory. It also presents the formal model which will be adapted in later chapters to explain the informal housing market. Based on the informal housing literature, Chapter 3 explores issues which differentiate informal housing market operations from the formal housing market. In Chapter 4, the issues raised in Chapter 3 are applied to a case study of the Bangkok slums to illustrate how informal housing markets operate. Chapter 5 concludes with the findings and implications of the study.

Chapter II Formal Housing Theory

Outline

- A. Housing as a Commodity
 - B. Housing Price Theory
 - 1. Housing Rent
 - 2. Demand Segmentation
 - 3. Hedonic Pricing
 - C. Housing Market Equilibrium
-

The informal and formal housing markets both offer the same good, shelter. As such, informal housing markets operate in a similar manner to formal housing markets. In order to understand the basic economic theory of informal housing markets this chapter reviews basic formal housing theory, how the two markets differ will be covered in Chapter 3.

The first section of this chapter explores the characteristics of housing which make it different from other commodity markets, and in turn how these characteristics affect the conventional operation of markets. The second section examines the microeconomics of housing markets, or in other words, how individual housing prices are determined. Whereas the microeconomic approach focuses on the importance of structural and locational characteristics on the price and rents for a particular property, the third section takes a macroeconomic view on how all properties in the housing market, are affected by broad economic factors such as economic growth, interest rates, or technology.

A. Housing as a Commodity

Housing is a unique commodity, aside from having no two units which are exactly alike, housing has other attributes which separate it from other commodities. The housing

market therefore differs from other commodity markets because of the characteristics

associated with it. Housing is defined as a commodity with the following seven characteristics:

- *immobility* - housing is consumed at one location and the locational attributes are part of the consumption, furthermore immobility is closely related to employment -- employment must be located within a reasonable radius of housing;
- *durability* - housing is usually far more durable than most industrial equipment and therefore its structural value does not change much over time, for example, 200-year homes can compete in the same market as 10-year homes;
- *multi-dimensional heterogeneity* - housing comes in a variety of packages and thus there are several sub-markets for housing, different housing attributes such as number of rooms, bathrooms, swimming pools all affect the price and buyers will find the range of traits that best satisfy the price they are willing to pay;
- *convertibility* - although housing is durable, it can be modified to respond to current market situation, for example, building additional rooms;
- *capital intensive* - the large amount of capital needed requires interaction with capital markets and therefore makes the market susceptible to interest rates and other macro effects on the capital market;
- *transaction costs* - there are substantial costs involved in moving from one unit to another, these include search costs, looking for a new unit since the market is not localized; contracting costs, legal obligations and documentation of selling, buying or renting a unit; and also the physical cost of moving --the higher these costs the longer tenure security tends to be; and finally

-
- *public constraints* - housing is subject to the laws and zoning of the community, owners do not have free reign of their properties. (Rothenberg, 1975)

These characteristics illustrate the decisions that are encountered when entering the housing market. Each household entering the market has a different set of preferences and a different budget line. There are substantial tradeoffs within and among these characteristics, therefore in the overall housing market, price is fairly inelastic, i.e. price is unlikely to influence the choice between two different housing units. These tradeoffs lead to the creation of various sub-markets for housing and within these markets price becomes very elastic, the price for a 2-bedroom housing unit in Lexington will be more or less the same as for other 2-bedroom housing units in Lexington. The more specific the housing sub-market the more elastic the price becomes. The next section details how housing price is determined.

B. Housing Price Theory

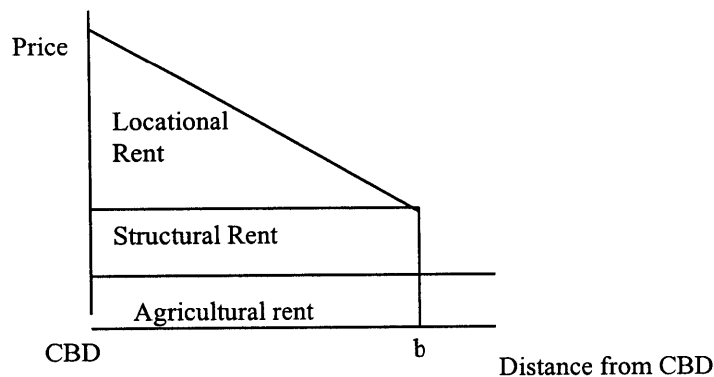
This section describes how housing prices are determined at the microeconomic level. At the most basic level, with housing units identical, housing is priced according to distance from the CBD. At the second level, housing markets are differentiated according to consumer's tastes, preferences and income. And at the third level, the assumption of identical housing units is dropped and a housing unit's price is estimated, using hedonic pricing, according to its individual attributes.

1. Housing Rent

Urban economic theory tells us that housing rent is composed of three components: agricultural rent, structural rent and locational rent. Agricultural rent is the opportunity cost of

land which is not developed, this rent is constant as illustrated below. Structural rent is the cost of the building, this too is assumed to be constant over distance from the CBD. Locational rent falls the further one moves away from the city center, this is commonly referred to as the land rent gradient. Worldwide, both in developing and developed countries, this relationship tends to hold for monocentric free market cities.

Figure 2.1 Components of Housing Rent

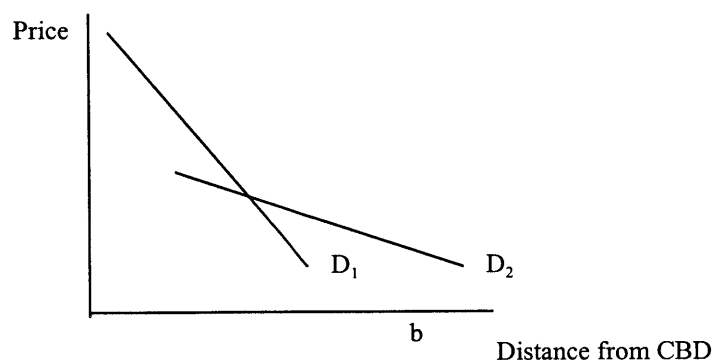


From the above graph, we can see that commuting costs and distance are what contributes to the slope of diminishing housing rent as one moves away from the CBD. All housing attributes being the same, a house at the center will be more expensive than a house at the border. Housing theory tells us that for an individual to be indifferent along this land rent gradient, the savings in commuting must equal the increased cost in housing. Those living at the border will be compensated for their commuting by having cheaper housing, and those living at the center will incur higher housing costs to offset their savings on commuting. The slope of this line is determined by the transport infrastructure. The weaker the transportation network, the greater the commuting times, the steeper the slope.

In Wheaton and DiPasquale's model for estimating median house price across the metropolitan areas in the United States, they found that three variables, metropolitan population, growth, and construction cost, explained 76% of the variation in house prices. (Wheaton and DiPasquale, 1996, p.57). The metropolitan population determines the border of the city, and thus the savings in commuting costs which is reflected in the house price. The growth rate of the city determines the potential value of land, i.e. the potential savings in commuting costs from an expanding border, this is equivalent to a future stream of income. As the border expands, housing closer to the border will experience a great percentage change in value than prices at the center, and this makes land at the border more speculative in nature.

2. Demand Segmentation

The above figure illustrates a land rent gradient where households would be indifferent to which point they were located on. However, households are not alike, they have different incomes and preferences. Young couples, for example, have less desire for larger lot sizes but may have a greater distaste for commuting, therefore they would be willing to pay higher prices for apartments near the city, this demand curve would be represented by D_1 . Households with preferences for larger plot sizes in exchange for longer commuting times will be reflected by D_2 .

Figure 2.2 Demand Segmentation

The above graph is an example of demand segmentation based on commuting distance and lot size, leading to what is often referred to as spatial segregation of demand. Demand for housing is based on a set of housing attributes which households tradeoff upon, better schools in more expensive areas or second tier schools but access to lakes. Depending on the households' preferences, their demand curve will reflect what tradeoffs they are willing to make in order to obtain the housing attributes (both physical and locational) they desire. In the broader housing market there are several segmented markets, yet these markets can and do overlap with each other. However, when demand curves overlap, housing will go to the demand curve that represents the highest willingness to pay.

3. Hedonic Housing Prices

Since housing is a composite commodity, the price of housing is based on the preference of its different attributes. Housing price estimates are usually obtained using hedonic pricing methods. In this method, price is the dependent variable regressed against different housing attributes such as lot size, rooms, concrete walls, bathrooms, etc. The hedonic

equation can be regressed on physical attributes of the housing unit and or on the locational attributes of the housing unit. The specification of the model will differ according to region and country.

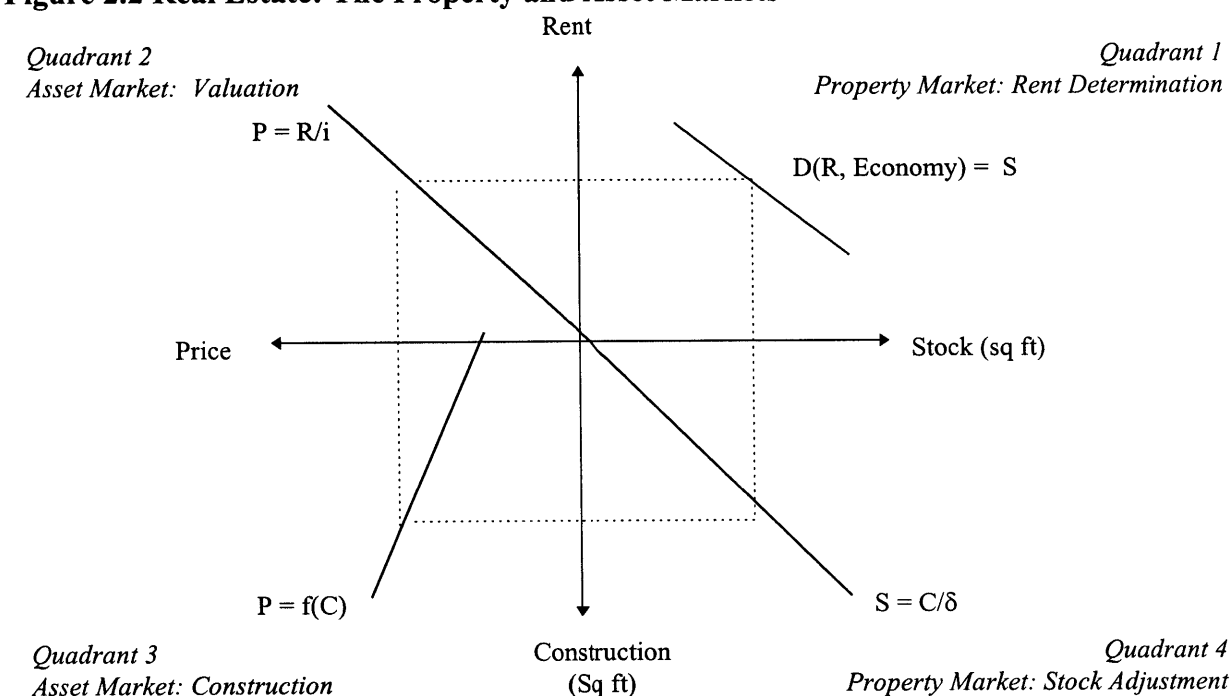
C. Housing Market Equilibrium

The price of housing is also determined at the macroeconomic level. Figure 2.2 demonstrates housing market equilibrium. Here, housing prices are influenced by exogenous factors such as market demand and interest rates.

Quadrant 1: The model begins with the demand for housing, which is determined in the rental market. Demand for housing is a function of the economy and rent. If the economy grows, this shifts the demand curve to the right.

Quadrant 2: The demand for ownership is determined in the capital market. The price (P) of housing is equal to rent (R) over the capitalization rate (I), $P=R/i$. When long term interest rates fall, this raises the value of P and shifts the curve down. Likewise, if interest rates rise, the curve shifts up.

Quadrant 3: The return to investment, or the price of the housing asset will affect the amount of new construction which takes place. The higher the return, the greater the construction investment. Each additional unit of construction is more expensive since land acquisition cost typically rise with development. If land acquisition cost did not rise, the curve would be completely vertical. Any other exogenous variable which affects construction costs will also be reflected in this curve. For example, cheaper construction materials would shift the curve to the right.

Figure 2.2 Real Estate: The Property and Asset Markets

Where D = Demand in Economy
 P = Price
 R = Rent
 i = interest rates
 C = Construction
 δ = Rate of Depreciation

Quadrant 4: The amount of construction will affect the amount of stock in the economy, which is a factor of the depreciation rate. The net stock determines the available square feet for rent and this moves the model back to quadrant 1.

Equilibrium occurs when a) the amount of new construction is equal to the amount of replacement stock, and this is equal to the demand for housing, and b) asset price is equal to replacement cost (Wheaton and DiPasquale, 1996.) This simplistic model is illustrated above.

In his review of the literature on tenure choice (renting versus owning) Rothenberg et al (1991, p. 23) concludes that empirical findings on the study for tenure choice show that tenure

choice is influenced not only by household's income wealth and life-cycle stage, but by taxes, interest rates, inflationary expectations, and other factors that alter relative tenure prices. This model only deals with the influence of interest rates on the market. However, the effect of taxes alters the profitability of ownership and in this respect taxes do act like interest rates.

Chapter III: Empirical Issues in Informal Land and Housing Markets

Outline

- A. Low Income Nature of Informal Housing
 - 1. Labor Mobility and Employment
 - 2. Housing as a Productive Input
 - 3. Housing Finance
 - B. Tenure Security
 - 1. Proxies for Tenure Security
 - Physical measures
 - Non-physical measures
 - 2. Factors affecting Tenure Security
 - Community and social networks
 - Spatial implications
 - 3. Transactions and Tenure Security
 - Information
 - Enforcement
 - 4. Impacts of Tenure Security
 - Rental versus Owner-occupancy
 - Housing Investments
 - C. Interaction with Formal Housing Markets
 - 1. Regulations
 - 2. Middle income infiltration
-

This chapter identifies the different empirical issues raised in the literature that contribute to our understanding of the functioning of informal housing markets. Case studies on informal housing have often focused on only a few aspects at a time, thereby not allowing for an understanding of the full essence of how informal markets operate. This analysis will therefore draw upon several different case studies to fully explore the breadth of informal land and housing markets.

There are three main issues which separate the operation of informal housing markets from formal housing markets, namely: the low income nature of informal housing, tenure security, and the interaction between formal and informal housing. The first two issues are

characteristics which distinguish the informal from the formal markets, whereas the third issue bridges the gap between the two markets.

A. Low Income Nature of Informal Housing

Informal housing is characteristically described as housing for the poor. While it may be true that not everyone living in informal housing is poor, empirical evidence shows that the assumption that informal housing is mostly for the poor is well justified. Informal housing markets exist because the poor are often priced out of the formal markets, or even if they could afford low cost formal units they cannot get access to housing finance. At the same time, informal housing does not necessarily house only the poor, infiltration by the middle income segment can occur. This is discussed later in this chapter.

The low income nature of inhabitants reflects certain constraints which affect their market behavior and separate it from formal markets. First, low income people are often characterized as working in the informal sector and thus there is a heavy reliance on accessibility to the CBD. Second, for low income earners, housing is used as a productive input for the household. And third, these inhabitants have been shut out of most formal credit institutions and this limits their ability to intertemporally allocate their earnings in housing investments.

1. Labor Mobility and Employment

The relationship between housing and employment is particularly critical to low income households. Informal employment has generally been concentrated near the city center and therefore the poor have tried to concentrate their housing as close to the center as possible.

However land prices toward the center are high and this pushes the poor out of the formal housing market. In order for informal housing to exist near the city center it is usually located on extremely marginal land.

In conventional housing theory, there is a tradeoff between the price of housing and the distance and hence commuting time from the city center. Households will therefore locate their housing away from their place of employment according to their preference for commuting, i.e. longer commutes and cheaper housing or short commutes and more expensive housing. Wages are also inversely related to distance from the CBD since wages reflect the commuting cost savings from the CBD. In other words, employers pay less the lower the employees' commuting time. Thus, according to conventional housing theory, individual welfare is equal at all distances from the CBD.

Commuting costs can be separated into two components: opportunity cost of labor time and transportation cost. For low income groups, transportation costs will consume a greater proportion of the household budget as transportation costs (e.g. bus fare) are not differentiated between low and higher income groups. If commuting costs exceed the benefits of higher wage incomes, then peripheral housing is not a possibility without the household suffering a welfare loss. In Cummings and DiPasquale's (1994) research on the spatial implication of housing policy in Chile they found that resettling squatters at the urban fringe resulted in a 14.3% job loss, increased commuting costs, along with a destruction of previous neighborhoods and social networks.

The establishment of informal housing within and near the CBD permits access to cheap labor. In cities with high congestion, commuting costs are higher and this puts upward pressure

on wages, on the other hand, high unemployment in the city will act to suppress wages. The greater the unemployment effect on wages, the higher the demand for city living as individuals seek to reduce commuting costs. The greater the demand for inner city living, the higher housing prices. Higher housing prices in turn can be countered by the deterioration of housing conditions, e.g. lower quality housing, less space per person, marginal land acquisition. Thus the distribution of employment, wages, and congestion levels will contribute to the demand, location and quality of informal housing.

2. Housing as a Productive Input

In the absence of formal housing regulations, households are not constrained in the manner in which they minimize expenditure on the housing unit, in order to maximize income net of housing expenditure. At lower income levels, maximizing income net of housing expenditures allows the household a chance to make longer term investments, such as education, where the returns to investment cannot be realized in the short run. Minimizing expenditure on the housing unit can be accomplished by increasing the number of occupants, thereby spreading the cost of housing.

Where households increase the number of occupants, they are trying to minimize their individual housing costs, thereby maximizing their net income. This behavior leads to private gains and social costs. While the households may successfully minimize their individuals' housing costs, overcrowding has negative externalities for the neighborhood. A single household would enjoy the benefits of more occupants, but collectively, if all household units engage in over-crowding, this leads to a deterioration of the environment, increases in crime,

reduced sanitary conditions, more pressure on local schools, etc. Thus a household's welfare may be worse off than if collectively households had agreed to certain standards of living. This illustrates one of the problems with informal housing markets -- the inability to properly optimize space. If community leaders can make informal arrangements among the residents, then an optimum density could be reached, however the difficulties of negotiating such an arrangement make this event unlikely. Without any regulatory measures, the welfare status of the household is more subject to the negative externalities of the settlement than would be the case in formal housing markets where regulations could limit them.

Housing is also a productive input as it contributes to household economic welfare by maximizing net income. Housing is not only a final consumption good, but also contributes to labor productivity. According to Fass (1987) housing produces a) health b) storage facilities, and c) work space. Increased housing improves the health of the household members and this in turn increases the labor productivity. If labor can work more days, earnings are increased and household income rises. Housing can also be used as space for home or informal enterprises which raises the household's income. As Fass stated, "the demand for housing can be explained in two ways: in terms of things it contributes as an intermediate good, or factor input, to a household's production of consumables that offer utility; and in terms of things it provides as a factor input to the production of earnings." (Fass, 1987) Under these conditions, investments in housing experience diminishing returns to household productivity. While this analysis is not restricted to informal housing, typical standards in formal housing are usually beyond the point where investments in housing improves the economic productivity (e.g. health) of the households. Therefore, at low income levels, the amount of housing consumed is more

sensitive to other household expenditure items such as food. In Latin America, for example, poor residents spend on average 55-65% of their income on food (Persaud, 1992: p. xii), and expenditures on housing will only be made if it provides the largest return to economic welfare. In Nairobi, a survey on expenditure priorities ranked housing at the current squatter standard of shelter as second, the first being food and the third being school fees. Money for an *improved* standard of shelter ranked ninth (Peattie, 1979). The list of priorities reflects the expenditure items households would derive the most utility from, while housing is clearly on the top of the list, housing quality is less significant to the household's welfare.

Fass's (1987) account of housing expenditure among Haiti's ultra-poor further illustrates how the poor's demand for housing is derived. For the poor, income is a direct function of labor productivity. In order to maintain labor productivity a household would have to spend about three-quarters of their income in order to meet only the minimum caloric intake. If the family does not own a cooking pot, it must purchase food which raises the cost of food by 20%. A cooking pot is equivalent to one to two month's rent, however once purchased, a pot pays for itself within five weeks. A household can further reduce its food expenditures if it can buy grain and fuelwood in bulk, however, this would require having a dwelling to store the food. Hence, housing allows for more efficient production of health and labor productivity, but only after the other "productive inputs" are obtained.

The demand for housing consumption is not, as in formal housing theory, based on household preferences for commuting or lot size, but rather for its contribution to household welfare. While housing can also serve as a long term investment, for low income households, housing is a short term need which competes with other immediate needs for household

resources. Only after these other needs have been met, can households allocate resources to other goods or long term investments, including improved housing.

3. Housing Finance

Credit, or financial, markets bridge the gap between the high cost of housing relative to the income of those demanding housing. Formal credit markets permit housing payments to be extended over a longer period of time and this allows for larger investments in housing. The longer the repayment periods the more housing they can afford. Housing finance is often dependent on the ability of using the home as collateral for securing loans.

Without these finance markets, households can only afford housing based on their savings and what they can pay in a relatively short period, as the informal nature of housing makes repossession difficult especially after the occupant has moved in. Lack of tenure security means that the home cannot be used as collateral as banks have no legal power to repossess an “illegal” item. Also, given the high probability that poor people are most likely employed in the informal sector, means that they often have no access to formal credit market as they have no employer verification or steady salary. Although credit may be available from informal sources, interest rates in these markets are generally too high to use as a source of long term housing finance.

Governments and NGOs have recognized the importance of housing finance as a means to improve the living conditions of the poor. Several financial mechanisms have been developed to match the low interest rates available in formal credit markets with the financing of low income informal housing.

Even when those with informal employment can qualify to apply for formal credit, they are still excluded from the formal financial market. Banks prefer making loans to middle-income households because they are seen as a lower credit risk. Empirical research on means of providing formal credit to the informal sector has often emphasized the need for a third party organization, namely an NGO, since technically there is no legal recourse between the formal (banking) sector and the informal sector. A third party is needed to act as an intermediary as the lack of title prevents the house being used as collateral. In Hermanson's (1996) work in Honduras, NGOs were used as financial intermediaries, who because of their knowledge of the community, were able to substitute informal networks, and hence social pressure, for housing titles.

Without housing finance, households must either pay up front or make incremental investments in housing after the lot has been purchased, which allows households flexibility in timing their consumption of housing. Although institutions are being created to help bridge the gap between formal finance and informal housing, housing finance through savings is the most prevalent mode in informal settlements. As such, the consumption of housing is more a reflection of past earnings than future earnings, the contrary to what it would be in formal housing markets with easy access to credit markets.

B. Tenure Security

Markets are predicated on the notion that property rights can be assigned to scarce resources. These rights include the right to use the property, the right to earn income from the property, and the right to transfer ownership of the property. *De jure* tenure security is used to

describe the government's recognition of the rights of the owner or occupant. The degree of tenure security property owners have defines the extent of their property rights, for example, full tenure security would be a guarantee by the state for the enforcement of their property rights.

While there are state supported regulations for recognizing some forms of tenure security in informal settlements, at the same time, perception of tenure security, or rather how the occupants view the stability of their residence, can be influenced by other non-state factors. The amount of *de facto* tenure security obtained in a squatter settlements will vary across countries and within cities, but ultimately is dependent on the government's policy toward these settlements. Perception of tenure security is a historical phenomenon, if, for example, in the past the government has respected the occupancy of any settlement after there has been considerable build-up, then occupants in other built up settlements may perceive a stronger sense of tenure security.

Tenure security adds a new dimension to commodification of housing, in the sense that the more secure the housing rights are, the more marketable the house becomes. But what makes it more marketable, or rather, what proof is there of tenure security? While tenure security is a difficult concept to measure, it can be validated in a variety of ways which will be discussed below in sections one and two. The first section examines proxies for tenure security, or measures which illustrate the residents perception of tenure security. Section two describes factors which influence the degree of tenure security of a settlement. The third section looks at how tenure security affects market transactions and the fourth section examines the impact of tenure security at the macroeconomic level of housing markets.

1. Proxies for tenure security

There are several proxies, or non-legal measures, which households can use to gauge the tenure security, or “expectative property rights¹” of a settlement. While these expectative property rights are not guaranteed by the state, they help to validate a household’s entry into the property market. To what extent these proxies can substitute for *de jure* property rights is dependent on local conditions.

Physical measures

The two main physical proxies which determine the perception of tenure security are the infrastructure service and quality of construction materials used in informal settlements.

Infrastructure services, such as water, electricity, and sewerage are part of larger infrastructure networks, which are usually provided by the government. The more connected a settlement is to the “system” the greater the perception of tenure security. Infrastructure investment also demonstrates a long-term commitment on the part of the government to provide services to the people. The greater the investment in infrastructure services, the greater the perception of tenure security, as these services legitimize the occupant’s claim to the land. If the resident can provide receipts for electricity or water payments, this can validate their claim to the property, particularly if there is some dispute over ownership. Infrastructure investment will also make housing investments more feasible, for example access to a drainage connection

¹ De Soto, Hernando. 1989. *The Other Path: The Invisible Revolution in the Third World*, trans. June Abbott, New York: Harper and Row, in Garr (1996).

facilitates investments in sanitary improvements, as was found in Lima, Peru, Cartagena, Columbia and elsewhere by Strassman (1980, 1982, 1984)².

Durability of construction materials for housing units also reflects the perception of tenure security. The more durable the materials, the higher the construction investment costs, and the longer the tenancy period must be in order to recuperate the investment. Therefore the willingness to invest and hence the amount invested will be based on the perceived time period over which tenure security is expected to last. Although housing investments can also occur as a result of perceived tenure security, sometimes investments in housing must occur in order to obtain security of tenure (Razzaz, 1991: 67; Fass, 1990:3). Whether tenure security is a requirement or a result of investment depends on the government's policy.

Hedonic pricing studies have been conducted to measure the importance of these physical measures to the value of informal plots (Friedman et al, 1988; Jimenez, 1982; Lodhi and Pasha, 1991). Friedman et al (1988) found in their study of informal and formal housing prices in Manila, Philippines that attributes such as concrete foundation, water and sanitation connections, good roof, and more than one story signal better tenure security and therefore command a greater premium in informal settlements than they do in the formal sector.

Non-physical measures

Aside from the physical provision of infrastructure services and use of high quality construction materials, the government can further validate the occupants claim to the land through other non-title or non-regularization means. One sign that these measures do lead to

² As quoted in Varley (1987).

greater expectative property rights is the increase in housing investments which households undertake.

One of the first measures signaling a government's tolerance to an informal settlement is the absence of punitive measures to newly formed settlements. Likewise, if the private sector does not react and protest to the new settlement, then there is no pressure on the government to evict the illegal occupants. The longer families have lived in a settlement without threats of eviction, the more likely housing improvements will occur (Varley, 1987: 468).

Another good measure of growing *de facto* tenure security is a property or house tax, which signals to the occupant the government's acceptance of their occupancy of the land although it may not give express permission. Integration into the government's tax collection system, results in a shift from being informal and anonymous to being accounted and recognized by the government. Once they are recognized, this puts them in a better position to demand services, particularly if they are paying taxes.

Attempts by the government to limit the sprawl of squatter settlement would also indicate the willingness of the government to accept the present settlement and hence give the expectative property rights. For example, in Central Java, a wall was erected to divide a Chinese cemetery, demarcating the portion of the cemetery which was to be kept sacred and squatter-free. The other portion would accommodate the burgeoning cemetery squatter settlement. The erection of the wall signified the legitimacy of the squatter's occupancy and hence increased the squatter's expectative property rights. As a result, 12 new units, most of which were made out of permanent materials, were constructed within the next three months, increasing the settlement's housing units by 17% (Garr, 1996). Other non-physical measures

include issuing identity cards, registering addresses, conducting a census, or any other measures which tie the informal settlement into the government's legal system.

Whether tenure security is measured via physical or non-physical means, the net impact of an improved tenure security is an increase in investment in the settlement. Hence the argument in the development literature has generally been to increase tenure security of a settlement and this will lead to improved living conditions by securing the households' investments in housing. Increased tenure security has other ramifications for the informal housing market, and these will be discussed in Section C.

2. Factors affecting tenure security

Technically, tenure security applies to communities, meaning individual households within a community generally experience the same level of tenure security, although perceptions and opinions within a community will range. To the extent that government regulations and policies are city-wide, communities across the same city will experience the same base level of tenure security. Tenure security will differ across communities depending on the age of the settlement, community activism and political reaction, and the development pressures of the particular location.

Community and Social Networks

Communities which are older and more established tend to have almost complete *de facto* tenure security. Studies on housing price differences between new and old informal

settlements show a price premium for housing units in older settlements, indicating a preference for older homes which have more tenure security (Friedman et al, 1988; Jimenez, 1982; Jimenez, 1984). The same is not true in the formal sector. Although most housing hedonic price equations for formal and informal settlements tend to have the same signs for their variables, one difference is that in informal settlements, age of dwelling units has a positive effect on price (Friedman et al, 1988: 198; Jimenez, 1982: 749; Jimenez, 1984). This reflects the stronger staying power of the squatter community which translates into a lower risk of eviction and in essence *de facto* tenure security.

Older communities have also had more time to lobby for infrastructure services from the government or to privately install their own infrastructure. As noted above, the existence of infrastructure services validates the communities' presence. The more established a community, the more integrated it is with the larger community, in terms of social, economic and political ties, and therefore it will often enjoy city wide support which further entrenches its claim for tenure security.

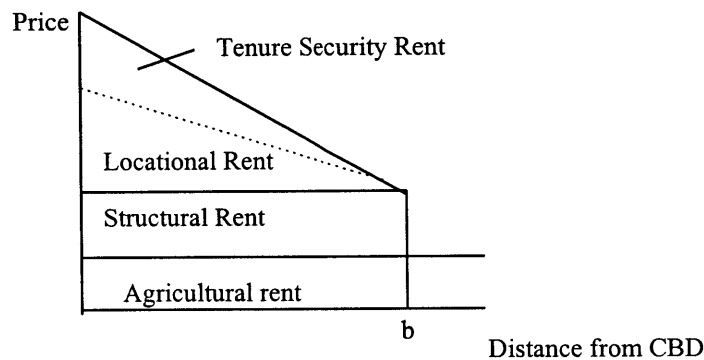
Not only is age of the settlement important, but the size of the community may also influence tenure security. The larger the community the more politically difficult it is for the government to intervene and evict residents. Of course, size and age are closely correlated.

Spatial Implications

The importance of tenure security is also direct function of development pressure. The greater the development pressure the more important tenure security becomes. As a household

moves away from the city center, development pressure declines and tenure security becomes less an issue. This is illustrated in Figure 3.1.

Figure 3.1 Tenure Security Rent



The above figure illustrates the premium placed on tenure security as one moves closer to the CBD. This does not reflect the actual price paid, but rather the value of tenure security if it were kept constant across space. If the household forgoes tenure security, then the amount paid would be at the point on the locational rent curve. The gradient of the tenure security rent curve is steeper the greater the development pressure and flatter the more decentralized the city becomes.

Land prices operate in a similar fashion in both formal and in informal settlements. In both markets the characteristics of the land, and not just location, influence the price of the plots. In Dowall and Leaf's (1992) study on Jakarta's land prices, they found that roughly 70% of the variation in land prices could be attributed to location from CBD, access to infrastructure, and tenure security. Full tenure security adds 45 to 60% to the plot's value regardless of access to CBD or infrastructure service. Furthermore, the importance of tenure

security outweighs the importance of infrastructure service the closer a plot is to the CBD. However, toward the edge of the city, high infrastructure service commands a significant premium over tenure security. Dowall and Leaf (1992) explain this as a means of compensating those who live away from the center with more infrastructure services. A second explanation is that since tenure security is a function of development pressure, and this pressure is higher near the CBD, tenure security commands a greater premium.

Land prices in both formal and informal markets fall with distance from the CBD, but whereas formal markets, because of their standardized requirements, overlook the impact of infrastructure service and tenure security, informal housing markets must take this into account when developing their land rent gradients. Hence, the slopes of the infrastructure and tenure security premiums will differ as households move away from the CBD.

As data is not readily available for metropolitan areas in most developing countries, data collection has been in specific neighborhoods where the locational attributes are similar. Therefore most studies have focused more on the physical attributes of housing rather than locational aspects. As such, these kinds of studies ignore critical locational specification such as distance from CBD or size of the neighborhood. In Follain and Jimenez's (1985) survey of studies which estimate the demand for housing characteristics in developed and developing countries, they concluded,

The focus of the Standard Urban Economic (SUE) model on the characteristic access to CBD seems unwarranted. Such a focus is warranted if the income and price elasticities of the demand for CBD access are found to be consistently different than those for other characteristics. Such is not the case. Little consistent evidence exists to show the income and price elasticities of the demand for CBD access are so quantitatively different as to warrant special attention. ..the fact remains that the empirical literature on the demand for characteristics does not indicate CBD access is a particularly significant one. (Follain and Jimenez, 1985, p.104)

In the United States, distance to CBD has a negligible impact on housing prices, and this is partly due to low commuting times, decentralization of jobs, and a higher preference for other factors such as schools, low crime rates, parks and other amenities. Higher income groups, both in the developed and developing countries, can afford to choose among an array of housing characteristics, therefore it is not surprising that in light of the choice of attributes, distance to CBD is insignificant. Their income elasticity of the demand for housing services is greater than the demand for access to CBD. However, according to Fass (1987), the poor will choose the housing attributes that will maximize their productivity, and not necessarily on non-economic factors, such as distance to parks, and hence distance to CBD is a critical decision variable for them. Follain and Jimenez's conclusions are not completely applicable to those in informal housing, since distance from CBD and employment opportunities, as discussed earlier in section A.1, are more critical elements in the demand and price function for housing. Hence relative to the formal sector, locational rent will be a larger component of the housing price.

3. Transactions and tenure security

Tenure security is a measurement of property rights and hence the ability to trade informal housing units in the market. In order for transactions to occur in any market, there must be some guarantee to the buyers that they can derive utility from their unit: tenure security is that guarantee for housing markets. However, as the degree of tenure security cannot be clearly defined, the market risk in bidding for informal housing units is increased. In order to minimize this risk, and thereby gain a higher price, informal settlements adapted two formal institutions: information dissemination and contract enforcement. The latter institution is

primarily concerned with creating a parallel legal system which would support informal transactions and also resolve disputes, or in other words, would serve as an informal court.

How information is disseminated, or housing contracts enforced, will differ across countries, but what is consistent across is that both these institutions must exist in order to have a functioning informal property market. Using Mexico (Siembieda, 1996) and Hong Kong (Smart, 1983) as case studies, this section examines the different, almost polar, approaches they have to information dissemination and contract enforcement. Hong Kong is an extremely market-oriented society and commodification of goods is prevalent. Exchanges occur in an impersonal manner, with price being the determining factor in transaction. In Mexico, on the other hand, transactions are more personal and social relations eschew a higher value than price in the final exchange. These divergent characteristics lead to different market approaches to information dissemination and contract enforcement .

Information

With perfect tenure security, information plays a vital role in allowing markets to work more efficiently. Information reduces uncertainty in transactions and this leads to more efficient pricing. Information also allows supply and demand to match up quicker and this lets prices reflect the true market value of the housing unit. Information can be received from third parties, and because it is subject to legal scrutiny, this information can be reliable.

However, where the commodity transaction is not subject to legal protection, such as informal housing, information from third parties can be suspect, since there are no mechanism to reprimand or verify those who misinform buyers. In these situations, social networks often

provide more reliable sources of information. However, asymmetric information, or if one side has better access to reliable information than the other, can distort the market operation in favor of the more informed side. It is this particular feature about informal housing markets which makes them more vulnerable to exploitation (see Section C.2). The more vulnerable the market is due to imperfect information, this will translate to riskiness and will be embedded in the price of the housing unit. Hence markets with more reliable information dissemination will command higher prices than those without, all other things equal.

In Mexico, information on squatter settlements is usually obtained by word of mouth from friends and relatives, reflecting the social nature of transactions in the market, about 77% of the plots transacted were identified this way (Siembieda, 1996:27). Hong Kong operates differently and uses more impersonal forms of disseminating information, although this does not preclude other social forms of information dissemination. Information on squatter settlements is conducted through brokers, newspaper advertisements, and posters -- reflecting the practices of the formal market. Part of this information dissemination is possible due to the high literacy rates of the population and the higher incomes to pay for these transactions (e.g. purchasing newspapers, paying brokers). The Hong Kong model reflects the tradeoff between higher transaction costs and a more efficient housing market.

Personal mechanisms of disseminating information may be more reliable than third party sources, however the latter mechanism increases the scope for potential buyers. The two models demonstrate the range of means to disseminate information, however the method chosen for any particular country will depend on how well the gains in efficiency outweigh the transaction costs.

Enforcement

One of the preconditions for markets to work well is the ability to enforce contracts, implying that there is legal backing of all transactions. The buyer needs to be assured that he or she is purchasing the plot from the rightful owner. Despite the absence of land title, and therefore no legal support for an occupant's claim to the land, informal housing markets can still exist. Where the law abstains from any contract enforcement in informal settlements, communities have found alternative methods to protect their property rights. One of the most common methods is through social ostracism.

Mexico is able to enforce its "social market" through the social institutions it is able to create. Communities have organizations which serve to enforce, push for reforms, and essentially act as the voice for the community. In Hong Kong, even when the ability to involve formal enforcement is absent and there are no binding social network to ensure compliance (e.g. ostracism is ineffective), transactions occur between parties previously unknown to each other. Although Smart (1986) refers to Hong Kong's *triads* as the community's enforcers, the real enforcement seems psychological as people believe in the property rights system and abuse will not be tolerated by the community. Hong Kong may operate on a highly market-oriented basis, however this does not dismiss the importance of social relations and culture, which can be mobilized to punish the abuser.

4. Impacts of tenure security

Using the theoretical housing demand and asset model discussed in Chapter II.C, this section illustrates the impact and influence of tenure security on the informal housing market,

based on empirical studies from various developing countries. Tenure security influences each quadrant of the model, and how it affects the model is partly the result of government regulation and partly the result of people's reaction. The impact of tenure security can be analyzed in two steps: first, how is the demand for owning versus renting influences (quadrants 1 and 2); and second, how does tenure security affect investment in housing, both in terms of the amount of construction (defines the stock of housing - quadrant 3) and the quality of construction (defines the depreciation rate - quadrant 4).

Rental vs. Owner-Occupancy

In formal housing markets, Rothenberg et al. (1991, p. 23) conclude that empirical findings on the study for tenure choice (renting versus owning) show that tenure choice is influenced not only by household's income, wealth and life-cycle stage, but by taxes, interest rates, inflationary expectations, and other factors that alter relative tenure prices. Informal markets are subject to some of the same trends. Ahmad (1994) illustrates that in Karachi, Pakistan home ownership is more likely with increases in permanent income, age, household size, and length of residence in the unauthorized areas. Although his model does not incorporate taxes, interest rates or inflationary expectations, it does highlight that tenure choice in informal settlements is better explained as an income, wealth, and life-cycle phenomenon.

There are two influences on the decision to either rent or own in informal housing, the first being economic and the second political. To the extent that informal housing escapes taxes and is not financed through formal financial markets, tenure choice in informal housing is primarily based on income, wealth and life-cycle stages.

Whenever a region is highly characterized by either rental or owner occupancy, public policy is probably biasing the incentives to either rent or own. Smart (1986) analyzing Hong Kong squatter markets found that most squatter dwellings were predominantly owner occupied. Since it is the Hong Kong government's policy not to recognize any ownership of squatter settlements, whenever there is a slum clearance, the government will compensate the occupants of the dwelling but not the owners, thus respecting occupancy rights but not ownership. This effectively removes the owner's incentive to rent, as they receive no compensation. Hence, this policy has resulted in a squatter property market that is significantly owner-occupied, only 6 percent of squatters rent.

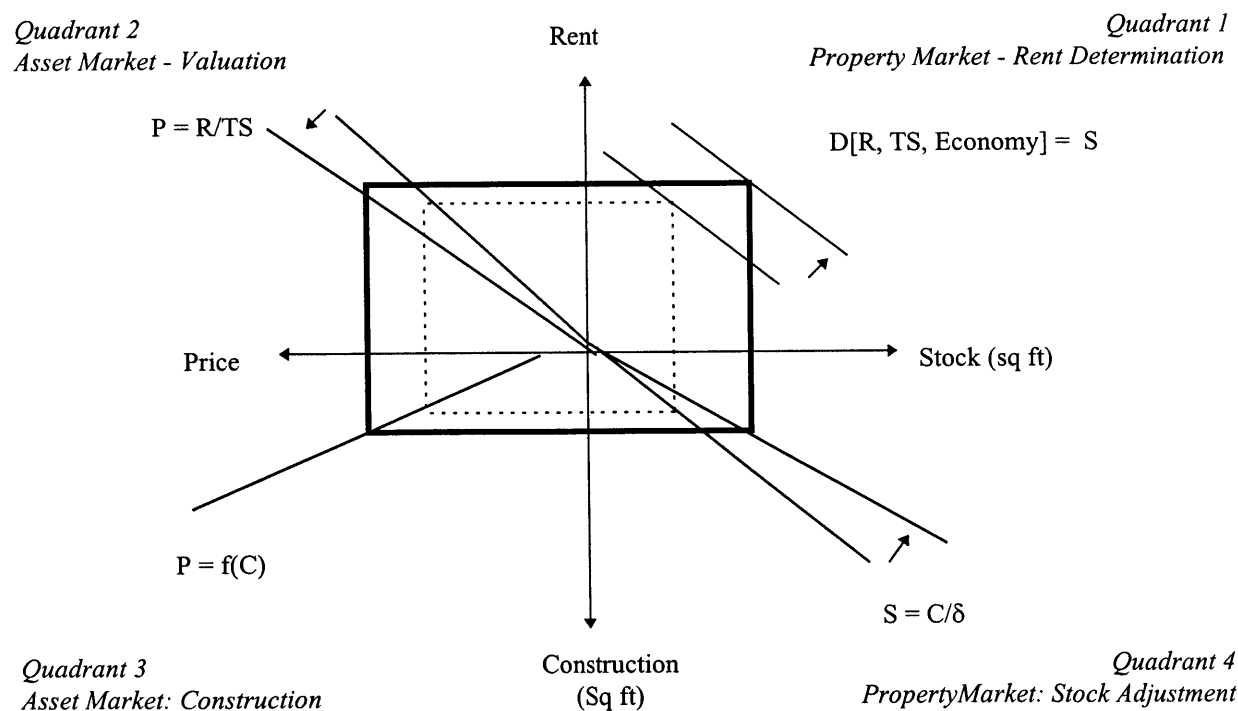
Thailand, on the other hand, has a significant rental squatter population. During slum clearances or fires, the government only compensates the owners. This makes ownership more attractive, however those who can afford to own will outbid those who cannot, and since there is minimum risk in renting (unlike Hong Kong) owners will often rent out. There is a tendency in the Bangkok slum markets to have one family own several slum houses or even the majority of the homes in a particular slum, but since these slum lords do not own the land, they can not develop it beyond residential homes.

Housing Investments

As mentioned above, greater tenure security encourages investment in housing. This impacts the market for informal housing in two ways. First, higher tenure security reduces the riskiness of the housing investment, which has the same parallel effect of a reduction in the rate of interest and therefore increases the price of the asset. This effect is illustrated by a downward shift in the capitalization rate curve in Quadrant 2 of Figure 3.2. The higher the price

of the asset, the greater the amount of construction. The second impact of increased and improved housing investment is a decline in the rate of depreciation. Housing lasts longer and therefore does not need to be replaced as frequently. This impact is shown in the upward movement of the depreciation curve in Quadrant 4. However, in this model, adapted from the formal theory, rent is a function of tenure security and therefore improved tenure security also increases the value of the house from the rental perspective, because it is an improved product which reduces the riskiness of renting. At a given quantity, the renter will be willing to pay more, this shifts the demand curve out in Quadrant 1. The net impact of these effects is illustrated by the new equilibrium box.

Figure 3.2 Impact of Greater Tenure Security in Informal Housing Markets



Where TS: Tenure Security

For example, if regularization of a settlement occurs, the demand for ownership will increase, but the ability to switch from renting to owning is constrained due to lack of housing finance. Therefore the increased value of improved tenure security will mainly be reflected in the shift in the rental demand curve. Which explains why an increase in asset value (which typically would lead to a fall in rents) actually leads to an increase in rents. Construction is constrained, since tenure security will often only be improved after there has been a significant build up, hence the rather flat construction curve. The net effect is an increase in the stock of housing, higher rents and higher asset price for housing. The above figure is only meant to be representative of what could occur in the informal housing market when tenure security is increased. The specifications for each situation will be different, for example land constraints will vary, tenure security will have a different price premium which may or may not outweigh the shift in demand, etc. and these will affect the elasticities of the curves. Although the outcomes for each scenario may be different, the movements should occur as illustrated.

C. Interaction with Formal Housing Markets

Informal housing markets do not operate in a vacuum and can be influenced by the variables which impact formal housing markets. The first section examines the impact of regulations on the formal housing delivery system and how this in turn will affect the supply and demand for informal housing. The second section examines how constraints in the formal housing market will push a different set of players, namely, middle income groups into the informal housing market and how this affects the dynamics of the informal market.

1. Regulations

Informal housing markets are impacted by the policies and regulations which exist in formal housing markets. During the development phase, excessive regulations, such as permits, inspections, high standards, can raise the cost and time of construction. Furthermore, zoning regulations can distort the land market and hence encourage people to enter the informal market. For example, minimum lot size zoning represents a threshold cost for entry into the formal market, forcing some people to consume more land than they would under free market conditions. The informal market alternative would be to illegally subdivide and share the threshold costs. Another example is land use zoning, such as the protection of agricultural land, this regulation constrains the supply of land which increases the price of land. By ignoring the zoning regulations, households can reduce their cost of land. The greater the difference in cost between formal and informal units, and the lower the difference in benefits between formal and informal units³, the more likely informal units will be the preferred development option. Correlation analysis of worldwide data show that the percentage of unauthorized housing is positively correlated with the length of permit delays⁴.

The impact of regulations leading to increased informal production has been documented in countries such as Indonesia and Trinidad and Tobago. In Indonesia the land acquisition process is expensive and lengthy. A developer has to undertake a 34-stage process (just for the land agency) and meet 21 conditions set by 14 government offices, resulting in a

³ The benefits of formal housing over informal housing include: access to credit, infrastructure services, and tenure security.

⁴ Percentage of unauthorized housing is defined as percentage of total housing stock in the urban area which is not in compliance with current regulations. Permit delays were measured as the median length in months to get

permit process that takes between 9 months to 4 years and has drastically increased the cost of housing (Marulanda and Steinberg, 1991). Not surprisingly, unauthorized housing accounts for 70% of Jarkarta's total housing stock (UNCHS, 1993). Similarly, in Trinidad and Tobago, the approval process takes between 1 to 2 years to acquire the necessary permits, hence approximately 63% of construction takes place without approval. As a result, informal institutional arrangements (indigenous cooperative solutions) have emerged to legitimize the process of informal construction. For example, employees squatting on company land have the opportunity to incrementally buy the land from the company. The legitimacy of the occupant is increased at different payment intervals and is so noted through documentation issued by the company. Hence, the increased tenure security encourages the resident to invest in the land and opt out of the formal system (Pamuk, 1996).

While excessive regulations may make informal housing more attractive, the ability of the informal sector to absorb the increased investment will depend on the legitimacy it receives, or rather the government's willingness or inability to permit it. Without proper registration, the government's ability to assess and collect property taxes is weakened. Furthermore, the prevalence of insubordination to government regulation undermines the credibility of the government, hence there is a delicate political balance between increasing the affordability of housing and controlling the growth of housing.

approvals, permits, and title for a new medium sized residential subdivision in an area t the urban fringe where residential development is permitted (UNCHS, 1993).

2. Middle income infiltration

The absence of tenure security can benefit the poor by segmenting the housing market and essentially allowing the poor to compete with the poor for informal housing. Middle income households tend to have a preference for tenure security, and all else equal, will choose to locate in the formal housing sector. However, all else is not equal and middle income households do penetrate into informal settlements. This section examines what happens in the informal housing market when there are two different players in the market.

Middle income households enter the informal market for a variety of reasons. Regularization, or increased tenure security, reduces the risk aversion of the middle income group and increases the appeal of the informal settlement. Likewise, improvements in infrastructure services can also increase the attractiveness of the site as it compensates for insecure tenure. The locational advantages of the informal site, especially in cities with heavy congestion, will also attract middle-income groups. Aside from the pull factors, there are also push factors. Formal housing can be too expensive, the process of development too lengthy and costly, or land supply too constrained for additional housing units to be available on the formal market. Whatever the reason, to the extent that informal housing markets serve middle income and poor residents, this changes the demand and supply function of informal housing since the motives and means of obtaining or selling informal housing differs between the poor and middle income groups. Over time the infiltration of middle income groups leads to the crowding out of the poor onto more marginal housing sites. Increased demand for informal housing due to the middle class increases the price and effectively pushes out the poor. The

supply of land and the price of land is affected when the middle income group becomes involved.

Due to middle income group's greater ability to afford housing, they easily enter the informal housing market. While accessible prices and low eviction rates are appealing to middle income families, even areas with a higher chance of eviction can be desirable to middle income families given the right incentives. The longer it takes eviction notices to clear the courts, the more possible it becomes for a family to recuperate its investment in the informal sector, i.e. the cost of living in the informal sector and losing one's home after say three years is cheaper than renting from the formal sector for those same three years.

There are two possible impacts on land supply when middle income households enter the market. First, density changes as middle income families buy larger plots, thereby reducing density and constraining the supply of land. The proportion of middle to low income groups within a settlement will effect the rate of densification, with poorer settlements becoming increasingly more dense and located in more marginal areas.

Second, since informal land markets mainly operate on full or few payments for a plot, middle income people can be more responsive to the market. The poor require a longer time period to mobilize large amounts of financial resources, and since middle income people have greater liquidity this allows them to purchase land quickly, both for personal occupation or speculation. Speculation is only possible if the community recognizes and accepts the sale of land, otherwise the land could be invaded by another household. In Jordan, the inability to protect vacant land from appropriation by the state or other individuals limited land speculation in contrast to legally registered land (Razzaz, 1991).

When speculation can occur, it contributes to the rising price of informal land and increases the number of vacant plots. Whereas the poor tend to immediately occupy the land, wealthy households have the option not to. Thirkell (1996) study in Cebu City, Philippines documented vast expanses of informal settlements which had been bought up by middle income groups and remained vacant. Thirkell's work shows that 23% of households interviewed delayed building by 6 months, and 6% had waited over two years before building. This further constrains the supply of informal land and pushes the poor into the more marginal sites which do not attract middle income groups.

Thirkell (1996) highlighted the following insights into the variations in land prices within mixed income settlements based on her work in Cebu City. First, the poor often sell their land on a crisis basis, whereas middle income owners will sell or buy land at their leisure. Poorer residents, who are less mobile because of fewer resources and opportunities will sell their land when there is a need for money. The more urgent the need, the more vulnerable they are to being bid down and this information can be used to exploit the poor. One practice is for brokers to pre-identify poor households which might sell on a crisis basis, then, when the poor sell, the middle income group intervenes to bid down the price. Information asymmetry, where the middle income groups have the upper hand in collecting information, distorts the market in favor of the middle income. Land bought cheap is then sold at a higher price, often beyond the reach of the poor. Second, the poor are more fearful of selling land rights as they believe they should not charge high prices for land belonging to the government. On the other hand, middle-income groups sell land rights at much higher prices and are less fearful of the law, they feel that institutional links and contacts offer added security. Third, aside from fear, the perception

of land value is lower for the poor than the middle income groups and there appears to be a statistical correlation between perceived land value and household income (Thirkell, 1996).

Thirkell's case study of Cebu City is not an anomaly and can be related to other cities experiencing the same phenomenon. What is interesting is the use of "land rights", which opens the informal market to all income groups, and not just those with an immediate need for housing. While land rights may increase investments in housing, it also invites additional demand from middle income groups whom the poor must now compete against, and without doubt, the poor are at a disadvantage. The argument has been created that improving the perception of tenure security is more relevant to recognizing the housing efforts of the poor than legalizing land rights on informal settlement, which only serve to increase land's marketability and hence price it out of poor's range (Garr, 1996).

This chapter has attempted to explore the different facets of informal housing markets, particularly as it differs from formal housing market. The next chapter applies what has been covered in this chapter to a case study of Bangkok, Thailand.

Chapter IV Informal Housing Markets: Bangkok Case Study

Outline

- A. Background of Housing Development in Bangkok
 - 1. Enabling Strategy
 - 2. Informal Housing Condition and Status in Bangkok
 - B. Micro Perspective on Informal Housing Markets: Case Study Klong Toey
 - 1. Supply
 - 2. Demand
 - 3. Housing Finance
 - C. Macro Perspective on Informal Housing Markets
-

The issues and theories raised in previous chapters are now applied to a case study of Bangkok, Thailand. Bangkok was chosen for logistic purposes and not for any unique housing experience. The issues raised in the previous chapter are meant to be universal and the extent to which they affect the housing markets will strongly depend on the regulatory and institutional framework of the respective city.

The objective of this chapter is to illustrate how these different issues affect the operation of informal housing markets. In the next section I highlight some of the background information on Thailand's housing sector and the recent policy changes and effects. The third section undertakes a closer examination of informal housing market issues based on fieldwork in Klong Toey, one of Bangkok's slums. The final section, using theories covered in Chapter 2, demonstrates how state intervention in the low income housing markets has influenced the formal and informal housing markets in Bangkok.

A. Background and Housing Markets in Bangkok

Since 1985, Thailand has experienced considerable economic growth, reaching 13.3% in 1988 and averaging about 8% since 1991. During this time period, per capita income grew

from \$800 to \$2,400 in 1994 (Yap, 1996). Increases in the economy led to a strong effective demand for improved housing services. Thailand is renowned for its successful housing policies which have enabled private provision of low-cost housing. However, this is countered by the fact that the slum population has not changed much in size, remaining at approximately one-sixth of Bangkok's population of six million. Slum land, on the other hand, has decreased and this has led to crowding and further environmental deterioration of slum conditions.

1. Enabling Strategy

In Thailand's Sixth National Social and Economic Development Plan (1987-1991), the government moved from trying to produce low-income housing to an enabling strategy of encouraging private sector involvement. In the three main modules of a housing delivery system, supply, demand and financing, Thailand's housing strategy targeted the supply and financing modules with the objective of making them more efficient and responsive to demand.

On the supply side, the government took action to shift the supply curve to the right as well as reduce market imperfections. The low-cost housing sector became eligible for promotional privileges such as exemption from corporate income tax for 5 years. Housing standards and regulations were simplified, and land use controls were lax. The government also reduced the price of petroleum which led to cheaper construction costs. The government was also involved in joint-ventures with private developers, which shifted some of the risk of providing low-income housing.

On the financing side, the government created incentives for financial institutions to offer long-term loans to home buyers and housing developers. The public was also given economic incentives to save with the Government Housing Bank (GHB). At the same time, the

GHB would offer loans at the lowest possible market interest rate. In 1986, the government announced that low-income housing would be considered a priority development sector, which effectively forced commercial banks to extend credit for housing at 2 percent below market rate. Currently, interest rates for housing are still relatively low.

The results of these policies have been spectacular. Bangkok now has one of the world's lowest down-market penetration of 1.7⁵. The city also has one of the highest annual percentage increase in new household formations. It has the highest housing production (includes both formal and informal units) at 18.5 units per 1000 population and the second highest housing investment as a percentage of gross city product. The table below illustrates world averages for the same data items. (UNCHS, 1993)

Table 4.1 Bangkok and Developing Countries Housing Indicators

| | Down Market Penetration | New households formation | Housing production per 1000 pop | Housing investment (% of city GNP) | Vacancy rate |
|-------------------------------|--------------------------------|---------------------------------|--|---|---------------------|
| Bangkok | 1.7 | 4.2% | 18.5 | 9.9% | 8.0% |
| Developing Countries Average* | 4.8 | 3.4% | 7.0 | 5.4% | 4.2% |

Source: UNCHS, 1993, * based on 40 capital cities with a GNP/capita less than \$12,000

Aside from the increasing availability of finance for home buyers, the demand model was left untouched. This became problematic when it was soon realized that the poor were not the beneficiaries of the newly created low cost housing, despite the increased affordability. Instead, the slum population had not decreased and, as the high vacancy rate illustrates, low

⁵ Down-market penetration is the ratio between the lowest-priced formal dwelling unit produced by the private sector and median annual household income.

cost housing has failed to penetrate the low income markets but has been bought for speculative purposes.

2. Informal Housing Condition and Status in Bangkok

With land prices increasing, landowners are eager to remove tenants and regain control of their land so that they may develop the land to a more profitable use. Since Thais generally try to avoid conflict, landowners will often stop collecting rent, sometimes for years, from their tenants as a forewarning of eviction and also as a means of compensation. While the law supports the landowner's right to their land, evictions are difficult to obtain. Fires, on the other hand, serve the landowners quite well. First, no longer are they liable or obligated to give compensation, but any lease signed with the tenant is void. Furthermore, the Bangkok Metropolitan Authority, in order to allow time to investigate the cause, forbids rebuilding a structure destroyed by fire until 45 days have passed (Yap, 1989). This regulation allows landlords a window of opportunity to regain control of their land.

After the age of 15, every Thai resident must have an identification card and be registered in a house. Previously, only those with official (formal) housing registrations were allowed to send their children to school, have access to electricity and water connections, and other government services. This effectively barred slum residents from obtaining these services, and in some respects, the government was treating them as illegitimate citizens of the city. Typically, in order to obtain a house registration, a contractor will submit the house design to the City Civil Engineering department and perform all the contractual work to get the house registration. There would be a visual inspection by the city to ensure that there indeed is a house and then the house registration would be issued.

Over time the government began extending housing registrations to slum residents by overlooking the obvious building code violations of slum housing⁶. At the same time, the government did not want to increase slum density and would only grant housing registrations for the current number of households located in the slum. Newly formed households that moved in after the inspection date would not receive a housing registration nor access to the above services. While the informal housing settlements would initially be resistant to new households (since this led more crowding), overtime, as these households became more integrated into the community, the community leader would vouch for them and they could receive their housing registration. The housing registration process became, and still is, highly personalized. Not only must a household depend on their community leader to favor them, but they must also count on the housing inspector to accept the housing registration application.

As a document, the housing registration serves several purposes, including keeping track of ownership transfers and the births and deaths of all occupants in a housing unit. Households must register their names on the housing registration within 15 days of moving in, hence, all housing transaction are registered at the district office.

The housing registration only implies government recognition, not legality. Occupants in informal housing are still subject to eviction, however the registration allows them a means of claiming compensation. Whether the government is building new infrastructure and reclaims the land, or fire destroys the houses, owners will usually receive some form of compensation from the government. In a January 1997 fire, owners were receiving compensation of 25,000 baht (\$1000) plus 50 baht (\$2) per family member per day, regardless of the size of the house.

⁶ It is now estimated that over 75% of housing in Bangkok does not meet the required standards.

Although average construction costs for a slum unit are only \$400, the material goods, such as televisions, stoves, fans, constitute the majority loss of value in the fire. In this respect, housing registration provides a form of insurance for slum dwellers, as no other form of insurance is available. However, the \$1000 benefit is only extended to home owners, and unfortunately the majority of slum residents are tenants, however, tenants do get access to the 50 baht/day benefit. If residents are not registered, then the community leader must vouch for their presence. This has led to corrupt practices whereby the community leaders will vouch for non-resident friends and family in order to receive extra compensation.

How valuable is the housing registration? One slum resident mentioned that after renting his home for 12 years, the owner offered to sell it to him for 3000 baht (\$120), he refused because the house was not registered and therefore had questionable tenure security. Six years later the house was registered and the man bought it for 55,000 baht (\$2200). Unfortunately, his home burnt down a year later, however, he at least qualifies for the \$1000 compensation and daily supplement package.

Once a house burns down, aside from being able to claim compensation, the housing registration become invalid. Residents are issued temporary housing registration which technically expire after 6 months, however they are sometimes used for several years. Temporary registration does not provide the same degree of tenure security as permanent registration, as such, homes with temporary registration are typically not sold until they receive permanent registration as the value of home will then increase significantly. The temporary registration allows the resident to enroll children and function within the city as a citizen, versus non-registration which essentially makes the person non existent. Occupants must then

rebuild and reapply for their housing registration. Given the 45 day waiting period, at this stage of redevelopment residents are vulnerable to political will and to the negotiating powers of the community leader to reinstate the residents.

The high value of housing registration has also led to the practice of claiming a separate housing registration within an existing structure, i.e. some homes have 2-3 housing registrations. Without access to housing finance, a group of families must often pool together their resources to purchase a unit. After the purchase, the families divide the unit and apply for separate housing registrations. Families may also just register under one family name, and as funds build up, the lead family can buy out the other families.

Despite the increase in low-cost housing production, the population of slums and squatter settlements in Bangkok has not decreased. Slum residents have been evicted from the city center and have moved to the suburban areas. In the meantime, housing conditions in the Bangkok central slums has deteriorated substantially. As more slums have been cleared, informal housing is now being constructed on the most marginal land, including under bridges and along railway tracks.

B. Microeconomic Perspective on Informal Housing Markets

The Klong Toey slums are located near the Chao Praya river in Bangkok on land that is owned by the Port Authority of Thailand. There are approximately 12 different slum communities within Klong Toey and these communities are defined by geographical boundaries.

The information obtained in this section is based background research and on interviews conducted during three weeks fieldwork in Klong Toey. On the eve before my arrival, one of the slum communities of Klong Toey, Chumchon Phattana Mai ⁷ burnt down due to an electrical fire. The fire lasted less than a few hours, however the combined effect of a high density slum comprised of wooden homes, no adequate fire hydrant, and the inability to even start putting out the fire for over an hour until the electricity lines serving the community were shut off, left three hundred families homeless and without possessions. Interviews were conducted with residents whose homes had burnt down, and also with residents in other slum communities.

1. Housing Supply

Of the three methods of acquiring land, informal housing in Bangkok is obtained by mass invasion of land⁸. As land constraints have been getting tighter, organized collective land invasion as opposed to gradual encroachment is more prevalent because of the necessity in forming group solidarity. The government, or landowner, can more easily evict a single household, but the viability of clearing a slum community is politically more difficult. However, in areas further from the center, gradual encroachment does occur.

Whenever there is a fire, households in a slum community must reinvade the land and set up shelter in order to reestablish their claims. Since they are already in violation of the law, rebuilding their homes within the 45 day holding period is non-consequential. Communities which are not organized enough to do this stand to lose their plots to the original landowner.

⁷ Roughly translated as “People’s New Development”.

Unlike formal housing markets where household units can behave autonomously, in informal settlements community activism is far more critical to the survival of the household.

Furthermore, the housing registration of a burnt slum house is technically no longer valid but may be temporarily used to obtain some kind of compensation from the government. When a fire occurs, most residents will attempt to reclaim their plots even if they must stay in refugee-like conditions for months.

After a fire, a long standing tenant may present a case to the community leader to claim the plot of land as their own. Technically, since there is no ownership of land, only the housing structure belongs to the owner, and if this burns down, then the question becomes who has the right to rebuild on the land. While it is almost guaranteed that only the owner or tenant will rebuild, outsiders clearly have no rights, the decision lies in the negotiations between the owner, tenant and community leader. The longer the tenant has been there, the more likely that household will gain the “rights” to the land. The effect of fires on the redistribution of wealth is unknown, after all, the tenant has still lost all their possessions in the fire. However, debt is major problem in the slums, families are often renters in the homes they once owned.

The Port Authority relies on the cheap labor available in the slums, and indeed a significant proportion of the residents work for the Port Authority on the loading docks. The wage rate for a coolie at the Klong Toey port is 55 baht (\$2.50) per day. If the slum residents were evicted and resettled in Rom Klao, a resettlement area set up by the National Housing Authority, commuting costs would be 20 baht (\$0.80) per day, clearly an unreasonable amount. Furthermore, commuting time is hampered by long distances, congestion and shortage of buses.

⁸ The other two methods are incremental encroachment and government set asides.

When evicted slum residents try to find work in factories located near Rom Klao, they were told they there were no vacancies or that they were not qualified for the work. Similar to the case in Chile, most able-bodied men lost their jobs after moving out of the slums (Yap et al., 1993). Labor immobility also points to the role of housing as a productive input. Whereas the size of housing may not be impacting the labor productivity of the occupants, the locational attribute of housing clearly impacts employment potential and hence household income.

While most of the literature on informal housing has pointed out the incremental nature of informal housing supply, in Bangkok, slum housing tends to have a very short construction time. Of the five interviewed who had constructed their own homes, all had constructed their homes within a two month period, one had even built his double story home within two weeks. This is actually not so surprising, the layout of most slum homes is rather simple, primarily one open room and perhaps a side room for the latrine. The materials mainly consist of wood and corrugated roofing, and the actual construction requires a fairly low skill level. The total material costs are on the order of 10,000 baht (\$400). Contractors may also be hired to construct several homes in a short period of time.

Even in the old sections of Klong Toey, where one could assume almost de facto tenure security, homes are not made out of concrete. The only slum housing I saw which did have concrete walls and concrete lined drainage was on land which the community had negotiated a 14 year lease with the Port Authority. This section of the Klong Toey slum was also less densely crowded.

2. Housing Demand

A significant portion of slum residents work in the informal sector and are therefore dependent on centrally located informal activities. One woman interviewed, who was a fruit vendor, said she had moved from the suburbs to the city because she could not make enough fruit sales in the suburbs, but here in the city, business was much better. Private sector low cost housing is located in the periphery and therefore not as accessible as slum locations. Although transportation costs and travel time savings may trap the poor in the slums, more important is the nature of the informal jobs. If a slum dweller is a food vendor, then he/she has a cart and supplies that must be brought to the “workplace” on a daily basis, hence long commutes are not feasible. The provision of centrally located low income flats does not resolve the problem as carts cannot be hauled vertically. There are several low income flats in Klong Toey, however the general impression is that these flats are substandard to living in the slums.

Not all people who live in the slums are poor, and not all poor people live in the slums. A significant portion of slum residents have incomes above the median income level in Bangkok, yet still prefer to live there even though they can afford to live in formal housing. Therefore, demand for Bangkok’s informal housing is not characterized solely by the poor and is not the residual of the formal market. For these higher income slum residents, there is no reason to expect that the provision of low cost housing will attract them away from the slums when previously they could have afforded to leave.

The demand for informal housing differs from the demand for formal housing. Attempts to encourage a shift to formal housing from informal housing must account for those factors, other than price, which makes informal housing attractive, such as: accessibility to

employment, travel time savings, access to education and health facilities, and informal networks.

3. Housing Finance

In order to obtain formal housing finance in Thailand, a household must present proof of land registration. While most informal housing in Bangkok have housing registration, this cannot be used as a substitute. Informal homes are considered too vulnerable whereas land is permanent and informal structures are not. This regulation effectively bars all informal housing from obtaining housing finance as homes are illegally situated on land which the resident does not own.

Most informal housing has been financed through savings with moderate borrowing from friends and family. In the interviews conducted, everyone had financed their homes through savings. Most did not know of alternative credit sources other than traditional money lenders and share games. However, there are alternative sources for informal housing finance.

One alternative to formal banks are credit unions. Credit unions can loan money for housing at a fairly low interest rates. Since they are often located near the community they have very close ties to the communities. For example, the Women's Group in the Klong Toey slum not only functioned as a credit union, but was also involved in children's and women's education, distribution of Colgate-Palmolive donations, and health awareness events. The credit union extended loans for education expenses, rent, family emergencies, ceremonies, and even to pay off the borrower's previous debts. In order to take advantage of the credit union, members had to make saving contributions for at least a period of six months, which is a

common practice in most Thai credit unions. The amount they saved could then be leveraged against a loan. With the exception of educational loans which carried no interest, housing loans had the lowest interest rates yet at the same time had the highest default rates. This is not surprising, housing loans were generally for a period of about 2 years and since informal households often earn irregular, sometimes seasonal, incomes, making steady payments for long periods of time, even at lower interest rates can be quite burdensome.

The Women's Group, and other NGOs, strongly advocated against using homes as collateral for loans, particularly to moneylenders. Since informal housing is the cheapest housing, if families default on their loans and lose their homes then there is no alternative housing option available to them. Unlike middle income families who can move to cheaper units, poor families are already being served by the cheapest units in the market. Furthermore, since most of the price of informal housing is paid upfront, families lose all the savings they have invested into the house.

On the outset, the credit union would appear to be an effective solution of mobilizing financial resources for the poor, however these credit unions face several problems. First, credit unions are limited in their outreach. In 1995, the Women's Group credit union had issued only 128 loans, of which only 8 were housing related. In the 11 interviews with Klong Toey slum residents, 9 were not aware of the existence of credit unions, despite its location in one of the neighborhood schools. Another problem with credit unions is the competition they face from informal financial institutions. While credit unions may offer low interest rates, they also pay low interest rates and people will place their money where they can get the best return. One of the most popular informal financial institution is the share game. Although the risks are higher,

the returns are considerable, at almost 40% per annum, making it difficult for credit unions who are only offering a 6% return to attract savings. Of the eleven people interviewed, seven had at some point in time taken part in share games, and of the remaining four, three had considerable debts which would most likely make them ineligible to participate in the share games. In general, as one spokeswoman for the Women's Group Credit Union said, only poor credit risk people apply for credit union loans since good credit risk people often prefer to participate in share games.

Credit unions can bridge the gap of providing formal finance in an informal manner. In the Women's Group Credit Union, loan officers visit borrowers who have defaulted to try and resolve the issue. On the one hand, such informal and personal arrangements allow the poor access to credit as loan officers can rely on social pressure, especially when there has been a cosigner, for repayment. However, the informal personal nature of the credit union is also a source of major problems. One spokeswoman for the credit union cited that the biggest problem was the internal selection bias in choosing who would receive loans. Relatives and friends of the credit union board members often seemed to benefit when it came to distributing loans. Furthermore, the credit union strongly believes it provides a community service and its primary interest is to help the community rather than make money. Such a policy, while honorable, is not self-sustaining. As a result of these factors, Thai credit unions in general have not been too successful.

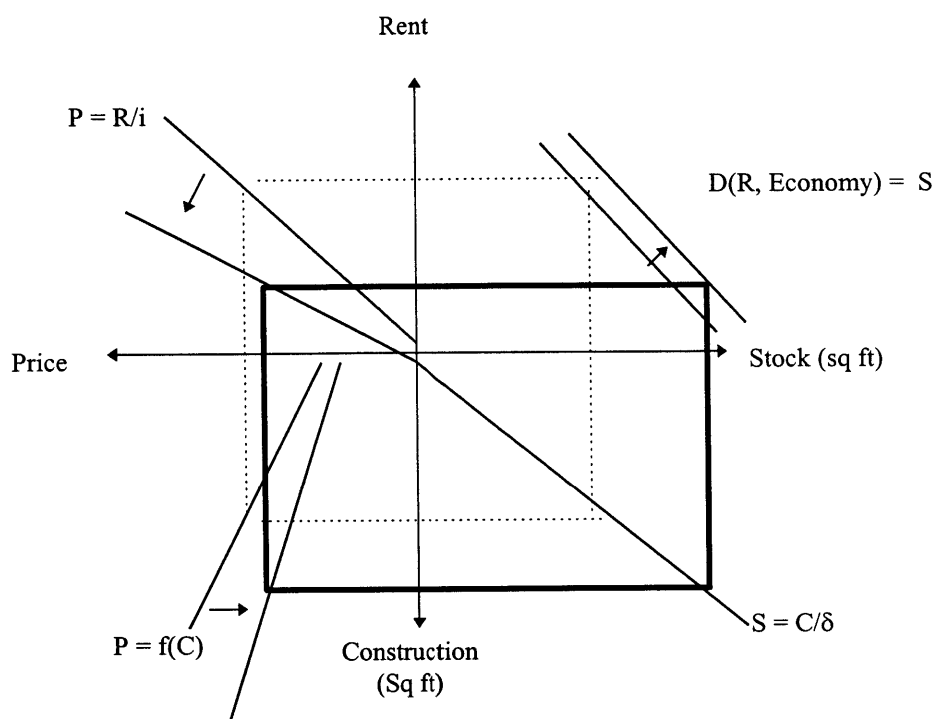
C. Macroeconomics of Informal Housing Markets

Informal housing markets are not isolated and insulated markets but are strongly influenced by the conditions surrounding them. Bangkok's rapid growth has put increasing pressure on land development, particularly for transportation infrastructure. At the same time, intense congestion has contributed to a steep land rent gradient making housing close to the CBD more valuable due to the large savings in commuting costs. These events affect both the formal and informal housing markets. The government's policies, as mentioned above, have enabled the formal markets to provide more housing at a lower cost, as illustrated below.

Lower interest rates for housing increases the demand for ownership (northwest quadrant) since the same level of property rent would capitalize a higher property price. Higher asset prices stimulates more construction. More construction leads to more stock which in turn brings down rent. The rate at which rent falls is dependent on two things: 1) rate of growth of the economy and by how much demand shifts to the right (northeast quadrant) and 2) the elasticity of demand.

The second impact on the housing market was the reduction in construction costs (southwest quadrant). Construction costs were reduced in two ways: lower material costs and also reduced finance rates, these caused a shift in the construction cost curve to the right. In addition, land use controls were eased. When land becomes easier to acquire, which means the rate at which construction costs rises falls, the cost curve straightens, i.e. becomes more vertical. The net effect of both shifts is a boom in the housing stock and a drop in housing prices.

Figure 4.1. Shifts in the Formal Housing Market

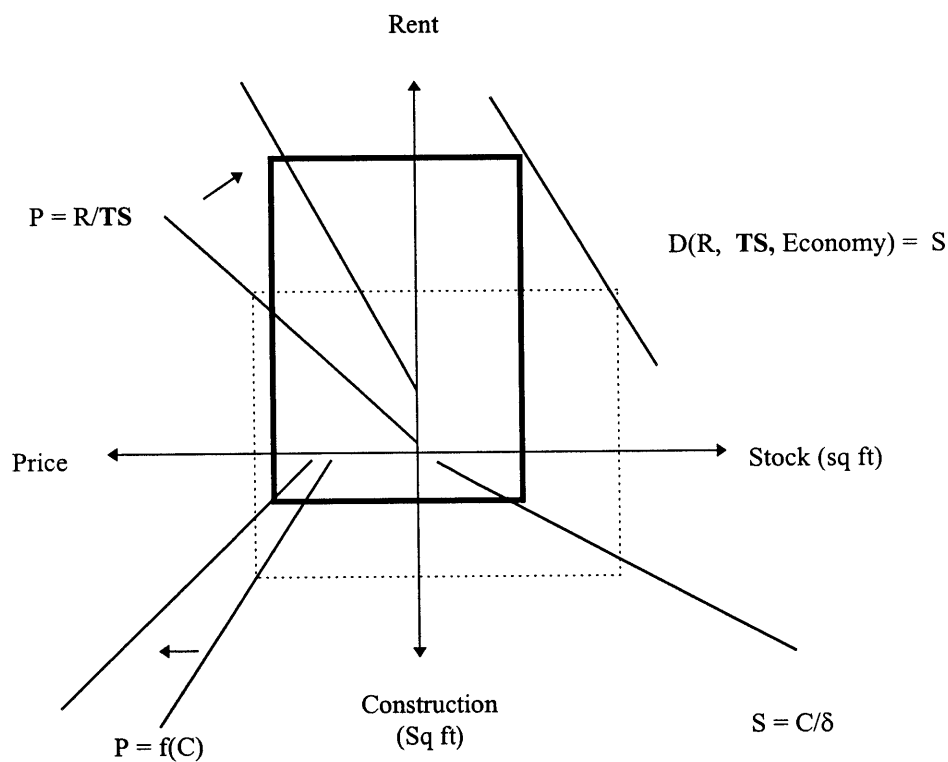


Where D = Demand in Economy
 P = Price
 R = Rent
 C = Construction
 δ = Rate of Depreciation

While this explains the formal market, the informal market has the opposite experience, despite the fact that both products are low-income housing. A number of factors explain this difference. First, the increase in access to housing finance cannot be extended to informal housing. Since there are virtually no financial markets for informal housing, theoretically the asset market in the model above would disappear. However, as a proxy to interest rates, tenure security can be used to measure the riskiness of a product. While tenure security may not be as readily measurable as interest rates, it plays the same role. Interest rate differentials illustrate risk differences among investments, e.g. government bonds carry lower interest rates than

corporate stocks. Similarly, a house with full tenure security is a lower risk investment than housing with questionable tenure security. Tenure security will also affect the demand for renting (See Chapter 3.4) As mentioned in the previous chapter, tenure security is a factor of development pressure. With development in the formal sector increasing, and also a greater demand for infrastructure services, the combined development pressure of both the private and public sector reduces tenure security of the informal sector. This causes the “informal capitalization curve” to shift up as illustrated in Figure 4.2.

Figure 4.2. Shifts in the Informal Housing Market



Where TS: Relative tenure security substituting for i

For now, demand is kept constant because we assume that the drop in demand due to reduced tenure security will be offset by an increase in desirability of the locational advantage of the slums.

The second difference between the informal and formal models is the change in the construction cost curve. In the formal sector, implementing relaxed land use regulations led to lower construction costs and more development in the formal housing market. Informal housing is already in violation of land use regulations and therefore any changes in regulations does not directly affect informal housing production. However, since informal and formal housing compete for the same land, if formal housing expands then less land becomes available for informal housing. The tighter the land constraint the more land acquisition cost rise as increasingly marginal land must be used for informal housing. This effect causes the construction cost curve to flatten, indicating the accelerating rise in construction costs for each additional unit of informal housing that is built.

There are other factors influencing the shape of the construction cost curve. Reductions in the cost of construction materials should benefit both the formal and informal housing markets, since theoretically construction materials do not differentiate between the two markets. However, informal housing in Bangkok is typically built out of wood, in particular thin plywood, whereas formal housing employs cement. The government's policy to reduce the cost of construction materials and financing primarily targeted the formal housing consumption. The construction material cost of informal housing actually increased as illustrated by the data below.

Table 4.2 Construction Material Index

| Commodity | Wholesale price index for construction materials (1985=100) | | | | Percentage change | | |
|--------------------------|---|-------|-------|-------|-------------------|-------|------|
| | 1990 | 1991 | 1992 | 1993 | 1991 | 1992 | 1993 |
| All items* | 139.6 | 146.8 | 146.1 | 147.6 | 5.2 | -0.5 | 1.0 |
| Lumber and wood products | 193.2 | 205.9 | 219.6 | 240.0 | 6.6 | 6.7 | 9.3 |
| Cement | 120.6 | 141.0 | 119.7 | 108.2 | 16.9 | -15.1 | -9.6 |
| Concrete ingredients | 134.5 | 158.6 | 150.2 | 137.1 | 17.9 | -5.3 | -8.7 |
| Iron and iron products | 145.0 | 137.4 | 135.0 | 139.5 | -5.2 | -1.7 | 3.3 |

* Includes other items not mentioned in the table.

Source: Department of Business Economics, Ministry of Commerce in Office of the Prime Minister

The price of lumber and wood products has more than doubled since 1985, whereas prices have remained fairly constant, and at times even falling, for the other “formal housing” items. The price index for all items further illustrates that lumber consumers have suffered more extreme price increases than any other group.

Less informal housing could be built because it became incrementally more expensive to build. In order to make room for public infrastructure, some informal housing settlements were demolished and this further reduced the supply of land. Since demand has stayed constant, housing rent increased. Bangkok informal housing is limited to two-story structures, thereby capping the floor to area ratio (FAR). In order to spread the costs of increased housing rent, less space per person is consumed as households are limited in their ability to build upward and increase their FAR, as would normally occur in the formal housing market. Therefore, the higher rents have forced a greater living densification to spread the costs, and this has led to a deterioration of environmental conditions.

Essentially the enabling strategy was developed within a formal institution framework (bank institutions, private developers), no system was devised to reach those in the informal housing sector to ensure that they would benefit. The government's objective was to improve the down market penetration and thereby improve access to formal housing, and to this effect they were successful. However, this success came at the cost of making the informal housing market more vulnerable and expensive, even pricing out the poor due to the increased constraint in land supply. The informal housing market is not a lower end extension of the formal housing market, and therefore improvements in the formal market will not be translated to improvements in the informal market. As the graphs have shown, it has the opposite effect. Improvements in formal institutions (e.g. lower credit rates to developers) which could not be transferred to the informal sector, further differentiated the two markets and made them compete against each other with the formal housing market holding the upper hand. Furthermore, the market is also affected by other non-housing government policies. Middle income infiltration, which is not illustrated in the above figures, is primarily the result of inadequate public investment in transportation networks. The longer commuting times steepens the land rent gradient and makes inner city informal housing more appealing, as middle income households are willing to tradeoff commuting time for lower standard housing. Hence within the informal market, there are two sets of players and increasingly the middle income group, because of their higher incomes, can outbid lower income households for housing.

Chapter V Conclusions

Outline

A. Findings

B. Implications

A. Findings

This thesis explored the differences between the formal and informal housing markets, recognizing that the two are imperfectly segmented, yet each faces rather different constraints. A model which was developed for the formal housing market was adapted to trace the demand and supply movements within the informal sector.

One of the main adaptations to the model is the substitution of tenure security in lieu of interest rates. Whereas interest rates play a critical role in determining the supply and demand of housing in the formal sector, interest rates for long term housing finance are absent in the informal sector. Informal interest rates (e.g. from moneylenders) might be available for short term housing construction, however these rates are beyond the formal market rate and are generally not influenced by movements in the formal market rate, although they probably reflect inflation movements. In this respect, informal housing is rather insulated from the capital market. Government policies which attempt to manipulate the housing sector through interest rates are unlikely to reach the informal sector, except for the interaction between the formal and informal markets. However, government policies directly impact the informal market when issues of tenure security arise. The impact of tenure security, while critical in the informal housing market, is minimal or absent in the formal market.

To fully understand the effects tenure security has on the market, Chapter 3 highlighted those issues which contribute to tenure security, including infrastructure provision, government

action, and location. Tenure security is also a risk factor which impacts market transactions, especially when there is no legal recourse. Communities have developed systems, both for information dissemination, contract enforcement and dispute resolution, to reduce market risk and hence increase the efficiency of the market.

Chapter 3 also identified how the demand function for informal housing differs from formal markets, or middle income demand. One of the generalizations made in this chapter is to assume that informal housing serves lower income demands while formal housing generally serves middle and higher income households, or those that can afford it. It is recognized that not everyone in informal housing is poor, although the two are commonly associated with each other. The point was to differentiate the possible elements which low income people must factor into their housing decisions, such as how housing will increase their labor productivity, as opposed to middle income people who base their housing choices on preferred mixes of housing attributes. However, the imperfect segmentation of the two markets leads to some interaction, usually in the form of middle income infiltration, which alters the supply and demand functions. This changes the landscape of informal settlements, since the middle income's demand curve tends to be higher than the lower income, plots will go to the highest bidder -- pushing the lower income residents out of the market.

The case study in Chapter 4 demonstrated all these effects. In Thailand, tenure security has fallen due to slum clearances and the constant threat of fire, especially with the growth of overcrowding. Furthermore, the government's housing policies have favored the creation of low cost formal housing, which has further constrained land for informal housing. However, the formal low cost housing has not been effective in reaching the poor as this housing is

located too far away from employment opportunities, and access to employment is a critical component of their housing demand functions. The increase in the growth rate of the metropolitan area has also increased the locational value of the slums to the extent that middle income households find it attractive to live in. This has pushed up the price of informal housing to the extent that the poor are often priced out of the market.

B. Implications

Understanding the operation of informal housing markets helps formulate better policies to improve housing for the poor. The implementation of a policy which does not adequately address the issue is often costly and irreversible. Policies such as titling or site upgrading, are difficult to retract even if it becomes apparently clear that these policies are detrimental to the very poor. The assumption that greater tenure security will lead to more housing investments is not a sufficient enough condition to warrant these policies. Housing, whether informal or formal, is not an isolated sector and must be examined in its proper context. Hence, one of the implication of the study, is that the impacts of any housing policy, such as titling or up-grading informal settlements, will depend on other factors specific to the city, such as transportation, employment and income distribution, which in turn affects the demand for housing from other segments of the population. Policies should therefore be examined in a macro setting rather than just focusing on the impacts to the targeted residents.

For example, Thailand's down-market penetration policy, while successful in many respects, had a negative impact on those excluded from the process. The policy could have been improved had there been a clearer objective of how to reach out to the informal housing residents and draw them into the formal sector. Policies such as employment decentralization,

removing the land registration credit requirement, and creating appropriate financial mechanisms could have enabled the poor to move out into the suburbs and improve their living conditions without suffering a loss in welfare.

Another implication of the study is to match the policy with the market characteristic. If the demand difference for informal and formal housing is based on income, then perhaps the best policy to improve housing is by increasing incomes or reducing expenditures on other items, such as food or potable water which can consume a considerable portion of income. In this case, regularization may not be the answer if households may be willing to make, but simply cannot afford housing improvements. Likewise, if a market is characteristically renter occupied, policies to improve tenure security will be less effective than policies to improve access to infrastructure services.

The third implication of the study points to the importance of understanding the efficiency of the informal housing markets. If the market is not performing perfectly, due to information asymmetries or difficulties in contract enforcement, then perhaps there is some scope for government intervention to improve market operations. By lowering the risk in market transactions, housing becomes a more stable investment and hence more affordable to risk-averse households. Alternatively, if markets are functioning well, then perhaps the best policy is to leave it alone.

Furthermore, by understanding how informal and formal housing markets interact, policies could be used to mitigate the effects caused by cross market infiltration. If increasing tenure security invites middle income households to invade the settlement, a better policy might

be to increase perceived tenure security, which would entice housing investments, but not give the absolute tenure security sought after by the middle income groups.

While the mechanics of informal housing markets may be the same world wide, the characteristics of informal housing market will be shaped and developed by the regulations and institutions of the country. Thus, there are no universal solutions on how to improve informal housing conditions, rather solutions and policies must be tailored based on the needs and characteristics of the country's informal and formal housing market. The issues raised in this thesis serve as a framework to begin examining the operations of any informal housing market in light of formulating the appropriate policy instrument.

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