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Costs and Benefits of Rent Control

A Case Study in Kumasi, Ghana

Stephen Malpezzi
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ABSTRACT

Over the past forty years, rent control has been a feature of housing in Ghana. This study focusses on the housing market in Kumasi, the second largest city in Ghana. We examine the characteristics of the rent control regime in force there, and assess the costs and benefits of rent control, on landlords and on tenants, and its effects on the housing stock.

Rent control has been successful in ensuring that housing is very inexpensive for most households, both in absolute terms and in the proportion of income devoted to rent. Landlords, who are found to be little different from many renters, have been deprived of economic returns from their property. Their reaction has been to withdraw stock from renting to use for their own family members and to reduce maintenance. There has recently been an increase in payment of rent in advance for new lets, and even some existing lets.

Rent control is not the only constraint on the housing market, in Kumasi or in Ghana. The paper also describes other supply side and regulatory constraints; including those affecting land, finance, and choice of building design and materials.

Where net benefits from rent control exist they are found to be unrelated to need, having little distributional efficiency. There is some tendency for lower income tenants to receive larger net benefits, but they are still small relative to their cost. The strongest pattern is that long term tenants receive large benefits at the expense of recent movers as well as landlords.

Our best estimates are that typical room rents in the tenement and indigenous housing sectors were 250 to 300 cedis in 1986; that long run equilibrium rents of these units in the absence of controls would be roughly twice that (median of 574 cedis); but that households would demand more housing services in a well functioning market and hence live in a unit yielding about 80 percent more "housing services" (i.e., with a median rent of roughly 1040 cedis). In other words most tenants pay less for their units (a gain to them) but live in smaller and/or lower quality units than we estimate they would consume in a well functioning market (a loss to them). Not all of the loss from disequilibrium in consumption is necessarily due to rent control, however; constraints on land and finance, and other regulations, play a part. Overall, however, for many tenants the welfare loss from consuming less housing more or less cancels most of the benefit of lower rents.

A number of options for relaxation/decontrol are studied with the aid of a simple present value model. Along with decontrol of new construction it is recommended that floating up and out of controls over a period of about five years should be considered, along with policy changes to ensure ready supplies of land, finance, and building materials. Such policies are essential, given that private housing investment has provided and will continue to provide the great majority of rooms in Ghanaian urban areas.

Finally, while we emphasized "floating up and out" for existing units along with immediate decontrol for new construction and upgraded units, there are a wide range of options which can be explored in more detail with the aid of the present value model. Building a political consensus behind decontrol is not independent of but is more important than the technical means chosen for decontrol or relaxation.

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This paper has been produced under a World Bank research project on Rent Control in Developing Countries (RPO 674-01), directed by Stephen Malpezzi. The project and the methodology are described in the following papers:

Stephen Malpezzi and C. Peter Rydell, Rent Controls: A Framework for Analysis (Water Supply and Urban Development Department Discussion Paper No. 102, 1986).

Stephen Malpezzi, Stephen K. Mayo, Ricardo Silveira and Carmela Quintos, Measuring the Costs and Benefits of Rent Control: Case Study Design. (Infrastructure and Urban Development Department Discussion Paper No. INU 24, 1988).

An introductory descriptive paper on Rent Control in Kumasi has also been produced:

A. Graham Tipple, The History and Practice of Rent Control in Kumasi, Ghana (World Bank, Urban Development Division Working Paper No. 88-1, 1988).

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I. OVERVIEW

A. Housing and the Current Macro-Economic Environment

The last twenty five years have seen Ghana decline from one of the richest countries in Sub-Saharan Africa to one in which the infrastructure and capital stock, including housing, are in very poor condition. During the period 1965 to 1986, real per capita gross national product (GNP) declined at an average annual rate of 1.7 percent per year. Figure 1.1 presents data for *levels* from recent years; Figure 1.2 presents the corresponding *changes*.[1/]

Recently, however, there have been signs of an upturn. An ambitious package of reforms has been instigated by the Provisional National Defence Council Government of Flt-Lt. Jerry Rawlings. The structural adjustment program includes a devaluation and eventual market determination of the exchange rate for the Cedi (from C2.75 = US$1 to C90 in 1986, when we collected the household data, and C350 by March 1989) and other policy changes including agricultural price reforms and reductions in government staff levels. As a result, real GNP increased by 5 percent in both 1985 and 1986 (Figures 1.1 and 1.2).

Figure 1.1: Real GNP Per Capita

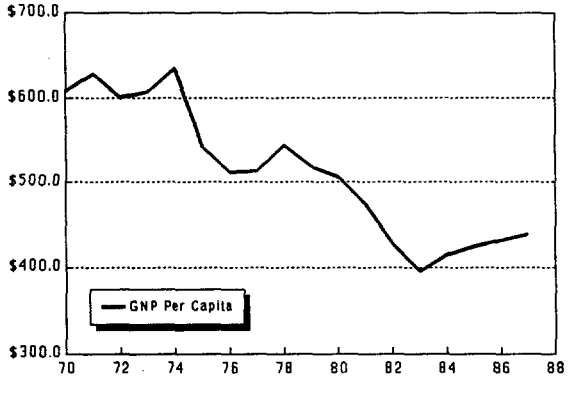
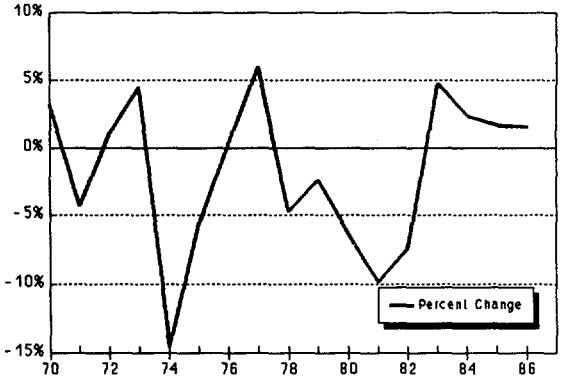


Figure 1.2: Change in Real GNP Per Capita



Concern remains that housing conditions have deteriorated over the past decade; improvement in these conditions is required to ensure that the benefits of adjustment are widely shared. As the adjustment in Ghana's economy takes hold, demand for housing can be expected to increase at least as fast as real incomes. One important task for the government is to ensure that its actions do not impede or constrain potential suppliers of housing. The purpose of this paper is to examine the constraint on the housing sector imposed by rent control in the second largest city of Ghana, Kumasi. This concentration on rent control is not intended to imply that it is the only, or most important, constraint.

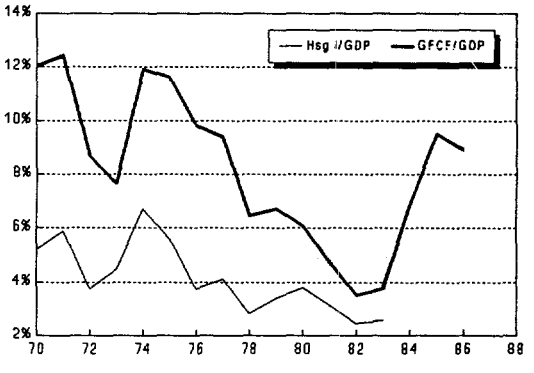
1/ National accounts and other aggregate data are from the World Bank's BESD database, updated by written reports. These data are in turn obtained by the Bank from the Government of Ghana.

As will be discussed below, other problems restricting the supply of rental (and owner occupied) housing must also be confronted, such as problems in land markets, provision of infrastructure, finance, and other regulations, such as planning and building regulations.

Shelter is the largest single form of fixed capital investment in most economies. In developing countries, the shelter sector usually ranges between 10 and 30 percent of household expenditure or 6 to 20 percent of Gross National Product. Housing ranges from 10 to over 50 percent of gross fixed capital formation and from 3 to 8 percent of Gross Domestic Product. The share of housing investment in GDP rises as economies develop (see, for example, Mayo, Malpezzi and Gross, 1986).

In general, these patterns have not been evident in Ghana over the last 15 years. Figure 1.3 shows that since 1970 the published numbers indicate that the share of housing investment in GNP has been falling from about 5 percent in the early 1970s to only about 3 percent in the years since 1980. However, such data are only indicative. Ghosh and Mohan (1983) reports that Ghanaian housing investment data are derived from data on cement imports and estimates of population growth, so, for example, changes in housing investment given a particular change in population and level of cement imports will not be reflected in the data. On the other hand, the trend is still clear and is consistent with observation and anecdotal evidence (and survey data presented later in this paper).

Figure 1.3: Housing Investment and Capital Formation



While these data have to be interpreted with more than the usual caution, taken at face value, they indicate that while both investment and housing investment fell during the 70s, at the same time housing's share of fixed capital formation rose, because other fixed capital did even worse. Gross Fixed Capital Formation (GFCF) has declined from roughly 10 percent of GDP at the beginning of the period to 5 percent in the early 1980s. The picture is just as bleak when annual levels as well as ratios are studied. Roughly, real housing investment per capita, and real GFCF per capita, were halved during the period. It is understandable that when times are hard, people defer housing and other investments in the struggle to buy food and other current essentials.

The overall investment picture looks better in the post 1983 period. However, the recent upturn in investment is largely due to increased public investment. Private investment is still lagging. While official housing investment data for the past several years are not available, data presented in Chapter 6 suggest that housing investment has picked up somewhat.

In addition to unfavorable long term trends, Ghana started out from low levels of investment. Table 1.1 presents some indicators of access to housing infrastructure for Ghana and several other African countries. Over a quarter

of urban households lack access to piped water (house connections or standpipes) and over half lack adequate sanitation. As in most countries, the situation is worse in rural areas. In general, according to these aggregate data the proportion served in urban areas has been static while service in rural areas has improved somewhat. While international comparisons of this type are not precise, Ghana appears to have made some limited progress at a time when the services in other African countries were deteriorating rapidly (perhaps because of faster urban growth in some of the comparator countries).

Table 1.1: Housing Infrastructure Indicators, Selected Countries

	Pct Urban w. Access to Water		Pct Rural w. Access to Water		Pct Urban w. Access to Sanitation	Pct Rural w. Access to Sanitation	GNP Per Capita	Popu-lation	Pct Urban Popu-lation
	(1970)	(1980)	(1970)	(1980)	(1980)	(1980)	(1985)	(1985)	(1985)
Benin	94	26	15	20	48	4	$260	4.0	35
Burkina Faso	68	27	31	30	38	5	$150	7.9	8
Burundi	77	90	20	24	40	35	$230	4.7	2
GHANA	**73**	**72**	**33**	**47**	**47**	**17**	**$380**	**12.7**	**32**
Kenya	97	85	15	26	89	19	$290	20.4	20
Lesotho	100	37	11	14	13	14	$470	1.5	17
Mali	29	37	0	6	79	0	$150	7.5	20
Senegal	98	77	25	42	100	2	$370	6.6	36
Sierra Leone	75	50	2	16	31	6	$350	3.7	25

Source: Habitat Global Report on Human Settlements, 1987

These low levels and adverse trends have important implications for development generally as well as for people's housing consumption. Shelter is one of two capital assets applicable across the entire income distribution and in every geographic location, rural and urban (the other is human capital, in other words, peoples' skills and innate productivity). For many, particularly those with lower incomes, housing is inseparable from other fixed capital, for example, shops and workrooms. Also much productive infrastructure is shared by housing and other productive activities (for exaple, water, transport, waste disposal). In short, housing has many spillovers and many forward and backward linkages with other productive sectors.

It is important that, as the economy recovers, policies encourage efficient housing markets. Regulatory reform can be a very powerful tool to reduce unnecessary costs, ultimately improving affordability. While the focus of this paper will be on effects and possible changes in rent control, reforms in other areas will also be discussed.

B. Summary of Findings

Key Findings and Their Generality

An important question to ask about any case study of a particular market is its generality. Housing markets are, after all, local and diverse, even within countries. And a maintained hypothesis of the overall research project on Rent Control in Developing Countries is that rent control laws and their enforcement vary from place to place, as do market conditions. This does not mean that every time and place is unique, and that hence generalization is impossible, but rather that we should strive to understand which results are quite generalizable, and when understanding of the differences between markets permits a new level of generalization.

A useful analogy can be drawn with the previous research project on Housing Demand in Developing Countries (see Malpezzi and Mayo, 1985). That project demonstrated that previous rules of thumb about housing demand were often innacurate, stemming as they did from generalizations of observed behavior in a few markets. But the project went further, constructing simple models which permitted more accurate prediction (from more "sophisticated" generalization).

In a similar spirit, this rent control research project will produce case studies of several other markets (Brazil, Egypt and India), and a synthesis report which will discuss the generalizability of findings in more detail. Here we point out a few of the key findings from this case study along with comments about their generalizability:

(a) Ghanaian renters benefit from lowered rents but live in worse housing conditions than we would expect, even given their low incomes. In Kumasi, the welfare loss from reduced housing consumption more or less outweighs the gain from lowered rents. The nature of the offsetting effects are quite general; their rough equivalence is not. And not all of the reduction in consumption is due to rent control; there are other supply side constraints on the housing market.

(b) Rent control reduces the internal rate of return to a typical investment (a general result) from about 8 percent to zero (a specific result). We constructed a simple model which can be used to analyze controls' effects on profitability as well as affordability for Kumasi and for other times and places.

(c) In Kumasi, a significant amount of rental housing, of very low quality, was produced under controls. This was during a time when zero returns to housing were actually quite attractive relative to large, negative returns to many other investments. As the structural adjustment improves the return to competing investments, especially financial ones, continued controls can be expected to further reduce supply. This illustrates an important general point, surprisingly often neglected: analysis of profitability has to take actual investment opportunities into account.

(d) Systems which (like Kumasi's) don't index rents to inflation or which index incompletely tend to get worse over time. The "wedge" between controlled and market rents gets larger. Specific quantitative results reported in this paper are from 1986; numerical estimates of costs and benefits would differ today. The model mentioned above can be used to update the analysis of controls' effects on profitability and affordability, or can be modified to fit other markets.

(e) Rent control can affect rents in "uncontrolled" markets, but theory and empirical evidence show that the nature of the effect is ambiguous, in large part because the nature of the "uncontrolled" sector varies. In Kumasi, we found "uncontrolled" rents were lowered by controls; in other markets (e.g. Cairo) they were higher. This will be explored further in the forthcoming synthesis paper.

(f) The largest benefits from controls accrue to tenants who have lived in their units for a long time. This is consistent with studies of many other markets. Lower income tenants do tend to receive larger benefits; this result varies with type of regime in other studies. Many landlords are themselves low income, and some tenants are relatively well off, blunting rent control's redistibutive effect; this is also true in a number of other studies.

(g) A number of options for decontrol or relaxation of controls exist, and can be studied with the simple model presented in Chapter 6. The specific recommendations we make regarding decontrol are not immutable. The principle that some degree of political consensus is required for any successful scheme of decontrol seems obvious and quite general.

Let us now summarize the findings of this particular case study more completely.

The major *qualitative* findings of this paper are as follows:

The basis for current rent control in Ghana is the Rent Act of 1963, which allows government to set rents for specific types of property from time to time. This has been done every three to six years since 1973; the increases allowed have been kept far below the rate of general inflation. Rent control has kept rents in Kumasi very low. On average, rents are less than 2 percent of total consumption. There can be few households in Kumasi who cannot afford the monthly rent of a room.

While even controlled rents yielded some return on investment in the first years of controls, they have recently lost touch with prices and incomes to such an extent that landlords cannot hope to recoup investment in rental housing. However, there is some evidence that other investments fared poorly as well, especially financial investments. Investment in rental housing may have, at times, remained one way to preserve part of capital. Although there are major cultural incentives to build houses in Kumasi, very few households build only for their own occupation. In the last few years, landlords have begun to demand payment of rent for years in advance, creating considerable hardship for renters who must find many months income in cash to obtain or hold on to a room.

The private sector has always provided a majority of the housing in the city. Government direct activity has been limited to 4,400 small houses, now mostly sold to their occupants. These houses have been very expensive to build, and the government recognizes that any solution to housing problems will require active private investment.

This study demonstrates that rent levels have contributed to the poor state of housing in Kumasi in 1986, the date of our data collection, and by extension to 1989. However there are also severe problems in obtaining the inputs to housing - developed land at affordable prices, building materials and finance. Improving the functioning of the rental market will also require concerted efforts on these other problems.

Housing conditions in Kumasi are bad, even given low incomes. Occupancy rates and the percentage of households living in one only room are both high. There are fewer single person households than in the past, and the high cost area is becoming more like the rest of the city, with respect to household size distribution, incomes and levels of crowding, than it was in 1980. However, while the building of additional houses have failed to keep up with growth in the population, there have been sufficient additional rooms to maintain the mean occupancy rate at a high but steady 3.3 persons per room since 1980.

There has been a reduction in the proportion of stock available for rental since 1980. Landlords have been replacing rent paying tenants with family members who live rent-free to such an extent that the percentage of family house tenants has doubled in the 1980 to 1986 period. There has, however, been little transfer to commercial or other non-residential uses.

Landlords differ little from renters except in the amount of housing they are able to consume. Their incomes are little higher than those of renters per household and they are actually lower per capita owing to their greater household size. However, as owner households tend to occupy a larger number of rooms than renters, their occupancy rates tend to be lower. They also have better access to water supply, toilets and other facilities in the house.

There is a generally low expectation of rent levels among both landlords and renters. Rents are only about half of the market price for which the unit would rent in the absence of rent control, so low in fact that they are imposing considerable welfare costs on society as a whole. Rent control is inefficient in the sense that the costs imposed by rent control on landlords are not all captured by tenants as benefits. This efficiency loss is severe in some sectors of the Kumasi housing market. Generally, rent control imposes a welfare cost which exceeds the overall benefit to tenants.

More specific *quantitative* results include the following:

Housing Market Conditions

Ninety percent of Kumasi's population rent or live as tenants in family houses. Our 1986 household survey showed that typical controlled rents were less than 2 percent of total consumption. We identified a subsample of "uncontrolled" units (units whose rents exceed controlled levels) and found

their median rent-to-consumption level to be .05. A simple cross country model predicted that the median rent-to-income level would be about .08 in the absence of controls. It appears that the net effect of the biases on "uncontrolled" rents discussed in Chapters 4 and 5 is to lower "uncontrolled" rents.

Controlled rents are overwhelmingly in the range of 200 to 300 cedis per month. The estimates of uncontrolled rents from the cross country model range from 800 to 1300. These results are so strong that they could be described as a "smoking gun."

Recently more and more households are paying rent in advance. While the incidence of advances was spotty in 1986 -- about 14 percent of tenants paid in advance -- anecdotal evidence suggests that it is increasing and that landlords are even pressuring existing tenants for payment in advance. Pressure for advance payments causes particular hardship given the difficulty most Ghanaians have in financing large lump sum payments.

Costs and Benefits of Controls

Using a model which permits comparison of controlled units at controlled prices (PcQc), controlled units at estimated market prices (PmQc), and estimated market demand at market prices (PmQm), we find:

(a) renters pay a fraction of the estimated market rents for their units. The actual rent paid is only 43 percent of the estimated market rent in the indigenous sector and 52 percent in the tenement sector. Furthermore, while the controlled rents, PcQc, hardly vary, the estimated market rents, PmQc, vary with size and type of unit. Market demand, PmQm, varies even more.

(b) The median cost of the subsidy implied by these rent reductions is estimated to be about 274 cedis per month in the tenement and 301 in indigenous sector. (All amounts in this section are in 1986 prices).

(c) But households would (we estimate) spend even more on housing in the absence of controls. Median estimated market demand, PmQm, is over 1000 cedis in both sectors. Consumption of housing services has been greatly reduced under controls.

(d) Rent control imposes a landlord cost (PmQc-PcQc) which exceeds the net benefit to tenants in both sectors.

(e) The "transfer efficiency" (ratio of benefits to costs) is therefore low. Under the most "favorable" assumption of the efficiency of controls, the efficiency is 40 to 50 percent. Tenants receive net benefits which are less than half the static cost to landlords. If the price elasticity is in the order of -0.5, net benefits to most tenants are negative; both landlords and (most) tenants are made worse off by controls.

(f) While costs and benefits are large relative to rents paid, they are small relative to income. The cost of the subsidy is usually in the order of 2 to 3 percent of consumption. Net tenant benefits are, at best, negligible compared to total consumption.

(g) These estimates of PmQm are smaller than those taken directly from the cross country model (above) but are of the same order of magnitude. This is not surprising since we also used the cross country estimates to "calibrate" our estimates of uncontrolled rents due to biases discussed above. While the exact results here would change given different cross country estimates, the qualitative results presented would not change.

The bottom line, then, is that rent control reduces the rents that households pay, but the benefit of this rent reduction is more or less offset by the welfare loss from underconsumption of housing. We estimate that existing units of typical quality would have rented for about twice current rents in 1986, but that households would typically spend more than three times current rents -- implying higher housing consumption -- if supply was elastic.

Nominal prices have risen (roughly doubled) since 1986 while controlled rents remained fixed. In current prices, PmQm and PmQc would be roughly double the above estimates. Also note that while controlled rents are fixed at the same levels for all cities and towns, market rents in Accra would certainly be higher than in Kumasi while those in smaller towns would be less.

Distributional Issues

Benefits are negatively related to household income, suggesting that rent control may be somewhat progressive; but the benefits are, again, small. When the price elasticity of -.5 is used, only households in the lowest consumption quartile receive positive net benefits on average. Smaller benefits -- or more negative benefits -- for richer tenants come as no surprise since these are exactly those households with the largest welfare loss from low consumption of housing.

Long term tenants have the smallest estimated disequilibrium in consumption and the largest benefits. Net benefits are still small compared to consumption. Note that the largest net costs are to recent movers. Even larger unmeasured costs are imposed on households who are constrained from moving at all.

Landlords are not all that much better off than tenants. The median of landlord consumption is about 36 percent more than the median consumption of 725 controlled renters (11,563) and roughly the same as 105 uncontrolled renters. Thus, while landlords are richer than tenants "on average" there is quite a lot of overlap. A quarter of controlled renters consume more than the median resident landlord; a quarter of resident landlords consume less than the median tenant.

Housing Supply

A survey of the number of houses in Kumasi in 1988 supports impressions formed in 1986 that building had continued only slowly since 1981. Less than 800 houses appear to have been added between 1982 and 1985 and only 900 between 1986 and 1988, with the index for houses falling further behind that of population. However, the increase in rooms per house between the 1980 and 1986 samples (supported by no increase in occupancy rates) gives some grounds to believe that extensions to existing houses have allowed the growth in rooms to keep pace with population growth since 1980.

Many of the problems following from decontrol could be avoided if the supply of new houses is increased, especially at the lower end of the market. Analysis of a number of developing countries by Ferchiou (1982) has shown that some downward filtering of housing takes place but the shortage of accommodation for middle income households tends to prevent its reaching the lowest income groups. Furthermore, the availability of low cost, appropriate local materials and technologies based on mud construction allow the lowest cost housing to be built new at a price most households can afford. If relatively low income households can be encouraged to build in local materials with local technology, rooms will be added much more cheaply than is possible with imported cement-based materials.

Rent Control and Profitability

Rent control directly reduces profitability because it reduces the rents a unit can command. But reduced rents also affect maintenance (and depreciation), taxes and capital gains. These "indirect" effects can be large and should be taken into account. We build such a model in Chapter 6, and study a series of hypothetical representative investments (using 1986 as the base year of investment).

At a real discount rate of 10 percent, the present value of the controlled unit is about -1.3 million cedis. If the unit was uncontrolled, the present value would still be negative, but the "loss" would be smaller - about -260,000 cedis. We can interpret these numbers as follows. If investors could receive a real return of 10 percent on an asset with similar risks, they would prefer such an investment over rental housing in either case. But clearly they would lose less in the absence of controls.

But in Ghana's disrupted economy there are a limited range of investments which yield 10 percent in real terms. Returns to financial savings are, in fact, negative. With how high a rate of return could housing compete? The internal rate of return for a controlled unit is estimated at roughly zero. In other words, landlords could at least preserve capital with housing if other investments were yielding negative returns. Without controls, housing could compete for capital with investments yielding up to 8 percent. Controls reduce the rate of return by about 8 or 9 percentage points. Such current investment as exists is motivated more by capital gain (or more accurately avoiding capital loss) and by nonpecuniary income (status conferred) than by current income from the unit.

If rents for new compound rooms were of the order of 1200 1986 cedis (compared to median estimates of 1050 cedis from the cost-benefit model) and afterwards they were indexed to general inflation, we estimate they would be affordable to the top 40 percent of the income distribution. If rents for existing units were to rise to 600 cedis (compared to median estimates of 575), they would remain affordable to virtually all income groups.

Other Market Imperfections

Rent control is not the only problem in rental or housing markets generally. Other problems -- in land, infrastructure, finance, materials -- adversely affect the market and drive costs up. They drive costs up higher for the poor than for others.

Relaxation of rent control is necessary but not sufficient for expanding the supply of rental housing. Relaxation/decontrol must be accompanied by measures to ensure a rapid supply response to the demand for rental housing, or else rapidly rising rents could squeeze existing tenants and jeopardize decontrol. Political consensus is, after all, required for successful change.

Of the major constraints on private rental housing, many -- land, finance, infrastructure, materials, building codes and standards -- are discussed briefly in Chapter 2. While detailed discussion of each is beyond the scope of this report, the following points should be noted. Rental markets suffer from the same constraints as housing markets generally, but there are also some which affect rental particularly (in addition to the obvious problem of rent controls). Among other collateral actions, it will be necessary:

(a) To pay particular attention to building codes, land use standards and other regulations which discriminate against low cost compound housing. Land use regulations should be modified to permit contruction of compounds in urban areas. Building in swish should be permitted, subject to proper construction techniques.

(b) Not to discriminate against rental in the provision of serviced land. Owner occupancy should not be required for access to land in any program designed to improve land availability (including sites and services).

(c) Not to neglect finance for rental housing. It should be ensured that rules for lending do not discriminate (intentionally or unintentionally) against rental housing.

These and other actions need to be taken as complements to any decontrol program. Let us now turn to the analysis of several alternatives for decontrol.

Decontrol Options

There are a number of options which could be considered for removing or relaxing controls. The main options are as follows:

(a) Blanket lifting: all rent controls are completely removed as of a certain date. This is the simplest method, but is very difficult politically and may lead to short run dislocations.

(b) Decontrol new construction: an obvious option which is being undertaken in India, Brazil and a number of other markets. But new construction can still be inhibited unless government credibly guarantees units will not come under controls later.

(c) Rents can also be immediately decontrolled for units which meet certain standards, either now or after upgrading (for example, for units which provide acceptable water supply and sanitation). Standards would have to be carefully chosen, however, to meet requirements without imposing unneccessary costs.

(d) Floating up and out: controls are gradually relaxed, for example rent rises are based on some multiple of CPI or wage index changes, until controls are no longer binding on most units. Then controls can be abolished. This method can permit a smoother adjustment if potential landlords view the gradual program as credible.

(e) Vacancy decontrol: Units are decontrolled as they become vacant. This method has been tried in some North American markets but may keep mobility down, with possible adverse effects on housing and labor markets.

(f) Vacancy rate decontrol: particular markets are decontrolled as the vacancy rate rises above some threshold. But while controls (and other problems) remain, vacancy rates will probably remain extremely low. How can vacancy rates increase while controls remain?

(g) Rent level decontrol: decontrol by market segment. Rents could be decontrolled from the top down (the current system, with a threshold of 1,000 cedis, embodies this to a limited extent). But such a system can provide perverse incentives to raise rents above long run equilibrium levels in order to escape controls.

(h) Contracting out: landlord and tenant negotiate a payment to the tenant in return for his giving up the right to controls.

Of course these options are not all mutually exclusive. In many respects floating up and out has some *a priori* appeal because the market may take time to respond, particularly given the current problems in input markets, etc. Blanket lifting carries the danger of a sharp short run rise in rents which would be reduced over time. The present value model mentioned above can be used to study these alternatives.

Blanket decontrol, where all controls are lifted at one time, is the simplest administratively. But some rents in Kumasi have fallen so far behind market values that rises could result in major dislocations, especially if other housing market imperfections initially impede the supply response.

How bad could this be? Suppose rents for *existing* units rose to (say) 900 cedis initially instead of 600. Assume that only after five years does the time path of rents fall to the long run equilibrium of 600 (in 1986 prices, i.e. they remain indexed to inflation). We estimate that under this scenario, in the first year the units are still affordable to the top four quintiles but not to the lowest.

There is always a built in check on this process. Rents have to be paid by someone; so units' rent can only rise as high as the market will bear. Our initial "average" affordability estimate was 8 percent of consumption, with an income elasticity estimate of .6. This yields a predicted average willingness to pay rents of about 11 percent for the bottom quintile. If initial rents for existing units rose by half again as much as our estimate, this would require the typical bottom quintile household to devote 15 percent of their income to housing. If initially rents were double our best estimate, low income households would typically spend 20 percent until rents came down to their equilibrium levels.

Completely freeing rents for newly constructed units can only increase supply. As noted, if a household is given a choice between remaining in an existing unit and moving to an expensive new unit, they cannot be made worse off as they have the option to remain.

"Luxury" units renting for over C1000 are nominally exempt from controls. Given inflation since the date the ceiling was set, market prices for newly constructed rooms probably now exceed the C1000 ceiling for controls (at least in Kumasi and Accra). But landlords still face the risk that the schedule of controls will be revalued. Our conjecture is that credible decontrol of new units and a firm plan for decontrol of existing units are required to build investor confidence.

Revaluation whenever units turn over for new tenants could exacerbate the trend for high advance payments and result in an even less mobile rental sector than at present. Renters in compound houses live in closer proximity to other households than most tenancy groups in other countries, so large disparaties between the rents paid by householders and those paid by their neighbours (varying according to length of tenancy) are likely to be socially unacceptable.

The most effective method for encouraging new investment while protecting low income renters may involve a combination of decontrolling new construction with indexation of existing units *faster* than inflation to enable "floating up and out" of controls. The latter involves the transition from controlled rents to market rents over a period of years. It is preferable to set a final date by which controls will be withdrawn completely in order to convince landlords that the controls which have cost them so much will really be abolished. Indexation could provide a formula for determining the intermediate rent levels.

For example, rents could be increased annually by, say, the Consumer Price Index plus a percentage of the previous year's rent until a set date when the final increase to market levels would be implemented. Any units reaching their market level before this date would, of course, remain there. This is quite possible for many rooms in Kumasi where there are no services and physical conditions are poor. This phasing would smooth the path of adjustment giving tenants who could not afford their current room at the market rent time to find suitable alternatives.

Suppose (1) rents were completely indexed to inflation and (2) real rents were phased in as follows: real rents were doubled to 600 in the first year, 800 the second, 1000 the third, then finally freed to find their free market level. Landlord profitability is roughly the same as it would be under blanket decontrol and so ultimately is affordability. Risk and uncertainty are reduced -- provided the decontrol is firm and credible.

Such a phase-in could prove more palatable to tenants. No system of decontrol is worth attempting which is not politically feasible and sustainable. Decontrol followed by recontrol does not do the market nor any participant any good. Only if relaxation is perceived as fair by a substantial number of both landlords and tenants will it succeed. Only if the government's commitment to the announced schedule is firm will landlords supply more housing.

It cannot be denied that many households would be shocked to see their rent burdens double for existing units. Yet the present system is clearly not working. Government can choose between:

(a) Low rents accompanied by continuing overcrowding, insanitary conditions and reduced labor mobility, which will probably worsen as adjustment provides other investment opportunities to landlords, and

(b) Increases in rents which are not popular with tenants but which can mitigate the problems above, if combined with action on other impediments to the supply of housing.

Alternatives for decontrol exist. While there is certainly room for discussion of other alternatives, results presented above suggest decontrolling new construction, indexing rents for existing units to general prices and letting real rents for existing units rise gradually has some appeal.

Once again, it cannot be overemphasized that whatever option is chosen, actions must be taken to ensure elasticity of housing supply so that increases in rents are accompanied by an increase in production. This requires that rent control is seen as one part of a housing strategy which also aims to release resources on the supply side - land, infrastructure, materials, and finance - so that supply and demand can reach equilibrium through increases in both the scale and the variety of the housing stock rather than through greatly increased prices.

C. Suggestions for future work

This study presents empirical evidence from one city in Ghana while rent control is practiced in all the regional capitals. It is quite possible that the distortions caused in other cities may be very different from those found in Kumasi. There may especially be differences between the capital, Accra, and other cities and between the larger cities and smaller towns. There is impressionistic evidence to suggest that the port city of Sekondi-Takoradi is not growing in parallel with the other cities, probably because of the decline in its port functions. Rent control distortions will differ in differently evolving housing markets. There is considerable scope for modelling rent control in other cities, in Ghana as well as other countries.[2/]

There could also be much to learn from extended examination of the Kumasi data. Further disaggregation by geographical area in the city and type of rental unit (those in self-contained units and those in rooms). More detailed work could be carried out on how controls affect specific aspects of housing consumption (crowding, access to water and sanitation, etc.) Perhaps most obviously this paper has focused on controls in the *private* rental market; analysis of public units is also a high future priority. Tenure choice models would also be fruitful.

Policies adopted in developing countries aimed at increasing owner occupation through sites and services and upgrading have undoubtedly added much needed potential for home ownership. However, it appears that rental remains an important mode of tenure and an important investment vehicle and source of income for a significant number of the urban population. Many countries hinder the growth of rental markets in low income housing schemes for fear of exploitative landlordism. The Kumasi experience shows that small-scale landlords may be far from exploitative; indeed renting a few rooms may provide them with their only means of affording ownership and, therefore, the essential motivation to add to the housing stock. Do such small-scale landlords differ from landlords who make their living out of housing? Do landlords who occupy part of a house treat tenants differently from landlords who live elsewhere? How are tenants chosen? Do ethnic, religious or status considerations affect households' access to rental housing in Africa? What are the effects when housing allowances are paid as part of formal sector wages?

Another interesting area for research is the changing relationship between housing and culture. There are probably many parts of the world where housing has so many symbolic meanings that housing policies which ignore this will fall foul of what might appear to outsiders at first sight to be illogical reactions by households. It might well be that subsidies intended for housing are spent, instead, on preparation for death, or that investment in housing in the urban area where a household lives is foregone in favor of investment in a house in a home village. Such issues are central to understanding housing markets in an era when governments must rely on private investment.

2/ In addition to this case study, the World Bank's research project on Rent Control in Developing Countries (RPO 674-01) is producing case studies of Cairo, Egypt; Rio de Janeiro, Brazil, and Bangalore, India.

A further issue which would bear more detailed examination is the relationship between renting and income generation. Where the place of residence forms a major potential for business activity -- such as storage, or small scale manufacturing and services, especially in cooked food preparation or laundering, retailing -- any inhibitions on renters in comparison to owners may have important consequences on the economy.[3/] There are also links into housing design here, where the layout of rooms can help or hinder small scale enterprise by owners and renters.

A NOTE ON EXCHANGE RATES

Ghana's currency has had what Killick (1978) calls a bewilderingly complex history. Until Independence in 1957, the currency used in the Gold Coast was the Pound Sterling (£). Until 1965 independent Ghana used the Ghana Pound (£G) with shillings and pence (d) as minor units. Their value was at par with Sterling. In July 1965 the currency was decimalized with the Cedi being equal to 100d (C2.4 per £ Sterling, C1.17 per US$). The minor unit was named the Pesewa (p).

In February 1967 the Cedi was revalued to £G0.50 (10 old shillings), renamed the New Cedi (NC) and exchanged for C1.20 internally. It was valued externally at US$1.40. In February 1972 the "New" was dropped, and it again became the Cedi (C).

Since then various changes in the official rate have taken place as follows:

In July 1967 to US$0.98;
In December 1971 to US$0.55;
In February 1972 to US$0.78, or US$1 = C1.28;
In 1978 to US$1 = C2.75;

Since the PNDC government came to power in December 1981, the Cedi has been devalued by stages to US$1 = C90.00 where it stood in April 1986 when the new survey was carried out. In September, 1986 a Second Foreign Exchange Market (SFEM) was instigated in which the Cedi is auctioned each week. By April 1988 its SFEM value was C185 per US$.

Exchange rate conversions, always problematic, are even more difficult under such condition. In their review of exchange rate conventions for their cross country comparisons Malpezzi and Mayo (1985) noted that in many LDCs black market exchange rates are also poor guides to equilibrium exchange rates because of high transactions costs (including jail), thinness of the market, and the fact that we are trying to compare non-traded goods with exchange rates driven by tradeables (the internal relative price of tradables and non-tradeables also subject to significant distortions). Indeed, Kravis Heston and Summers (1982) has demonstrated that official (let alone black market) rates often <u>understate</u> the foreign currency price of non-tradeables relative to purchasing power parity (PPP) rates. That is, PPP rates were typically the highest rates (convertible currency per local currency unit), followed by official rates, followed by black market rates.

In general, Malpezzi and Mayo chose official exchange rates for pragmatic reasons; official rates were readily available (black market and PPP rates are not so readily available, and different methods of constructing them give quite different results). They included comparisons of Ghana using 1981 data (before the PNDC reforms). Ghana was the one exception in their study, because the official rate of 2.7 cedis to the dollar was so overvalued relative to <u>both</u> black market and all PPP measures, so an equilibrium rate estimated by (ref) of 60 cedis to the dollar.

Generally in this report we use local currency amounts and avoid conversion whenever possible. An important and necessary exception is when we make comparisons to Malpezzi and Mayo's cross country model in Chapter 6. In this report rates of US$1 = C30 are used for 1980 comparisons; US$1 = C60 for 1981; US$1 = C90 for 1986 comparisons. The recent devaluations have been accompanied by further falls in the black market rate until it stood at about US$1 = C250 in April, 1986.

3/ See Kahnert (1987).

II. HOUSING MARKETS AND RENT CONTROL IN GHANA

A. Introduction to Urban Housing in Ghana

Typical Designs

The urban housing stock in Ghana is dominated by the traditional compound house which has developed, in several stages, from relatively simple pitched-roofed huts ranged around a courtyard, to an apical form seen in the relatively sophisticated quadrangle with cement block decorations, pillared verandas and the distinctive miniature gable junction to the hipped roof. Single story compounds tend to be almost square and about 30 meters along each side in Kumasi. Typically, ten to fifteen rooms range round three sides of the courtyard facing inward and usually having a veranda on the courtyard side. The main entrance is usually at the side and takes the form of a door which can be locked at night securing the whole compound. The fourth side usually contains a bathroom (simply a room with a small drainage hole at the base of the wall), a kitchen (a shelter open on the courtyard side and used for storing utensils) and a bucket latrine. Most houses are now built of cement blocks rather than the traditional courses of rammed earth, known locally as "swish" or "atakpame" after the Togolese home-town of the masons. Windows are mainly wooden louvres manufactured locally, though some now use glass louvres in wood or metal frames. (See Rutter, 1971; Schreckenbach, 1982; and Tipple, 1987a for further detailed analysis of house forms in Kumasi).

In the main towns there are a considerable number of two and three story compound houses in which the upstairs rooms open off continuous balconies around the courtyard, reached by an internal staircase.

In both types of compound houses, households rent rooms, singly or in pairs, and share whatever kitchen, bathroom, toilet and water supply exist in the house.

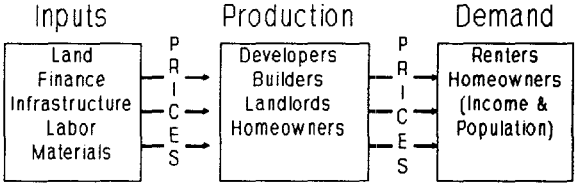
B. Overview of Ghanaian Housing Markets

How are the units just described typically produced and distributed, i.e. what are the important characteristics of the market? Figure 2.1, from Mayo et al. (1986), presents a simple schematic stylized view of housing markets. Inputs such as land, labor, finance, materials, and infrastructure are combined by supply side agents such as developers, home builders, and landlords to produce housing services. Homeowners, and to a lesser degree renters, are also producers to the extent they build, maintain and upgrade their houses. Relative housing prices inform producers of housing services whether to provide more or less housing, and the relative prices of inputs inform their suppliers to provide more or fewer of those inputs to housing production. Prices, and other aspects of the process can and are influenced by rent controls and other regulations, as well as social custom.

How can these components of a stylized market best be described in Ghana? To what extent should the stylized market model be modified in the Ghanaian

context? The next few sections briefly discuss demand, and the supply-side constraints: land, infrastructure, finance, and the regulatory framework. The particular aspect of the regulatory framework under study, rent control, is then discussed in some detail.

Figure 2.1: How Housing Markets Work



Demand

Kumasi's population has been growing at a rate of about 2.9 percent per annum since 1981. The most recent population estimate is about 720,000 for 1988. However, referring again to Chapter 1, real incomes have been falling. As real incomes fell for a decade and a half, housing investment -- as with other investment -- fell faster. Whenever real incomes fall, investment is naturally postponed as people seek to maintain a minimum level of consumption, especially of food. Now that real incomes are again rising and the investment climate is becoming more generally favorable, investment -- including but not limited to housing investment -- will pick up faster than incomes, particularly if investor confidence is restored that the reforms associated with the adjustment are permanent.

Land

The current land delivery system is a mixture of traditional and modern systems; furthermore, there are significant regional differences in how land markets operate. A highly simplified description of current practice in Kumasi is as follows. Ownership of almost all land is vested in either the Stool or the State; in the Kumasi area about 80 percent of land is still under the control of the stool. Various use rights are held by different kinship groups and individuals, including people not of Asante lineage. These rights are typically assigned by Asante chiefs on behalf of the Stool; such rights are granted to non-lineage members after discussion with appropriate members of the Stool hierarchy, and ceremonies associated with the granting of rights include the payment of ceremonial "drink money." Only recently has drink money become more than a nominal payment. Individuals then pay a recurrent ground rent charge, which remains nominal. Ground rents are shared by government and traditional authorities.

Land transactions will generally be registered with both the Asantehene's Lands Officer as well as the government's Lands Commission Secretariat. It appears that the system is in transition to a leasehold market of sorts. Freehold land tenure is still rare in Kumasi, less so in Accra. Once rights are assigned, especially for housing, it appears they are rarely traded. More specifically, since most land in the city of Kumasi itself was assigned years ago, relatively little change in land use is observed over time; densities and land use patterns do not follow Western patterns.

The traditional land leasing system operates as follows: a prospective house-builder obtains land on lease by approaching the chief in whose care the land required rests. A tri-partite agreement is entered with the chief and the

Asantehene, who act on behalf of the members (living, dead and yet to be born) of the lineage who own the right to use that land. A 99 year lease is then obtainable on payment of a tribute to the ancestors - the price of a bottle of schnapps for libation and an animal for sacrifice - called "drink" - which is divided between the local chief and the Asantehene in the proportion of 2 to 1 (see Tipple, 1983 and 1984a for further details). Payment of drink money to the local chief does not guarantee eventual success in gaining the lease, nor is it returnable in the event that the lease is not awarded. Furthermore, this "drink money" traditionally does not represent a market price for the lease; no receipt is expected or given, it is merely a courtesy payment. In recent years, however, the amount demanded in drink money has grown to represent some measure of value. In the high cost part of Ayigya, opposite the University main gate, a plot which attracted drink money of C2000 ($730) in 1980 would require about C320,000 ($3,600) in 1986 (personal communication, S.B. Amissah, Director of the Land Administration Research Centre, Kumasi), an amount equivalent to 20 months median consumption of owner households. Asabere (1981) found that non-Asantes had to pay almost twice as much drink money as Asantes and that their payments were more related to plot size than those of Asantes.

The traditional leasing system is still virtually intact in Kumasi. When land is required, even government agencies pay at least lip- service to the traditional methods of leasing land. There are over 100 chiefs in the city who have the right to allocate land for housing in Kumasi City Council's area and who, often regardless of official "sector layouts" made for peripheral areas of the city, continue to plan the form of their settlements (Stanley, 1975), allocate land, and allow the construction of houses in traditional mud-based materials.

Traditional house forms, built on traditionally leased land, allow relatively low income householders to build for themselves and with rooms to rent to outsiders. Until the early 1970s, this was still profitable. Schildkrout (1978, p.113), writing of her experience in 1969, states,

"Houses represent a reliable and important source of income, a safer form of investment than transport... "

The leasing system in Kumasi is generally applicable to the forest region of Ghana. Similar systems are followed in the North, but in the coastal plain and Volta region, patrilineal families without a paramount leader as strong as Asantehene operate the system in a more chaotic fashion causing many more problems of clouded titles. Accra has more fee simple ownership than other areas, but title disputes are quite common. The new Land Title Registration Law, 1986 (PNDC Law 152), should succeed in reducing such problems over the next few years. However, the land system is probably best described as in flux. Asabere (1981) and Tipple (1987) provide additional background.

Infrastructure

The government has identified inadequate urban infrastructure as a serious constraint on housing and on the economy generally. Roads are poorly maintained, sanitation is often rudimentary, water and power supplies are often intermittent. Water and sanitation conditions will be discussed in more detail as part of housing conditions below. A few indicative measures: in Kumasi only 20 percent of the road network is currently rated serviceable;[1/] there are still an estimated 4000 bucket latrines serving many thousands of city residents;[2/] and poor infrastructure affects other productive sectors as well as housing, e.g. thousands of small scale enterprises have crowded into marginal, flood prone land with few infrastructure services, reducing their potential productivity.

Finance

The central problem faced by the housing finance system in Ghana is the need for a stable macroeconomic environment. Chapter 1 documented that the past decade and a half has witnessed extreme instability in incomes and the price level. Under such conditions the financial system has deteriorated markedly. Figure 2.3 shows that real interest rates on financial assets were sharply negative during much of the period.

Figure 2.2: Nominal Interest Rates

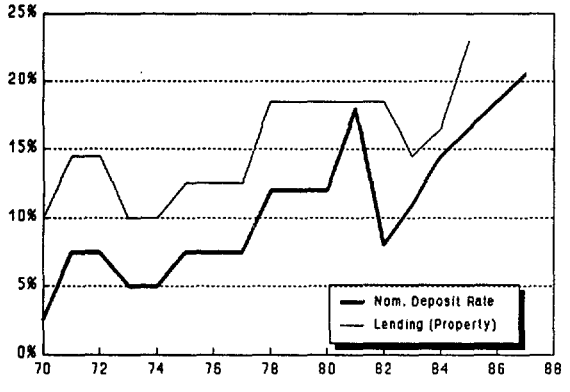
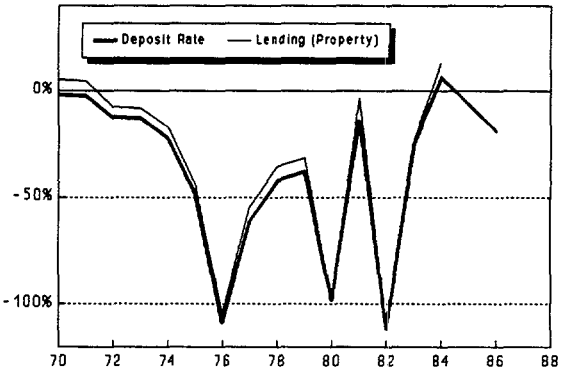


Figure 2.3: Real Interest Rates



In addition, during the political turmoil surrounding a change of government in 1979, households with savings above modest cutoffs found themselves vetted and in some cases their savings confiscated (restitution was later made in many cases). Ghanaians have fled the financial system as real financial returns plummeted and perceived risks increased. As real incomes fell (Figure

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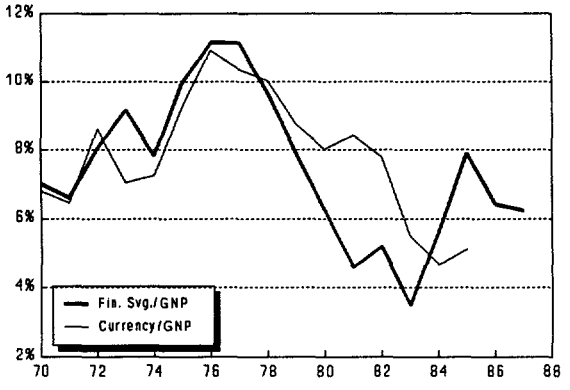
1/ Extensive improvements in Kumasi's road network are currently underway.

2/ Bucket latrines are particularly poor systems of urban sanitation. An improved low cost system, the Kumasi Ventilated Improved Pit Latrine (KVIP) was invented in Kumasi, and is now in use world wide.

1.1), savings in financial form fell even faster (Fig. 2.4) until these represented only about 3 percent of GNP. Even the ratio of currency to GNP fell, as the economy headed towards demonetization. Under such conditions it is hardly possible to design a system which will mobilize resources for lending long.[3/]

Figure 2.4:: Measures of Financial Depth



It is widely accepted in Ghana that lack of housing finance reduces the available supply of housing. In urban Ghana, houses are usually constructed to their finished plan from the beginning. Thus, the foundations are laid for a large house all at once rather than room by room. There may be many years delay between stages as finance is gathered. The fact that there are large numbers of partially finished houses which are completed incrementally over a decade, or sometimes not at all, is a testament to this situation.But the shortcomings of the current financial system and recent conditions have also retarded the development of the financial sector generally.

The first step in reform is to continue the adjustment and provide a stable macroeconomic environment conducive to long term savings and investment. Second, improvements can be sought in the housing finance system itself to make it self financing and contribute to development of Ghana's overall financial system.[4/]

Current Housing Finance Institutions

Overall financial policy, including housing finance policy, comes under the regulatory authority of the Bank of Ghana. The First Ghana Building Society and, to a lesser extent, commercial banks, extend retail loans. The Social Security and National Insurance Trust has in the past financed and built some flats but may take on a wholesale role in the future. The Bank for Housing and Construction has played wholesale and retail roles. The main institutions will be described briefly here.

The Bank for Housing and Construction. BHC is a publicly owned bank founded in 1972 to foster the development of the housing and construction industries. Most (80 percent) of BHC's current lending is for the construction

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3/ As discussed below, the design of financial instruments plays a key role in setting up a system that can deal with some uncertainty. But when prices and real incomes are as volatile as Ghana's were during the 70s and early 80s, even fully indexed systems will experience disintermediation and defaults.

4/ An overview of housing finance systems and their potential role in the development of financial markets can be found in Renaud (1984).

industry although, as will be seen in the discussion of the housing fund below, BHC may take on more responsibilities for end user and other housing finance in the future. Among other issues which would have to be addressed for BHC in particular as well as the system in general are the improving mortgage origination and servicing, new instruments, improving the resource mobilization side of housing finance, the need to separate commercial and development banking functions, and ways to improve appraisal practices.

First Ghana Building Society. FGBS dates from 1956. Formed in response to a U.N. mission's recommendation about the need for a specialized housing finance institution, FGBS is currently almost moribund. Negative real interest rates ensure that deposits are not a significant proportion of the sources of funds for FGBS. Government provides the bulk of capital (recently about C217 million). A total of only 779 loans are presently outstanding, valued at C143 million. While detailed records were not readily available, it appears that as few as four loans have been made in some past years, and by any measure few loans are currently being made.

Depositors are paid 6-9 percent (compared to commercial banks which pay 15 percent). Loans are at variable rates (presently 20 percent). Loan terms vary between 1-30 years depending on the age of the person (FGBS's policy is that loans should be amortized before the borrower reaches retirement age). A maximum loan of C500,000 is allowed up to a maximum of 80% of building value. Generally, payments records on loans are reportedly good and there have been no recent foreclosures. But in the current macroeconomic environment FGBS is obviously and severely constrained by their deposit and lending policies.

Social Security and National Insurance Trust. SSNIT is a provident fund which is currently in the process of converting to a pension scheme.[5/] Begun in 1965, the Trust's status as a provident fund was always meant as a temporary expedient, but conversion was delayed by political issues. However, given the fixed defined benefits and high recent inflation, the value of provident fund

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5/ Briefly, a provident fund is a mandatory savings scheme for workers which pays a lump sum distribution under certain predefined conditions. A pension fund pays out periodically, based on actuarial estimates of a participant's expected lifetime. Either kind of system can be funded actuarially, or pay-as-you-go. When participation is mandatory, any of these systems can be analyzed as a tax, although the degree of implicit taxation depends on the way the benefit is defined and calculated. Detailed discussions are beyond the scope of this report; see Wallich (1983) for more details. For more information about the Ghanaian system and proposals for change, see SSNIT (1987).

distributions has dwindled to the point where a consensus was reached on the need for reform.[6/]

As SSNIT attempts to convert to an actuarially based pension fund, it requires long term investment vehicles which can preserve the real value of its participants capital. There is a confluence of interest between SSNIT's need for long term assets and the need to mobilize more long term funds for housing finance. As is well known to those involved, the details of how funds are channeled will make a critical difference in the viability of the pension fund (and hence of the supply of loanable funds).

In the past, SSNIT has also played a role in the direct construction of apartments, but their management believes this has not worked out. They are currently completing unfinished units and selling off the inventory, so we will not discuss them further here.

Other Financial Intermediaries Commercial banks, credit unions, insurance companies, etc. don't currently lend much for housing. This is not surprising given the risks of lending long in such a volatile economy. Less than 5% of their total loan portfolio invested in housing. Generally the banks are reluctant to finance housing projects as their deposits are short term and unless there is access to long term funds they will not lend long term. The Central Bank sets credit ceilings for the banks; these are absolute and not related as a percentage of deposits. These limits are reviewed quarterly and there seems to be little incentive for the banks to increase deposits by encouraging savings.

Little is known about Informal Sector Housing Finance in Ghana. Again, the prevalence of unfinished dwellings suggests that during the economic climate of the past two decades this system did not function particularly effectively, at least in financing housing.

In summary, under present policies the formal housing finance system contributes little to either financial intermediation or the housing sector. In general Ghana's other primary housing finance institutions need to be developed and strengthened. Major changes would be necessary, not only in policies (such as interest rates paid to depositors, lending policies) but in the institutions' cultures. Cutting dependence on government funding and changing the incentives faced by its management are necessary step to effect such a shift. Access to other sources of funds, including secondary mortgage facility could help, but the most important resource mobilization issue is to raise deposit interest rates to more competitive levels. In the absence of other policy changes, preferential access to a proposed housing fund would probably have little effect.

Of particular interest to the present study is the fact that of the very few formal housing finance loans made, virtually none appear to have been made for rental housing. This outcome may be due to one or more of three causes. First, specialized lenders may be more ready to lend to households purchasing

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6/ According to SSNIT's Proposals for Conversion of Social Security Provident Fund, in 1986 average retirement benefits amounted to only 11,000 Cedis.

Western style single family houses for their own use because of formal or informal policies restricting such lending on social or other grounds. Whether or not this is the case, rent controls and associated regulations reduce the collateral value of rental housing and increase landlords and lenders' perceived risk. Finally, as we saw above the financial system in Ghana has not performed well during the turbulent 70s. We will return to these issues in the final chapters of this report.

The Regulatory Framework

A number of regulatory issues arise in addition to those already described and rent controls (discussed below). For example, Ghanaian building codes date from the colonial period and are based on British practice. In practice codes have been interpreted as proscribing traditional materials ("swish," compacted earth faced with plaster) within the city limits, despite their low cost and durability. Swish houses, if properly maintained, will last a century or more. Other building and land use regulations, not detailed here, are generally restrictive and not consistent with traditional housing construction, particularly compound houses. For example, within the city of Kumasi, planning codes prescribe a plot coverage of one-third, suitable for a Western style single family house but not for a compound.

The traditional method of construction uses 0.5m. high courses of rammed laterite, known as swish or atakpame, with a thin plaster coating inside and out, and walls of corrugated iron or aluminum sheeting on roughly sawn rafters. Louvered windows and doors are made from local wood in wooden frames. The cost of building, based on an experimental four roomed design originating at the University of Science and Technology, can be estimated for December 1985 as at least C11,000 per square meter. Thus a 12 sq. m. room would cost in excess of C130,000 ($1,444) This amount represents 10.4 months median household consumption or 58 months minimum wage.

We will return to some of these issues in the last Chapter. However the main purpose of the present paper is an analysis of rent controls, to which we now turn.

C. Chronology of Rent Control in Ghana

Rent Control before 1963

As with many other countries (UN, 1979), rent controls started in Ghana during the Second World War when the Gold Coast began to suffer the effects of inflation. In response to this, the Defence (Rent Restriction) Regulations of 1942 made it an offence for anyone to increase rents above those of 3rd September, 1939 except where an assessment had been made by a Rent Assessment Committee. Further, no- one could be evicted except by Court Order (Gold Coast, 1951a).

Similar regulations in 1943 required the Rent Assessment Committee to fix a fair and reasonable rent for any class of premises and introduced the concept of a "Standard Rent" for various types of properties. These early, and rather hurried, pieces of legislation have set a pattern for rent control ever since: rents are fixed at specific levels for the most common types of property and any other accommodation can be let at a rent assessed by a body appointed to do so or, in some cases, by agreement between tenant and landlord.

The Mate-Kole Committee appointed to enquire into rentals (Gold Coast, 1951a) indicated that the rent controls were being flouted by landlords who were frustrated at the unrealism of "standard rents" which were mainly fixed at September 1939 levels. The Report therefore declared that the standard rents were quite uneconomical in post-war times and should be re-assessed according to valuations used for property rates assessment. Furthermore, rents should include a rate payment over and above the controlled rent.

Throughout the Mate Kole report, the landlords were not cast as dyed-in-the-wool villains. While their efforts to avoid some aspects of controls were condemned, it is evident that the Committee appreciated their problem. The housing shortage was acute in the big cities, building materials were scarce and expensive -- 200 or 300 per cent more costly than in 1939 -- and tenants were generally badly informed of their rights and, thus, easy prey. It was recognized that scarcity in any commodity bred black-marketeering. The crux of the problem was seen to be shortage of supply. This was being manifested in the letting of latrines and kitchens as living rooms, increasing occupancy rates, and the inability of tenants to resist paying rents which were illegal. The committee was clear that rent control alone could do no good without an increase in the supply of houses.

At this time, government's stated policy contained probably the greatest element of direct government involvement in house provision and the least reliance on private investment of any period before or since. Estate building on sites recommended in the 1945 draft plan for Kumasi (Fry and Drew, 1945) was in full swing. Kumasi had 4,035 houses in 1948 (Gold Coast, 1948) and the building programme lasting from 1945 to 1955 added approximately 2,500 small dwellings.[7/] The major thrust of the 1951 Development Plan was building estates of small dwellings for workers and encouraging people to build their own single household dwellings. Thus a policy which prevented landlords making much profit from house-letting may be understandable at the time if a little shortsighted in the light of a long-standing housing shortage (Gold Coast, 1951a and 1951b). It can be seen below, however, that later rent legislation has failed to significantly change this stance even though later government policy had to admit

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7/ In this paper a dwelling is a residential structure intended to be used by one household and which has its own means of access. A house is a residential structure intended for more than one household in which all or some of the households share a common access. This distinction has been made because, when households occupy their accommodation on a room by room basis in compound houses, the dwelling becomes an unusable term except in buildings intended as single household units.

to the heavy reliance on private investment by landlords (Ghana, 1959, 1964, 1968, 1970, 1971, 1975 and 1977) and did little to reduce it.

The 1952 Rent Control Ordinance (no.2 of 1952), which followed the Mate Kole Report, modified "standard rent" to that rent which was paid on 1 January, 1948 or such as had been fixed by rent control, and withdrew the £100 p.a. limit so that rent control applied to all residential property. The 1952 Ordinance tidied up the law on rent in advance, evictions, etc., but did not depart in any major way from the idea, implicit in previous enactments, that rent should be static except under circumstances special enough to merit the attention of a Committee. The Rent Control (Amendment) Act, 1960, amended the "standard rents" to those charged on 1 July, 1960.

Rent Control between 1963 and 1979

The Rent Act, 1963 (Act 220) has formed the basis of rent control for the last 23 years being only modified by later legislation, not repealed. It contains provisions not only for setting rents but also for ordering the relationship between landlord and tenant: which have been modified separately in succeeding legislation. A summary of the provisions and their modifications can be seen in Table 2.1. In this section, a summary of controlled rents will be presented. There will then be a discussion of the provisions of the law as they affect landlord-tenant relations and houses built by government agencies.

Under the 1963 Rent Act, the "standard rent" (ie, that paid in 1948), was renamed the "recoverable rent" and incorporated as the basis of rents to be recovered by landlords. Where property was new since 1960, or material changes had been made to the premises, or there was cause for dispute, rents were to be fixed by the Rent Officer taking into account the following:

(a) rateable value,
(b) land value,
(c) the rates payable,
(d) recoverable rent assessed for similar premises where they have been assessed by the minister (see below),
(e) estimated cost of repairs or maintenance,

Table 2.1: Rent Control Measures, 1963 to 1987

	Rent levels		Property	Maximum advances (monthly	Valid reasons	Subletting
	Shared (1)	Exclusive	Excluded	tenancies)	for eviction	Govt.
1963 Act 220	"Recoverable rent" based on 1948 levels, new rents fixed according to standard of property (see note 2)		None	1 month	Landlord could evict on grounds in note 3	Illegal
1973 NRCD 158	C3.50-7.50/room	by negotiation	Income above C1,000/annum	no change	no change	Allowable on terms set out in note 4
1979 AFRCD 5	C20/room	27p - 34p/sq.ft. or by negotiation	None	no change	no change	profit margin raised to 25%
1982 PNDCL 5	C20/room C50/room & hall	by negotiation	None	no change	None unless landlord had supplied rent card	No profit allowed. Illegal sub-letting leads to forfeiture
1986 PNDCL 138 & LI 1318	C200-300/room C300-400/room & hall	by negotiation	Rent above C1,000/month	no change	None until March 1987 unless needed for owner's relatives. No change thereafter	25% profit restored

Notes:

1. Variations are according to materials used in the walls (see text).

2. Where property was new since 1960, or material changes had been made to the premises, or there was cause for dispute, rents were to be fixed by the Rent Officer taking into account the following: (a) rateable value, (b) land value, (c) the rates payable, (d) recoverable rent assessed for similar premises where they have been assessed by the minister (see below), (e) estimated cost of repairs or maintenance, (f) amount of rent for like premises, (g) current rate of interest charged by the Ghana Commercial Bank for overdrafts, (h) obligations of landlord, tenant or other interested parties under the lease, (i) justice and merits of each case (Section 14).

3. Until and including the 1963 Rent Act, the grounds on which tenants could be evicted were broadly as follows: (a) one month's rent arrears, (b) Any other of the tenant's obligations being neglected, (c) The tenant or anyone living with him causing a nuisance, (d) A conviction for using the premises for immoral or illegal uses, (e) Waste or damage of the premises by a tenant, (f) The tenant having given written notice to quit and the landlord having acted upon it by selling or letting, (g) Where the premises are reasonably required by the landlord for occupation by himself, his family, or his employees (if used to house employees), (h) Where the lease has expired and six months' notice has been given by the landlord, (i) Where the lease has expired and the landlord intends to: (i) pull down premises and construct new ones, (ii) remodel in a way which requires them to be vacant, (iii) carry out redevelopment which requires them to be vacant (j) Where the lease is tied to employment which has ceased, (k) Where the landlord returns from away and requires the premises to live in.

4. By Section 7, occupants of houses built by TDC, SHC, or any government agency should not charge, demand, or receive on subletting, a monthly rent in excess of an aggregate of: (a) the installment payable monthly to TDC, SHC, etc., (b) the equivalent of property rates payable; and (c) 20% of the total of a and b.

(f) amount of rent for like premises,
(g) current rate of interest charged by the Ghana Commercial Bank for overdrafts,
(h) obligations of landlord, tenant or other interested parties under the lease,
(i) justice and merits of each case.

These appear to be a reasonable basis for assessing standard rents for any premises and for differentiating between premises which represent different quantities of housing benefits. However, they contained no provisions for assessing the ability of tenants to afford rental payments, and only consider part of landlords' opportunity cost.

In addition to case by case assessment, the Minister has the power to assess rents for particular types of property and publish them in an Executive Instrument. This has been done from time to time for rooms occupied singly or in pairs with access to shared services. As rooms with shared services constitute the majority of all property in cities like Kumasi, rents assessed this way have been a dominant factor in rent control for 20 years. Rooms with only some services shared, or with none at all, are treated as if they had shared services. The levels set in 1973 are shown in Table 2.2.

Table 2.2: Prescribed rents for certain premises, 1973

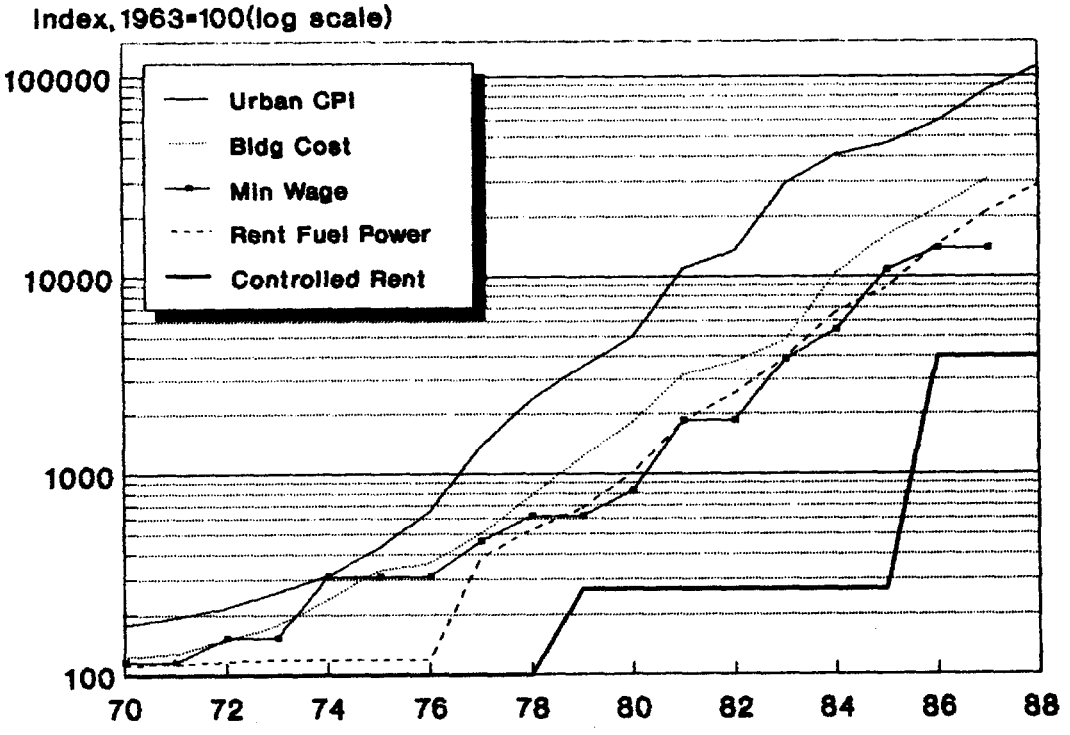
Premises (room type and size)		Monthly rent payable
Sandcrete	12ft x 12ft	C7.50
or landcrete	12ft x 10ft	C6.50
	10ft x 10ft	C5.50
Wooden, swish	12ft x 10ft	C4.50
or iron sheet	10ft x 10ft	C3.50

Source: Rent (Amendment) Decree, 1973 (NRCD 158), Schedule 1.

The rents handed down in this way have owed little to any of the matters listed above; they appear to have been arrived at more from considerations of what people can afford to pay than from any assessment of the property itself. It is noticeable that there is no mention in the schedules of whether the tenants actually have access to water supply, toilet or electricity in the house, how many others they share them with, or whether the roof is waterproof, a ceiling is present, or mosquito proofing is provided.

It is evident that, where rents are assessed individually or collectively, they tend to remain frozen until new legislation or assessments are made (United Nations, 1979). This has been true in practice, and indeed in intention, in Ghana at least until 1980 (see below for data on informal rent rises since that date). Part four of the Rent Act, 1963, states that no reassessment shall be entertained unless circumstances affecting the question of rent have materially altered since the last assessment, or that the previous assessment was made on erroneous evidence.

Figure 2.5:: Selected Prices, Logarithmic Scale



Despite the inflexible nature of rent control when ruled by ministerial decree, and their consistently low level, rents in Kumasi appear to have remained within the levels set by the government and the Rent Control Officers during the early 80s (Tipple, 1988). At the same time, rooms with exclusive use of sanitation and water supply have commanded higher rents. During the 1960s and 1970s the official Development Plans noted the need to encourage private investment while directly building some houses for specific groups of people. But as the Consumer Price Index rose markedly, controlled rents lagged behind, with only a 19% rise between 1963 and 1975 (see Figure 2.5).

Rent Control post-1979

The Armed Forces Revolutionary Council (AFRC) government of Flt-Lt Jerry J. Rawlings which ruled from June to September, 1979, imposed new rent levels as set out in Table 2.3. It should be noted that no distinction was made for the materials used in construction nor for the various levels of servicing which constitute "shared amenities."

The 1980 survey of Kumasi, conducted within months of AFRC Decree 5 (see Tipple, 1984a), found mean and median monthly rents per room of C22 and C20.5

city wide; reflecting not only the controlled rents but also the prevalence of households occupying only one room. As these represented the price equivalent of one yam or two loaves of bread, or about 70 cents (US), it will be seen that rental levels were very low. Means for just the low cost areas were even lower. Government built areas had a mean and median of only C11.5 and C9.5 despite the fact that many rooms were sublet privately. However, wages were also very low. Controlled rent for one 12' x 10' room in sandcrete with shared facilities (C20) took 5 days to earn at the minimum wage of C4 per day. The 1973 equivalent rent (C6.5) took 6.5 days to earn at the then C1 per day. While the minimum wage is at best a crude indicator of actual wages paid, in the early 80s it was the benchmark wage for many daily-paid workers.

Table 2.3: Controlled rents July 1979 (AFRCD 5, 1979)

Type of accommodation and size.	Location (where specified)	Rent /month
1. 1 room with shared amenities (ie. under multi-occupation) of size 12 ft x 10 ft.	Regional Capitals and Tema	C20
	Elsewhere	C16
Where size is not specified.	Regional Capitals and Tema	16p/sqft
	Elsewhere	12p/sqft
2. 2 roomed self contained semi-detached house, like SHC type SH(1).		C150 or 27p/sqft
3. 3 roomed self contained semi-detached house, like SHC type SH(2).		C175 or 30p/sqft
4. 3 roomed self contained detached house, like SHC type SH(3).		C200 or 34p/sqft
5. Other self contained houses of more than 3 rooms.		By negotiation

According to the above data on Kumasi, most accommodation with shared amenities was charged for at a level close to the controlled rents before PNDC Law 5 was promulgated. Over 90% of all households in the low income housing areas paid less than C25 per room.

When Flt-Lt. Rawlings resumed power in December 1981 his Provisional National Defence Council (PNDC) Government started out with the intention of providing large quantities of "workers' housing" to solve the housing problem. It again tightened up rent control (Table 2.4). All rents were to be halved or reduced to C20 per month for single roomed accommodation and C50 per month for "chamber and hall" (i.e., a suite of two rooms). If rents were already lower than this they were to stay at their December 31st, 1981 level. Furthermore, no rents could be increased until March 6, 1983 (PNDC Law 5, 1982). These regulations did not apply to self-contained premises or where existing rents exceeded C1000 per month. In the latter case, landlords had to pay fifty percent tax on the rent. Furthermore, any landlord who demanded higher than allowed

rents or failed to pay the 50% tax would forfeit his premises to the state. These provisions underline the basically anti- landlord stance of the PNDC government at the time of this legislation - three months after the coup which ousted the Limann government during which investment in large houses had been rife amongst the elite. New properties let after 31st December, 1981, were to be assessed by the Rent Officer under the Rent Act, 1963.

Table 2.4: Rental levels under PNDC Law 5, 1982.

Type of Accommodation and size of room.	Recoverable Rent/month (Cedis).	No. of days of basic wage (1)	Rent per square foot (Cedis)(2)
1. Single-roomed accommodation with shared amenities (ie. under multiple occupation)	20	1.7	0.2
2. Two-roomed accommodation with shared amenities of the type generally referred to as "chamber and hall"	50	4.2	0.2

Notes: 1. At C12 per day introduced in 1982.
2. Assuming 120 square feet per room.

Before any investment in workers' housing could be made, this firmly anti-landlord stance mellowed into a proposed housing policy which, among other objectives, sought to improve incentives for investment in housing through a National Housing Fund. However, in January 1986 the PNDC once again reinforced rent controls by the Rent Control Law, 1986, (PNDC Law 138 as modified by LI 1318). Rental levels were set out in the First Schedule but were immediately modified upwards by Legislative Instrument 1318 to those shown in Table 2.5.

Table 2.5: Rental levels under L.I. 1318, January, 1986.

Type of Accommodation and size of room.	Recoverable Rent/month (Cedis).	No. of days of minimum daily wage.	Rent per square foot (Cedis)
1. Single-roomed accommodation with shared amenities (ie. under multiple occupation) of a size say 12' x 10': (1)			
(a) Sandcrete	300	3.3	2.5
(b) Landcrete	250	2.8	2.1
(c) Swish	200	2.2	1.7
2. Two-roomed accommodation with shared amenities of the type generally referred to as "chamber and hall" of say 12' x 10' per room:			
(a) Sandcrete	400	4.4	1.7
(b) Landcrete	350	3.9	1.5
(c) Swish	300	3.3	1.3

Note 1: Premises of other sizes are assessed using the amount per square foot.

Between March, 1983 and 1986, rents in the cities crept up following inflation and the reducing value of the Cedi which was devalued from 2.75 per US$1 to 25 and then, by stages, to 90 per US$ by December 1985. Despite the possibility of forfeiture to the state for charging higher than controlled rents, only 30% of all households surveyed in 1986 were paying less than C50 in rent before the last rent increase in 1986. About 17% each were paying C100 and C150. Furthermore, large rent advances of 12, 24, or even 60 times the monthly rent were being demanded of new tenants. These data suggest that resources for enforcement have been inadequate to deal with the disparity between rents and other prices at times when the gap is most acute. (In March 1988, the case load of the Rent and Housing Committee was about 100 cases per week.)

Thus, despite the evidently large increase from the 1982 level, the new rents were, in fact, little or no higher in real terms. Although both wages and rents have increased, they have failed to keep pace with the massive inflation which has dogged the Ghanaian economy since the mid 1970s. While controlled rent for one room in sandcrete had an index about one sixth of the CPI in 1976 (1963 = 100), by 1985 the tight controls of the AFRC and PNDC had reduced it to one 136th of the CPI (see Figure 2.5). Neither have rents kept pace with the cost of building. The Index of Prime Building Costs is the only measure published by the government by which to judge the cost of building but it is probably considerably lower than the real cost to the public; even so it is well above the index for rent for one room.

By the end of 1985, just before PNDC Law 138, controlled rents had lost touch with the CPI to such an extent that they represented only 0.07% of their 1963 index. Figures 2.5 shows how rents have related to price indexes since 1970.

Recent developments, 1986 to 1988

Since the 1986 survey through which data for this paper were collected, there have been significant changes in rents paid despite no change in the controlled rental levels. In the 1986 data, there were obvious signs of rent increases ahead of PNDC Law 5, 1986. These affected new tenants more quickly than existing tenants, but many households were unaffected by them. The increases in early 1986 appear to have satisfied landlords at least for six months or so and there appears to be no cogent argument against the credibility of our 1986 data as representing April to June, 1986, when they were collected. Since late 1986, however, there has been a continuation of the upward trend in rents especially for new tenants and in self-contained accommodation. While it is likely that many households still pay the controlled rent, albeit in capital sums in advance (see below), there are also many households who are paying up to three times controlled rent. The shortage of rooms is now felt so intensely that renters are willing to agree to C600 or C800 per month for a room without demur. Existing tenants are also willing to pay extra rent in order to maintain their tenancies in an increasingly constrained supply. Furthermore, the rent control administrators in the Rent and Housing Committee have no involvement in this if no complaint is made.

In the following sections, the various aspects of landlord-tenant relationships and the treatment of government-built housing will be examined.

D. Current Status of Controls

Coverage

Initially rent control only applied to housing occupied by low- income households. Anyone who could afford to pay £100 per annum rent during World War II was regarded as too well off to need protection (Gold Coast, 1951a and Legislative Council Debates No.2 of 1949, p.68). The 1952 Ordinance removed this upper limit but excluded any government housing or housing used by government officers as a consequence of their employment. These have been excluded throughout the legislation since that date. The 1963 Act also had no upper limit to controlled premises.

Where premises have been liable to control but fall outside the limits of the collective treatment applied to rooms with shared amenities, the recoverable rent has been assessed on an individual basis. United Nations (1979) points out that, where this happens, the extent of coverage is generally lower than that obtained by across-the- board measures but the rents assessed generally come closer to the true value of each property.

The Rent (Amendment) Decree, 1973 stipulated rents for single rooms but excluded from control any single room occupied by a tenant whose income exceeds C1,000 per annum. At that time, minimum wage was C1.00 per day but mean wage rates for Africans in reporting industrial establishments was C950 per annum (Ghana Economic Survey, 1972-4, p.125). Thus, anyone on more than mean industrial wage but living in one room was liable to be outside the protection of rent control.

The 1979 and 1982 legislation removed any limit to controls but the 1986 Rent Control Law again removed premises at the top end of the market, this time with rents above C1,000 per month. This is again quite low -- being only 3.3 times the rent for a sandcrete room but only 7% of households paid C1,000 or more per month in 1986. At this level, the tenant pays whatever rent is estimated to be recoverable but the landlord should pay half as tax to the state.

There has never been any differentiation between sitting tenants and new tenants in the application of rent controls; neither has there ever been any exemption of new properties. Although landlords have been able to remove tenants to restore, renovate or improve properties, there has never been any incentive given, such as removal from rent control, unless the renovations removed the premises from the range in which controls operated at the time.

Advances and side payments

In countries where rent control is imposed, the demanding of side payments by landlords is very common. It provides a simple way for landlords to make up the difference in income between market rent and controlled rent, through once and for all payments at the beginning of a tenancy or through periodic extra payments in cash or in kind. As the Mate Kole Report (Gold Coast, 1951a) pointed out, some landlords, notably in Kumasi, began taking advantage of wartime conditions to demand up to one year's rent in advance from would-be tenants. This

"social evil" was prevented by the 1947 Ordinance, amended in 1949, making illegal the demanding of more than one month's rent in advance of monthly tenancies or three months' in the case of longer tenancies.

Under the Rent Control Ordinance of 1952, it was an offence to demand or receive key money. The 1963 Act limited rent in advance to one month in monthly tenancies and six months in longer tenancies. No legislation since enacted has changed the illegality of accepting or demanding advances.

With very low rents, it might be expected that recent empirical evidence would show side payments being made to landlords to secure accommodation. In Cairo, Mayo et al (1982) found that, even in a tightly controlled rental market, new building was still attracting investment because, inter alia, landlords could demand a large initial payment from prospective tenants. Thus, although rents remained low, the price tenants paid for housing (monthly rent plus initial payment) remained reasonably attractive to investors.

In 1981, following sufficient preliminary analysis of the 1980 data to show how low reported rents were in Kumasi, a survey was done, under the author's guidance, as a final year project by a student of planning. She interviewed junior staff in three departments at the University of Science and Technology who were not living in university accommodation. As the interviews were conducted at the work-place, possible bias from the proximity of the landlord was removed. The respondents were asked about their rent, the utilities to which they had access, and what side payments, gifts, advances, services, etc., they made to the landlord. It was found that they did indeed only pay controlled rent and the proportion of rates and utilities charges for which they were legally liable (Edoo, 1982).

The 1986 survey and more recent observation and interviews with renters and officers involved in rent control show that there has been a rapid increase in the incidence of landlords demanding rent in advance. This was relatively rare before 1982 but, in 1988, almost all landlords demand rent in advance, sometimes for 5 years. The reason a landlord gives for demanding an advance is usually that he needs to carry out renovations and repairs. It is likely, however, that he is aware that he is making a gain by securing the rent as a capital sum rather than receiving it over a long period of time.

Rapid inflation renders fixed payments in the future less valuable. While advances are becoming universal for new tenancies in Kumasi, there is also evidence that sitting tenants are being asked for rent advances (usually of at least one years' rent). Such demands are being accompanied by threats of eviction if payment is not made. Inevitably, if eviction occurs, grounds are given which are within the law (see notes on Table 2.1) -- usually that the room is required for a relative. Many of the 100 cases per week brought before the Kumasi Rent and Housing Committee in 1987-88 are from tenants aggrieved at being evicted in this manner but there is little that can be done to redress their grievance if a relative of the landlord testifies to needing the room.

Contrary to our previous understanding of the advance system (Tipple 1986), the payment is offset against rents due, at the controlled rent per month. Thus, a worker giving an advance of C20,000 for a single room in sandcrete, will pay

no rent for 67 months unless the rent increases in the meantime. Furthermore, if he leaves the room before the advance is extinguished, the balance is due to him.

Eviction

Until and including the 1963 Rent Act, the grounds on which tenants could be evicted were as set out in the notes on Table 2.1. Broadly they include rent arrears; tenants' neglecting their obligations, causing a nuisance, abusing or damaging the premises; or expiration of the lease. A landlord can also evict a tenant where the premises are reasonably required for occupation by himself, his family, or his employees (if they are used to house employees).

These can be seen to provide a balance between secure tenure for tenants who behave according to the terms of the lease and the ability of an aggrieved landlord to evict bad tenants. The strength of commitments to the extended family is reflected in the legal provision allowing a landlord to recover his or her premises in case of family need. However, for a year after PNDC Law 5, 1982, no complaints against tenants would be heard unless a landlord had complied with all the regulations concerning providing rent cards to tenants and details of all tenancies and rents to the rent officer.

Under the 1986 Rent Control Law, landlords were again prevented from evicting for one year except where the landlord established that the premises were reasonably required for use by himself, his family, or persons in his whole time employment for residential use, or by himself for business purposes. Once again, this could only be entertained if the landlord has issued rent cards and tenancy details to the Rent and Housing Committee. While Section 19 modified existing legislation to give effect to the new law, nothing in it prevented the other conditions for eviction contained in the Rent Act, 1963, from being relevant again after 6th March, 1987. Indeed, there has been an increase in evictions by landlords since that date. It is now common to hear of households being evicted, ostensibly to make way for family members, or being threatened with eviction as a lever to extract advances. The considerable growth in family house tenancy between 1980 and 1986 is discussed in chapter three; under current conditions there is likely to be continued inroads made into the rented market in this way as landlords grow increasingly discontented with rental levels.

Treatment of houses in government estates

Tenants of houses owned by government or its agencies, chiefly the State Housing Corporation (SHC), and Tema Development Corporation (TDC), have normally paid rents fixed from time to time by the owning authority. Houses built before Independence are predominantly rows of single rooms with detached kitchens in blocks, public standpipe water supply, and public latrines. There are also some detached and semi- detached 2 and 3 roomed bungalows with attached kitchen, bathroom and toilet. Post-independence dwellings are mainly self contained bungalows with two, three, or more bedrooms.

The 1952 Rent Act excluded government owned housing from its provisions. From 1959, tenants were encouraged to buy their dwellings on hire-purchase terms.

Since this time, many of those which have been purchased have also been extended to provide rooms for rent. In consequence, there has been a growth in legislation on rents for private lettings in government housing. The 1963 Rent Act prohibited sub-letting without the permission of the landlord. Thus the letting of parts of government owned housing was illegal. However, the act did not apply to "premises of which a public officer is a tenant by reason of his employment and of which premises the Government is the landlord;" (S1(2)(a)).

For many years, tenants of houses owned by State Housing Corporation or other government agencies have been profiting from the very low rents by moving out and letting the whole of their dwelling to another household for a higher rent than they have to pay, or by subletting part of their house to another household for more than a fair proportion of their total rent. Sometimes the room rented has not been intended for habitation. As long ago as 1968, 93% of the detached kitchens in Asawasi were sublet to other households. While the tenants were paying between C1.3 and C1.8 for their dwellings, the subtenants paid between C1.5 and C2 for the kitchen (BRRI, 1970, pp.16 & 17).

In 1973, the Rent (Amendment) Decree sought to control this. By Section 7, occupants of houses built by TDC, SHC, or any government agency should not charge, demand, or receive on subletting, a monthly rent in excess of an aggregate of:

(a) the installment payable per month to TDC, SHC, etc.;
(b) the equivalent of property rates payable; and
(c) 20% of the total of a and b.

In older properties, the resulting rents to sub-tenants would be very low. They would, however, guarantee the owner a 20% profit on the transaction, something that controlled rents in the privately owned stock never openly attempted to do. As the prices charged for the dwellings were subsidized, and there was sufficient land for extension, those fortunate enough to possess such a house were thrice blessed.

However, in newer estates, while rents were C10 per month, the hire-purchase payments were fixed considerably higher. Schmitter (1979) shows that purchasers paid anywhere between C39 and C81 per month for ownership within 10 to 25 years.

The provisions of the 1973 decree were further improved in 1974 by the Rent (Amendment) Decree (NRC Decree 250). By it, where a dwelling acquired from government had been extended or improved, a reasonable increase in rent was to be allowed. Disagreements or doubts could be referred to the Rent Magistrate.

In 1979, the "Ghanaian Times" (25th July) carried a list of rents of representative SHC properties. It showed that, though under review, rents were still very low. A single roomed dwelling in North Suntresu was still only C1.9; a pair of rooms, C2.9; and a two roomed semi- detached bungalow with its own water and toilet was only C5.1 per month. More modern accommodation in a two story, three bedroom house in Kwadaso Estate could be rented for C45.

The review mentioned in the Times had become law a few days before -- on 21st July. The Rent (Amendment) Decree, 1979, (AFRC Decree 5) more than doubled the rents for self-contained government housing. As shown in table 2.3, the self contained premises were to rent for between 27 and 34p per square foot; thus a two roomed type would rise from C50 to C150, and three room types from C75 to C175 for the semi-detached and to C200 for the detached bungalow. While the effect of this may seem unfairly negative for government tenants who enjoyed the lowest rents per room in the city, it must be noted that many legal tenants on SHC estates were, in fact, non-resident and extracting rents from sub- tenants (see below). Furthermore, most government housing in Kumasi is not self-contained and, therefore, comes under 1 in Table 2.3 (1 and 2 in Table 2.4).

The decree also increased the profit margin on rooms in government built houses to 25%. However, the State Housing and Tema Development Corporations (Ownership of Houses) Decree, 1979 (AFRC Decree 61), required that the profits available to owners of former government housing were to be redistributed. Besides limiting ownership to one house per applicant and only allowing employed people to own them, this decree prohibited the subletting of former SHC and TDC property without written permission. Anyone already a sub-tenant, should pay rent to the SHC or TDC direct and would receive a rent card.

Like the 1963 Rent Act within which it operated, the Rent Control Law, 1982 (PNDC Law 5) did not apply to housing owned by state agencies. However, a major modification was made to the standing of unauthorized sub-tenants of former SHC and TDC houses: the subtenant was to become the direct tenant. Where any sub-tenancy had been approved by the SHC or TDC, the profit margin was removed, any rent being only equal to that paid direct to the agency for that amount of the house sublet. Any future illegal sub-tenancy would result in forfeiture of the premises to the sub-tenant who was seen to have been exploited. According to newspaper reports in 1982, such forfeitures did indeed take place.

Under the 1986 Rent Control Law, subletting was once more permitted and the rent charged returned to the cost plus 25% of AFRCD 5. Thus the threat of forfeiture was removed.

Reletting After Renovations

Under the Rent Act, 1963, a statutory tenant who is dispossessed in order that the landlord can remodel the premises is deemed to have an option to be reinstated in the premises at a rent to be assessed as suitable for the remodelled premises. If the remodelled premises are too small to accommodate all the former tenants, in the absence of agreement between them, the longest standing tenant will have priority. Where they all of equal time, the Rent Magistrate shall decide between the tenants on the balance of hardship caused by not regaining the tenancy.

These provisions still stand.

E. The Political Economy of Rent Control

Successive governments in Ghana have been engaged in building housing for rent, and recently for sale, but few have been particularly assiduous.

Most development plans have admitted governments' inactivity and their reliance on the private market to provide the majority of new houses. In the light of this, efforts have been made to assist the building of private housing. These have involved providing infrastructure and financial assistance to private builders to facilitate and regulate their activities. At the same time, rent controls have been negatively affecting the profitability of private investment in housing.

From the beginning of the colonial period, regulations were imposed on plot sizes, building coverage, and sanitary provision, to ensure a high standard of house building, (H. M. Government, 1909; Belfield, 1912) and plots were leased to the major local chiefs and private individuals. As Kumasi grew, new areas were laid out as grids with plots over 400 sq.m. in area, 13m wide roads and sanitary lanes. Old areas were rebuilt where required to make them "a credit to the town" (H. M. Government, 1921). In 1936, a new plot size (860 sq.m.) was introduced as standard and the sanitary lane was discontinued. In 1939, new building regulations were framed tightening up on design and use of materials (The Kumasi Public Health Board Regulations, 1939).

It has continued to be government policy to provide services for housing development through the statutory supply corporations: Ghana Water and Sewerage Corporation (GWSC) for water supply and sanitation, Kumasi City Council for drainage and the emptying of bucket latrines, and the Electricity Supply Corporation (ESC). The policy has only been successful in parts. GWSC has been required to break even financially even though government has fixed its charging rates. Kumasi City Council has been underfunded especially for the importation of vehicles and spare parts. Thus it is hardly surprising that the 1986 survey shows 50% of houses without water and 29% without a toilet of any kind in 1986. Electricity is almost universal in Kumasi except in the outlying villages.

Finance has been considered an important housing generator by successive governments. But financial institutions like the First Ghana Building Society (set up in 1956) and the Bank for Housing and Construction (1973) make limited loans and mainly to the relatively secure and well- off rather than to low income households. Other financial institutions have been encouraged to invest some of their capital holdings in housing. The State Insurance Corporation and the Social Security and National Insurance Trust have been involved in giving mortgages or direct investment in housing but their need to make a safe profit has removed their activities from the reach of low income households unless subsidi by their employers.

Government employees, in both civilian and military service, have been eligible for concessionary loans for house building, particularly since the Public Servants' Housing Loans Scheme Decree, 1975. While this is undoubtedly

a boost for the recipients, who often receive quite low wages, anomalies have been all too common. For example, a university lecturer could raise a loan from his employer, build a large house, let it to the university for thousands of cedis per month, and continue to occupy subsidi university housing. This is now forbidden (by the Public Servants (Control of Provision of Bungalows) Decree, 1979) but undoubtedly existed until then.

Cost of Housing built by the Government

There has inevitably been substantial increases in the cost of houses built by government agencies. Data are only available from a few documents on a less than regular periodicity. In 1948 when the Asawasi estate was built using stabilized mud bricks, single roomed laborer's quarters with shared utilities cost £140 (C280), while the two roomed self-contained cottages cost £285 (C570) (Gold Coast, 1948). At that time minimum wage was about C7 per month. Ofei (1975) reported that similar houses in North Suntresu were being sold to their tenants for C700 and C1700 respectively (when rents were C6.5 per room per month in the private sector and minimum wage was C25).

In 1967, when the minimum wage was C17.5 per month, the government- built one bedroom house cost C1,600, the two bedroom house cost C6,000 (Nierstrasz and Hunnik, 1967). Table 2.6 shows how house prices in the government sector rose from 1974 to 1980. Thus, in 1980, the cheapest government-built house would cost 2,500 months' (208 years') rent for one room or 167 months' (14 years') minimum wage. Unless the prospective owner was committed to sub-letting for many times the legal rent, there could be little rationality in exchanging renting for home-ownership under such circumstances.

Table 2.6: Prices of Selected S.H.C. House Types 1974 and 1980.

	Price		Months'Minimum Wage	
House Type	1974	1980	1974	1980
SH.1	5,500	50,000	110	170
SH.2	7,400	59,000	150	500
SH.3	7,700	74,000	150	250
SH.4	14,600	103,000	290	340
SH.5	18,300	146,000	370	490

Sources: 1974, State Housing Corporation (1975), 1980, Kwakye-Safo (1981) quoting SHC records.

Recent Changes

In the 1980s, there has been a hiatus in government activity in the housing field while pressing structural issues were engaged followed by a renewed emphasis on what is seen to be a serious housing problem. Except for the ten-fold increase in the nominal level of rentals in January, 1986, which was quickly eroded in real terms, little attention has been paid to encouraging rental housing. The draft Housing Plan concentrates heavily on encouraging the building of new single household dwellings. The landlords who are willing to build rooms in compounds (or their equivalent) have been largely ignored except for vilification by the press after reports of evictions.

It cannot be doubted that, since our data collection in 1986, at a time when landlords appear to have been happy with the new rental levels (personal communication, Kumasi Houseowners Association), rents have crept up and advances and demanding higher than controlled rents, strictly forbidden in the rent laws, have been tolerated by the Rent and Housing Committees, at least since 1987, as long as there was agreement between the landlord and tenant involved. As the availability of rooms for renting has declined, especially over the last two years, more tenants have been willing to concur with landlords' demands without demur. Anecdotal evidence suggests that rental levels for single rooms with shared services in Kumasi have crept up to about C1,000 in 1989 (still quite low in real terms and only half the rental allowance received by middle ranking civil servants).

F. Summary

Having been started as a wartime measure to curb inflation, rent control has continued to dominate the housing market in Kumasi until the present day. As most households live in accommodation classed as having "shared amenities", their rents are fixed by occasional government proclamation. Apart from a few properties at the top end of the market, most housing units are covered by blanket controls or case by case determination by a rent officer. Advances and side payments are illegal and have been rare except recently before and since the 1986 increases. Eviction can only be carried out for a stipulated range of reasons; needing the room for a family member is sufficient reason for eviction of a tenant. Government estates have been included in controls, though with levels fixed by type of house or by so much per unit of floor area. Tenants dispossessed for renovations have right of first occupation after the work is finished.

III. THE HOUSING MARKET OF KUMASI

A. An Introduction to Kumasi

Kumasi is the second city of Ghana, capital of Ashanti Region, and the center of the forest belt which stretches across southern Ghana. The city is 180 miles from the capital, Accra, by road and occupies a series of low hills separated by sluggish streams. It is now an industrial center with a formal timber processing industry and large informal woodworking, light engineering and vehicle repairing activities. It is also the commercial center for a large area of Ghana including the main cocoa producing region. The city's central market at Kejetia vies with Onitsha in south eastern Nigeria for the claim to be the largest market in West Africa.

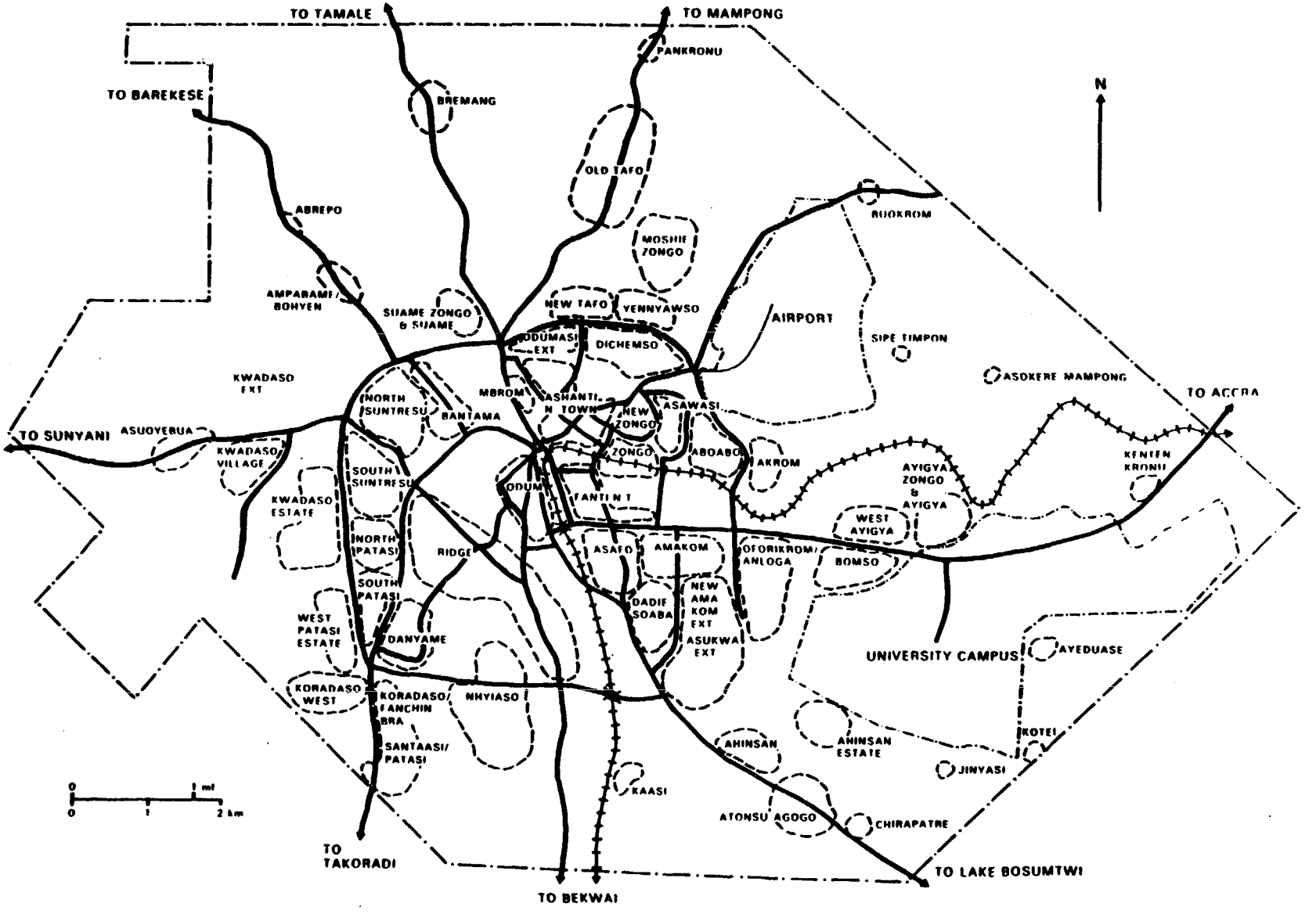
The city was founded around the turn of the eighteenth century by Osei Tutu who, through subjugating the local people, established the Asante Empire under himself as Asantehene; both the king and the high priest in one entity. The symbol of power and the soul of the nation, a wooden stool coated with gold, remains the apex of the cultural, religious and political structures of the Asante people even within modern Ghana. As both Asantehene and the Golden Stool are to be found in Kumasi, the city retains a very special place in the world-view of its inhabitants and the residents of an area covering several hundred square miles. More detailed studies of the history and significance of Kumasi can be found in Aidoo (1977), Hagan (1971), Lewin (1974), McCaskie (1980, 1981, 1983 and 1986), and Wilks (1966, 1967, 1975 and 1979).

Kumasi was an imposing town in 1817 (Bowdich, 1819) but suffered destruction in the protracted wars with Britain in the last quarter of the nineteenth century. Having been razed by fire, it was reconstructed as the colonial administrative and commercial center for the northern part of modern Ghana, beginning in 1901, eventually gaining a reputation as the "Garden City of West Africa." Its population grew to 45,133 by 1944 (Fry and Drew, 1945), 180,642 by the 1960 Census, 260,000 by the 1970 Census, and an estimated 590,000 in 1980 (Tipple, 1984a).[1/]

1/ The 1980 estimate, made from extensive household data, has been called into question by the recently published 1984 Census preliminary results (Ghana, 1985) which show only 488,991 people in Kumasi. Discussions in Kumasi with Prof. P. Austin Tetteh, a respected Ghanaian demographer, suggest that the 1984 Census may be dogged by under- enumeration. Furthermore, the housing stock estimates and occupancy rate means from the 1986 survey would generate a total population of approximately 690,000 for 1986.

Figure 3.1

LOCATION OF RESIDENTIAL AREAS IN KUMASI CITY COUNCIL AREA



B. Household Survey Data

At the start of the project, a survey of housing stock and household characteristics for Kumasi in 1980 conducted by Graham Tipple, with additional material collected by Samuel K. Afrane was in hand (Further analysis and discussion of the findings can be found in Boapeah and Tipple, 1983; and Tipple, 1984a, 1984b and 1987a). It was decided to conduct a further survey of approximately the same size, and using as many of the same houses as records of the 1980 survey permitted so that some sense of changes since 1980 could be gained in this tightly controlled rental market.

As in 1980, students of planning at the University of Science and Technology in Kumasi acted as enumerators under the guidance of Mr. Afrane, a lecturer in the Department of Planning. A survey to count the houses in the city, exactly similar to that carried out by Boapeah in 1981 (Boapeah, 1981; and Boapeah and Tipple, 1983) was unsuccessful in 1986, for reasons beyond the writers' control, but was successfully carried out in 1988 collecting data for completions 1981 to 1985 and 1986 to 1988. The new survey gave an opportunity to check the 1981 data which was found to be slightly in error. The number of houses extant in 1980 was corrected from 20,600 to 21,000.

The main survey was carried out between late April and mid-July, 1986 in 28 areas of the city. The sample was based on a random sample of houses within all the main low income residential areas of the city plus areas chosen to represent the high cost areas and the peripheral towns and villages (The sampling procedure for areas is discussed in detail in Tipple, 1984a). Within the residential areas, the sampling unit is the house which is defined, for the privately developed areas of the city as a structure designed for or used as a residential building. In the government-built areas, a house is defined as a structure originally designed to be used as a single dwelling. Within the house, all heads of households, or their representatives were interviewed. A household is defined as a group of people who normally share the same housekeeping arrangements. Interviews were successfully conducted with 1414 households in 279 houses.

In addition to the graphs and charts presented in this chapter, there are a number of supporting tables in the data appendix at the end of the paper.

C. Kumasi's Housing Stock

The housing stock in Kumasi consists predominantly of compound houses. The 1986 survey shows that 40 percent of the houses are single story compounds (mainly in the indigenous sector) with a mean of 12 rooms, while 16 percent are multi-story compounds (mainly the tenement sector) with a mean of 17 rooms. Together these contain 75 percent of the rooms in the city. The remainder are detached houses (24 percent with a mean of 7 rooms) and semi-detached or terraced houses mainly in the government built sector and with means of 4 rooms (mainly in high cost and government sectors). Approximately 4160 one to five roomed houses have been provided by government as rental housing in its own estates. Most of the houses have been sold to their tenants over the last twenty years. Kwakye-Safo (1981) reported that about 60 percent of houses formerly under the

control of State Housing Corporation were privately owned. The 1986 survey carried out for this project reveals that 62 percent of occupants in government built houses are either owners or occupy housing owned by their family.

Figure 3.2 Distribution of Households by Tenure, Sector, House Type and Number of Rooms

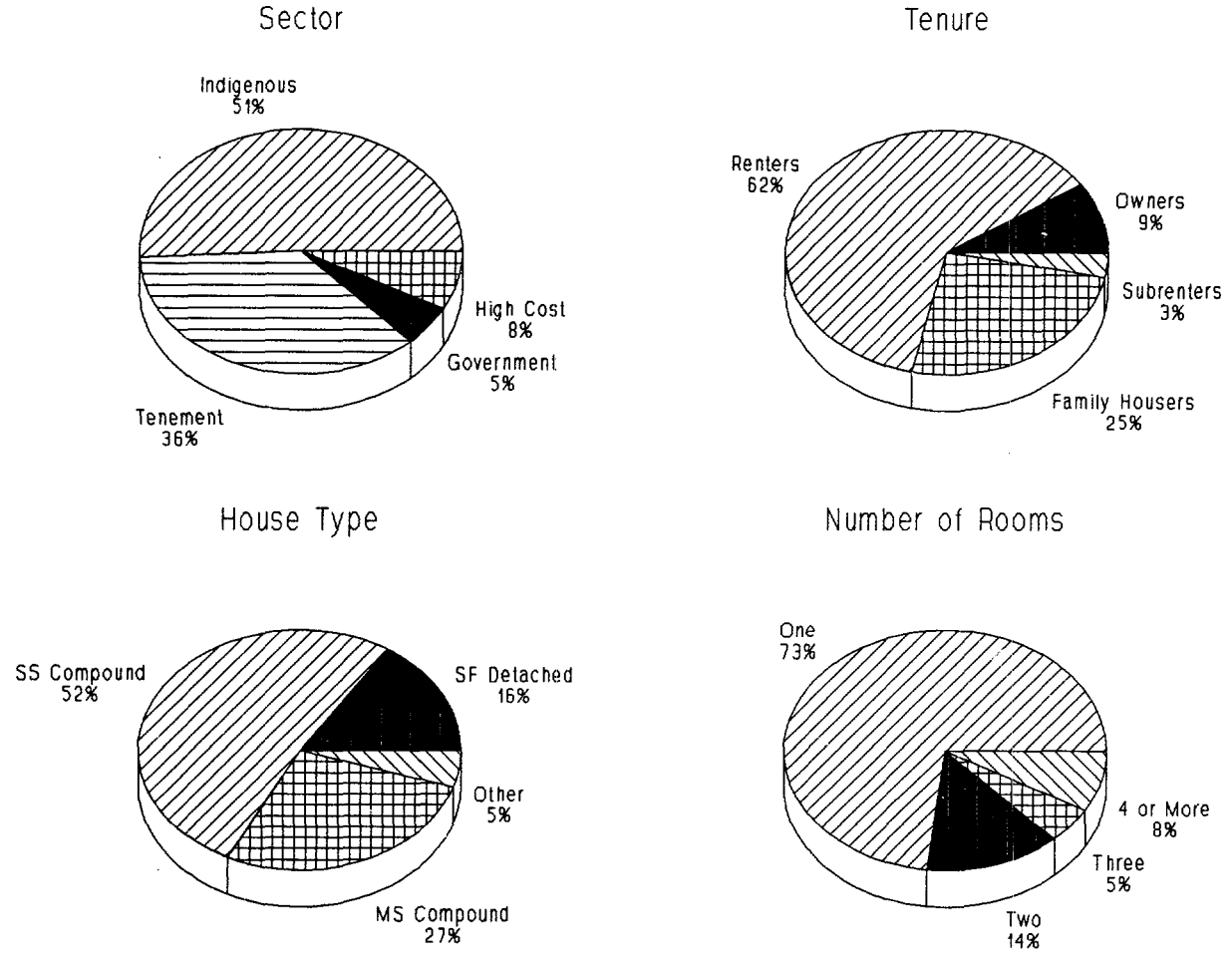


Figure 3.2 summarizes some of the key data on housing stock utilization. The figure presents weighted estimates of how households are distributed by sector, tenure, house type, and number of rooms occupied.

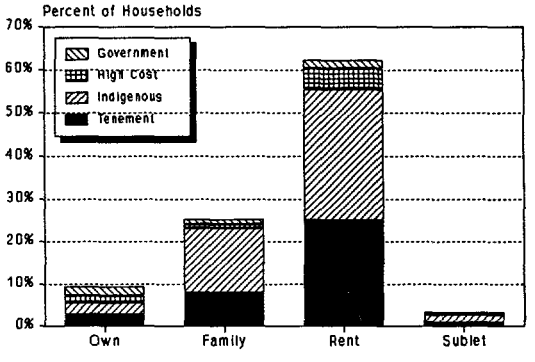
For purposes of sample design, the city was divided into four sectors; the predominant house form being the major parameter for assigning areas to sectors. These sectors are referred to in the analysis in later chapters. While further details of areas assigned to sectors can be found in Tipple (1984a and 1987a), it is sufficient here to state that areas dominated by multi-story compounds were assigned to the "tenement" sector, areas dominated by single story compounds were in the "indigenous" sector, government built areas were in the "government"

sector, and high cost areas in their eponymous sector. As Figure 3.2 shows, most households live in the tenement or indigenous sectors.

Figure 3.2 also shows that most households rent their accommodation. "Family housers" are separate households living rent-free with relatives. Relatively few households own their accommodation outright. Figure 3.3 shows another key breakdown, of the number of households by tenure by sector.

Taken as a whole, Figures 3.2 and 3.3 illustrate that most households rent (or live rent free with relatives) in single rooms in compound houses in the tenement or indigenous sector.

Figure 3.3: Tenure by Sector



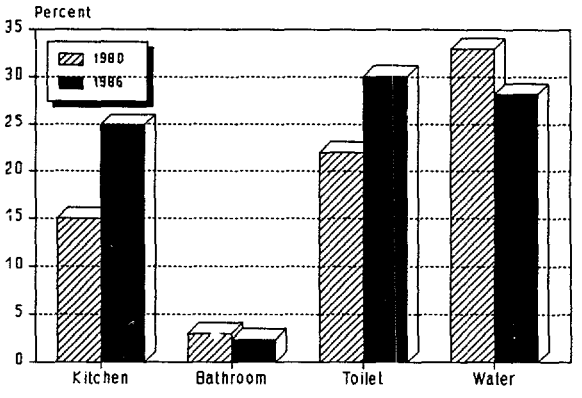
In many African cities, the housing stock contains a strong informal sector, mainly comprising households occupying land to which they have no legal title on which they have built dwellings which do not conform with local planning and building regulations. They are usually referred to as squatters. In Kumasi, the land tenure system is controlled by local chiefs whose power is underpinned by the belief in supernatural forces of ancestors, spirits and gods (Busia, 1951; McCaskie, 1983; Tipple, 1983). The close control which they hold over their land obviates the opportunity to squat, even if households dared to defy them and the ancestors. Thus, the informal sector in Kumasi comprises houses built on land leased from the traditional authorities in a manner accepted by the government. While the structures may not conform to planning and building regulations, the land holding is entirely legal (Peil, 1976). For the purposes of analysis, the houses built in this way are included in whichever sector the predominant type in the area merits. Thus, some are in the tenement sector, some in the indigenous sector, and some in the high cost sector.

Access to Utilities and Services

Few households have to cope without a bathroom, which is a relatively cheap service to provide as it may only be a small bare room into which a bucket of water is taken for washing. However, more than a quarter of households do not have access to toilet or water supply in their house and must rely on public latrines and standpipes, often many scores of meters distant. At the other end of the scale, about one in eight households have exclusive access to each of the services. As almost all households have electricity, no tabulation is presented here. Given possible sampling error we would not make strong statements about changes in services between 1980 and 1986, but it appears that a lower percentage of households have access to kitchen and toilet, while the water situation might have improved somewhat.

Some notable problems of access to toilets exist for family housers and sub-renters. Furthermore, family housers score quite badly on access to water supply, probably the most expensive service to provide.

Figure 3.4: Households Without Access to Services



One of the main advantages of house ownership in Kumasi is enhanced access to services, at least 40 percent of owners having exclusive access to each and only small percentages having no access. Family housers and renters only rarely have exclusive use of services, but sub-renters show high percentages with exclusive use. This is undoubtedly due to the large proportion of the few sub-renters in government-built housing areas where the houses have exclusive services for the single household in occupation.

Environmental Conditions

The data in Table 3.1 are collected at house level. Thus, each household in the house scores the same environmental indicators regardless of their tenure. It is noticeable that owner households consistently have lower percentages affected by the selected environmental indicators than tenant households. This indicates that owners are more common in the houses with good environments.

Table 3.1: Household Environmental Indicators by Tenure

Selected Environmental Indicator.	Percent of Household with Problem			
	Owners	Family Housers	Renters	Sub-Renters
Major cracks in the wall plaster.	8	23	14	46
Overgrown vegetation close to the house.	14	20	25	4
Standing water close to the house.	18	33	25	46
Garbage evident close to the house.	22	35	40	55
Broken or absent gutters.	31	64	56	57
Eroded outdoor surfaces	38	72	66	69

Housing Supply

In 1986 there were approximately 22,000 houses in Kumasi with a total of about 220,000 rooms; this compares with about 21,000 houses in 1981 with about 176,000 rooms. Both these data are approximate and, therefore liable to error in either direction. However, the number of rooms per house in the sample has increased from 8 to a little over 10. Thus, although growth has been very slow, the number of rooms appears to be growing more quickly than the increase in houses would suggest. This suggests that extensions on, and intensified use of,

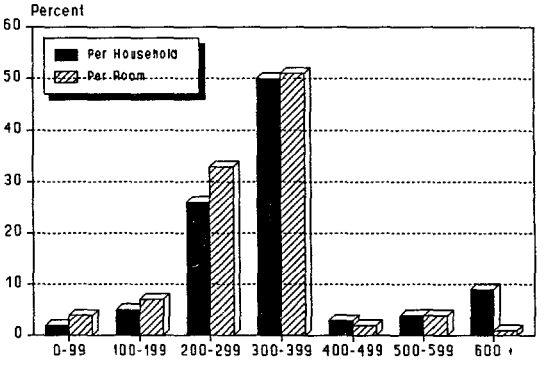
existing houses are providing much of the increase in the housing stock. Supply will be discussed in detail in Chapter 6.

D. Household Characteristics

Tenure

In this study households are divided into four tenure groups: owner-occupiers, renters, sub-renters, and family housers. The great majority (65 percent) of households in the city are renters. These households occupy rooms owned by a landlord, who may live on the premises, and pay to him a monthly rent and a proportion of the rates and service charges (for electricity, water and sanitation) which he pays in aggregate to the relevant agencies. A few households pay rent to someone other than the landlord - most probably either a renter who lets a room to them or an employer who pays rent to the landlord.

Figure 3.5: Monthly Rents



The great majority of renter households in Kumasi pay C200 or C300 per month rent: the controlled rent for a single room with shared facilities built in swish (C200) or cement blocks (C300). Although almost 18 percent pay monthly rent of more than C300 (almost all the C300 - 399 class pay C300), only 7.5 percent pay more than C300 per room. This is a similar pattern to that found in 1980 when the great majority of rents corresponded to the controlled rent for one room with shared facilities (C20) under the Rent Amendment Decree, 1979 (AFRC Decree No. 5) as discussed in chapter 2.

House Ownership and "Family Houses"

Outright ownership of a house is only enjoyed by a few households (9 percent), almost all of whom rent rooms to others. There is, however, a strong and apparently growing proportion of households who occupy rooms for which they possess some rights of ownership through their family. They represent 25 percent of the households in 1986 compared with 13 percent in 1980 (Tipple, 1984a and 1987a)). The basic unit of society in Asante is the abusua lineage, a group of people who share uterine descent from a common ancestress and who are ruled by a chosen senior male, the "abusua panyin" or elder. Within this matrilineage, a man and his children are separated but he is joined by his sisters' children. Until recent legislation (see Tipple, 1986) whose effects are as yet uncertain, all property (except for a few very personal items) possessed by members of a lineage passed on death to the lineage in general, under the stewardship of the abusua panyin. In this way, a house built by a lineage member becomes the common property of members of his lineage upon his death (see Tipple, 1984a, pp.152-3).

During their life, a man or woman in Asante traditionally has obligations to members of the lineage which are at least as great as his or her obligations to spouse and children. A house-owner cannot easily resist requests from lineage members for a room in his or her house. They have a right to a room, just as much as if they had already inherited it in common with other lineage members. In reciprocation, they would have obligations to their benefactor and an owner would increase in status by having them around. Indeed, the rent control legislation recognizes the importance of this system by allowing eviction of renters if a room is required for a family member. Thus, many family members live rent free either in a living relative's house or in one inherited in common. In this report they are referred to as "family housers".

Income and Consumption

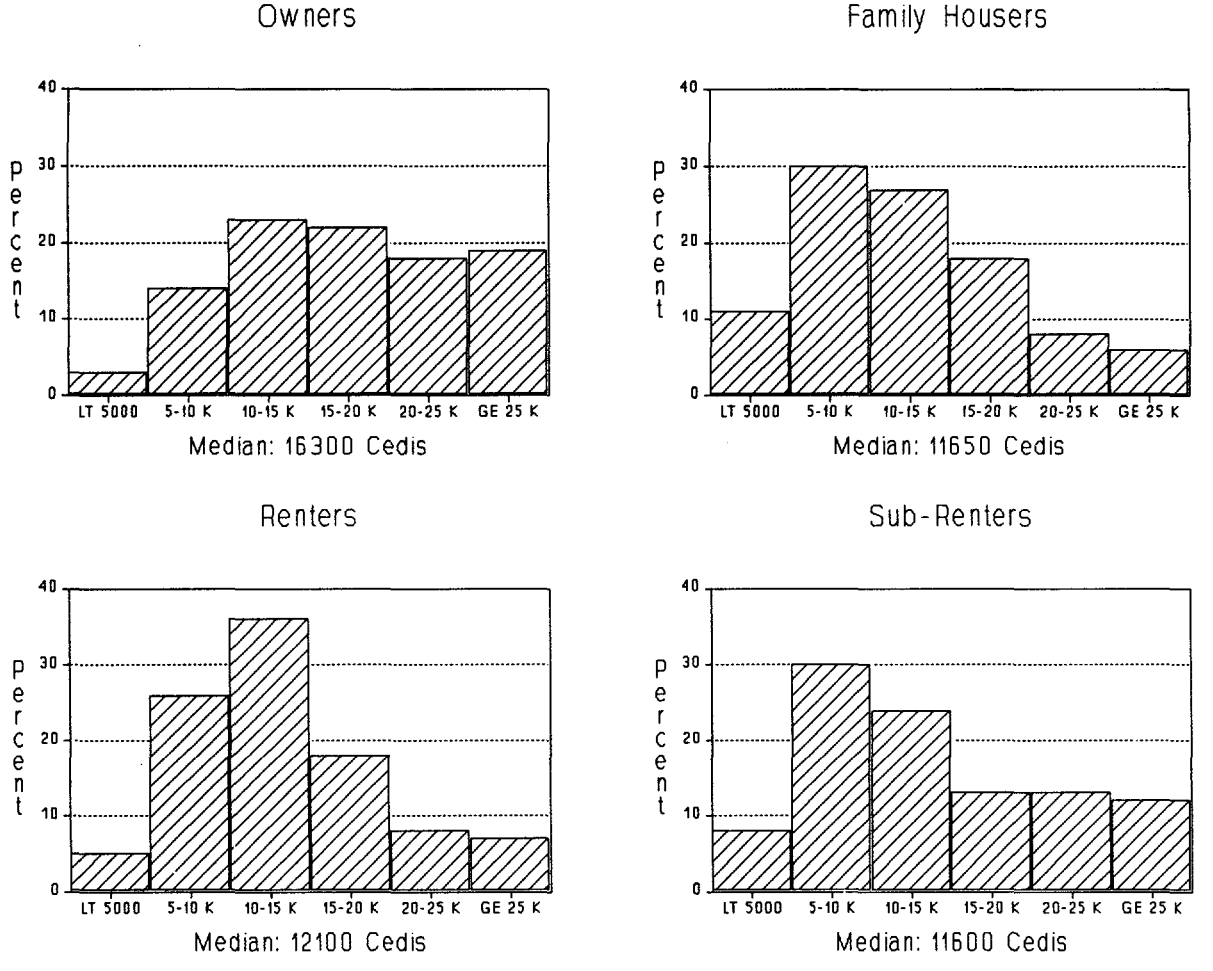
Data on income are very difficult to collect in Kumasi. Not only do people have formal earnings complicated by multiple allowances which can be anything up to five times as large as salaries, but also most households have income from informal activities, chiefly trading, in both cash and kind. As few households seem to pay their full liability for tax, especially on non-formal earnings, there is a great reluctance to tell the truth about income. Both the 1980 (Tipple, 1984a) and 1986 surveys found that incomes bore no relationship to consumption (in the 1986 survey, the median consumption to income ratio was 2 to 1). Thus, in the 1986 survey, data were gathered on household expenditure on food, transport, services (water, electricity, etc), rent or housing loan payments, and an "other" category. The aggregate of these is taken to be household monthly expenditure and acts as a proxy for income.

There are shortcomings in this approach, chiefly uncertainty about whether expenditure has been inflated and to what extent the "other" category has been accounted accurately; some non-sampling errors are unavoidable in social research collecting sensitive data on personal finance. However, the use of consumption has advantages as it is likely to represent permanent income more accurately than income data, and demand is more closely related to permanent than to short-term income (Malpezzi and Mayo, 1985).

The 1986 survey found median monthly consumption to be C12,500 ($140) per household and C3300 ($37) per capita. These can be compared roughly to estimates of consumption from National Income Accounts. The Bank's World Development Report reports that average per capita income was US$ 390 in 1986, and that consumption was 82 percent of GNP. Adjusting for household size and converting to monthly figures yields a crude monthly household consumption of US$ 120. We would expect Kumasi's consumption to be somewhat higher than the national average.

Owner households have a higher median monthly consumption (C16,300) than any other tenure group but this cannot be regarded as high enough to set them apart as a separate class. Furthermore, their larger household size (see below) reduced their per capita consumption to C3100, almost C400 lower than renters. Figure 3.6 presents the distribution of consumption by tenure. Not surprisingly, owners' consumptions are generally higher. The other three groups -- renters, family housers and sub-renters have roughly similar distributions.

Figure 3.6: Total consumption expenditures by Tenure



There are some variations by tenure; owners have higher mean and median consumptions than any other group and they are more concentrated in the higher consumption classes. Family housers have very slightly lower consumptions than any other group but their distribution is not dissimilar from that of renters. However, when consumption levels, even for owners, are converted to hard currency, they constitute very little purchasing power. The owners' mean monthly consumption of C19,600 only represents US$220 at the official exchange rate in 1986.

Looking at the data another way, there is a positive correlation between household consumption and house-ownership. Whereas only 5 percent of all households in the lowest group are owners, 22 percent in the highest group are owners. This is close to the distribution of consumption within the owner group. However, while 11 percent of family housers are in the lowest consumption group, they constitute 42 percent of all the households in that group; at the other end, they are only 19 percent of the households in the highest consumption group.

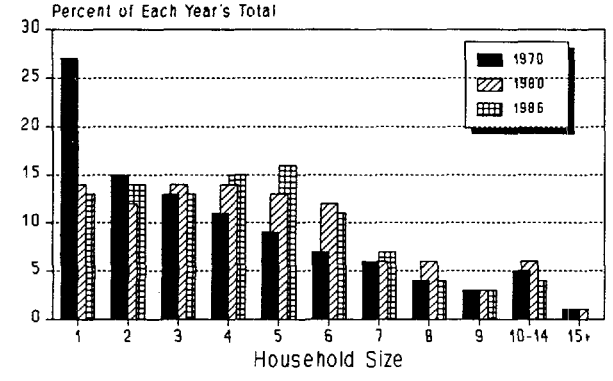
Although household consumption in Kumasi is low by international standards, the size of households (discussed below) leads to even lower per capita

consumption per month. Mean monthly consumption per capita is only C4,200 (US$47); the median is even lower at C3,300 (US$36).

Household Size

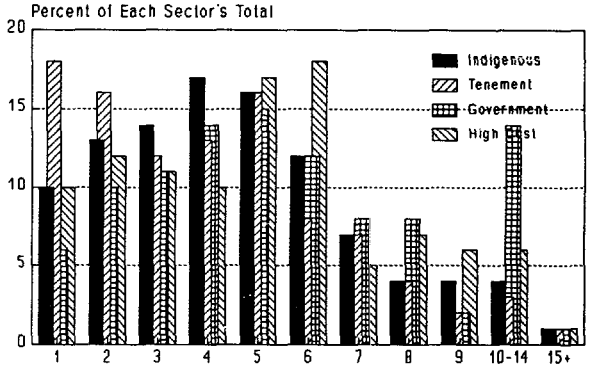
There is a wide spread of household sizes in Kumasi around the mean of 4.5 persons. It is noticeable that there is a very gradual fade in frequencies above six persons, the largest household encountered had 52 persons. The extended family household is still common. Coresidential polygamy is evident in moslem dominated areas while polygamous Akans tend to separate their wives in different households, often in different houses.

Figure 3.7: Household Size, Selected Years



Means: 1970, 4.0; 1980, 4.8; 1986, 4.5
Sources: Ghana (1978), Table 5; Tipple (1987a), Table 18; 1986 Survey

Figure 3.8: Size Distribution by Sector



Means: Indigenous 4.5; Tenement 4.2; Government 5.7; High Cost 5.0; Total 4.5

Households tend to be larger in the government sector than elsewhere. This is consistent with the 1980 data (Tipple, 1984a and 1987a) but the 1986 sectoral mean of 5.7 is considerably lower than the 1980 mean of 6.7 persons. Furthermore, whereas in 1980 the high cost sector had almost as large a mean size of 6.5 persons, this is reduced to 5.0 in the 1986 sample. In the 1980 data, this sector had a completely different distribution from all the other sectors with no single persons and only 1.6 percent two person households. The 1986 high cost sample is much closer to the other sectors. The change may be a result of sampling differences or it may reflect the way rents in the high cost sector have been kept low by the indirect effect of rent control. In an increasingly tight housing supply, the high cost sector appears to be losing its identity as the home of a select group and becoming integrated within the city as a whole.

There has been a very slight reduction in the mean household size in Kumasi between the 1980 and 1986 surveys, from 4.8 to 4.5.

It would, perhaps, be expected that "modernization," increasing urbanization, and an increase in availability of birth control might together have reduced the proportion of large households. In fact, the percentage of households with more than six persons has been holding fairly steady with 18 (1970), 21 (1980) and 19 (1986).

In contrast, there has been a significant decline in the percentage of single person households. These have decreased from a dominant 27 percent in 1970 to only 13 percent in 1986. This represents a potentially important change in household organization which needs some explanation. Asante traditional marriage is non-coresidential. The husband and wife do not become a joint corporation, united in residence and economies. Obligations to their respective (and separate, as marriage is exogamous) lineages do not diminish on marriage. It is traditional for a man to live separately from his wife, in a different house, where she joins him for conjugal relations and to which she may send some of his meals. This arrangement is perceived to give the woman more economic freedom than coresidential marriage and enables polygyny without internal domestic problems. While this practice is now less than universal, it is still prevalent and, according to a survey by Diko (1981) in Bantama (close to Kumasi city center), desired by many married men and women. This survival of a traditional norm is consistent with other features of Asante life where tradition is very tenacious, especially during the economic hardships of the last decade (see Tipple, 1983; 1984a; and 1987b for further discussion of the survival of traditional values). It has been argued elsewhere (Tipple, 1984a and 1984b) that the increasingly constrained housing supply in Kumasi has, over the last two decades, reduced the ability of men to move out of the marital room and in to a room by themselves.[2/] This is reflected in the dramatic reduction in single person households not only as a proportion, but also in real terms. The 1986 data only reinforce the previous observations.

It should be noted in passing that those married men who live unwillingly in the same rooms as their wives and children represent a potentially large reserve of latent households. Thus, should the housing stock be increased significantly in the future, there is a strong likelihood that at least some of the new rooms will be filled by newly liberated, single person households. The difference this could make has been discussed in Tipple (1984a and 1984b).

Households have the ability to decamp some members at night to ease the problem of crowding. In a city where traditional ties remain strong, it is quite common for male children to go and sleep in the room of a mature brother or an uncle, or female children with a mature sister or an aunt. The difference this makes to the size of households is seen by comparing the total size with the co- resident size, as can be seen from Annex Table 3.8.

There may have been a very slight reduction in household size since 1980, although the difference is insignificant.

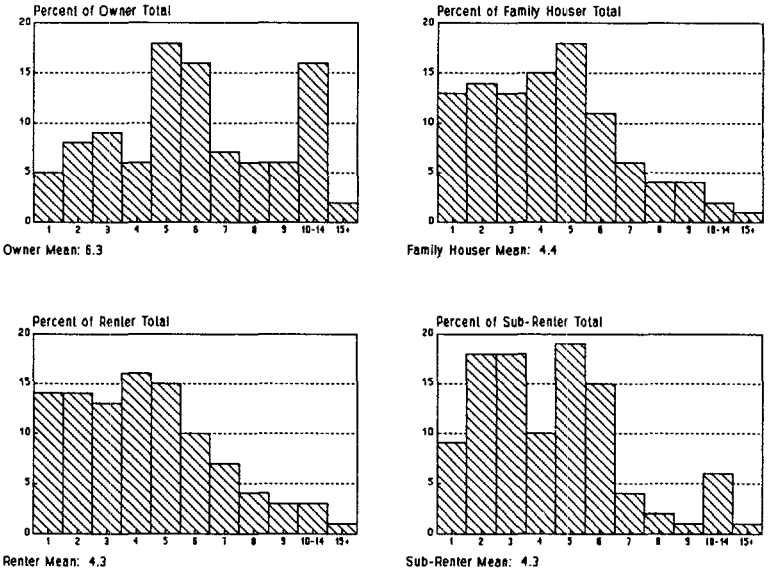
2/ Another reason might be the poor economic conditions 80-86 that might have lead to reduced migration (thus, a reduction in the number of young men).

Household size by tenure

Table 3.2: Household Size by Tenure

Tenure	Persons per household. 1	2	3	4	5	6	7	8	9	10-14	15+	All Sizes	Mean
Owner	5	8	9	6	18	16	7	6	6	16	2	100	6.3
Family H'ser	13	14	13	15	18	11	6	4	4	2	1	100	4.4
Renter	14	14	13	16	15	10	7	4	3	3	0	100	4.3
Sub-renter	9	18	18	10	19	15	4	2	0	6	0	100	4.3
Total	13	14	13	15	16	11	7	4	3	4	0	100	4.5

Figure 3.9: Household Size by Tenure



It is evident from Table 3.4 that owner households differ quite markedly from those of other tenures. While, in general, approximately 40 percent of households in Kumasi have 1 to 3 members, only 22 percent of owner households follow this pattern. At the other end of the scale, while only 19 percent of households have 7 or more members, 38 percent of owner households are in this category.

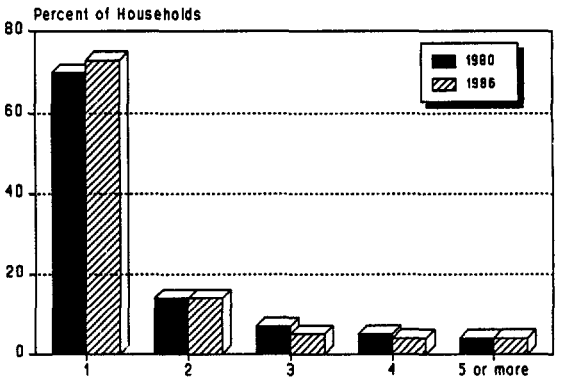
Rooms occupied

Households in Kumasi typically occupy one room. Only a little over one quarter of households have more than one room, and only 13 percent have more than two. Most households have access to a veranda or an open, roofed area in front of their door, used as semi-private space. While no detailed data are available on room sizes in the sample, Houlberg and Nimako (1973) found that most rooms in their sample in Atonsu-Agogo (an area in the indigenous sector on the south side of Kumasi) were between 12 sq.m. and 20 sq.m. with a mean of 13 sq.m. They found that owners enjoyed 50 sq.m. floor space per household and 7 sq.m. per capita while renters only had 15 sq.m. per household and 4 sq.m. per capita.

Data presented in the appendix show that owners have more rooms per household (average 2) than any of the other tenure groups (average from 1.3 to 1.7). This is especially noticeable in the rarity of owners only occupying a single room, whereas this is modal for other tenure groups. Family housers and sub-renters benefit from more than one room more frequently than renters, but

probably for very different reasons. The former have rights similar to owners and can, therefore, have some control over allocation of rooms in their house. The latter tend to be concentrated in the government-built sector where rooms are arranged to open off each other rather than having individual access from a courtyard. Renters are overwhelmingly confined to single roomed accommodation.

Figure 3.10: Rooms Occupied



Means: 1980, 1.7; 1986, 1.6

Occupancy rates

Less than half the households in Kumasi enjoy occupancy rates of less than 3 persons per room while about 16 percent have more than 6 persons per room. Mean occupancy rate continues to be in excess of 3 persons per room. Alongside data from other African cities (for example in Peil and Sada, 1984), Kumasi has a relatively high occupancy rate. The distribution in 1986 is very similar to that of 1980.

Table 3.3: Mean Persons per Room by Tenure, 1980 and 1986

Tenure	1980	1986
Owner	2.6	2.7
Family Houser	3.4	3.2
Renter	3.4	3.5
Sub-renter	2.9	3.1
Total	3.3	3.3

There is a high degree of consistency between 1980 and 1986 occupancy rates, following from a more substantial increase in the number of rooms than would be expected from the increase in houses. Furthermore, the distribution between tenure groups is very similar to that of 1980. It is evident that owners continue to enjoy lower occupancy rates than any other tenure group. Conversely, family housers do not share the benefits of outright owners, being closer to the renter groups in their occupancy rates.

More than half the households in Kumasi are overcrowded using a threshold of 3 persons per room. However, owner households have to cope with overcrowded conditions more rarely than the other tenure groups, and much more rarely than renters for whom some measure of overcrowding is very common.

Rents by Consumption Quartile

Table 3.4 presents a key breakdown, of rents and rent-to-consumption ratios by consumption quartile. The means, first and third quartiles (Q1 and Q3) and medians are calculated and presented within each consumption quartile. In Table 3.4 and in this paper, rents are generally expressed in Cedis per month. The

lack of variation in rents is striking, within and between groups. Chapter 5 will present additional key tabulations of rents, as well as a simple demand model.

Table 3.4: Rents by Consumption Quartile

Consumption Quartile	Rent	Consumption	Rent-to-Consumption
Lowest Quartile			
Mean	253	6,358	.04
Q3	300	8,000	.05
Median	300	6,810	.04
Q1	200	5,200	.03
Second Quartile			
Mean	323	10,722	.03
Q3	300	11,495	.03
Median	300	10,730	.03
Q1	200	9,900	.02
Third Quartile			
Mean	387	14,539	.03
Q3	300	15,689	.02
Median	300	14,425	.02
Q1	250	13,393	.02
Highest Quartile			
Mean	599	25,201	.03
Q3	500	26,468	.02
Median	300	21,920	.01
Q1	300	19,393	.01

Summary of Key Data by Tenure

Table 3.5 presents a final summary of some key data by tenure. Key points include the following. Most households are renters; both owners and family housers stay in place longer than renters and sub renters. Owners have higher consumptions than the other groups. Most renters, and sub renters, pay between 200 and 300 cedis a month rent. Even given low consumptions, rents in Kumasi are very low, on the order of 2 percent of consumption. More detailed comparisons will be made later in the paper.

Table 3.5: Summary Descriptive Statistics

	Tenure (percent)	Median length of stay (years)	Median monthly consumption (Cedis)	Median monthly rent (Cedis)	Median Rent to consumption (percent)
Owners	10	16 (8, 26)	16300 (11100, 24100)		
Family housers	25	16 (8, 28)	11700 (8000, 16300)		
Renters	62	8 (4, 16)	12100 (9400, 16900)	300 (200, 300)	2.3 (1.7, 3.4)
Sub-renters	3	6 (2, 18)	11600 (7780, 20150)	300 (300, 300)	3.9 (2.7, 5.7)

Notes: Numbers in parentheses under medians are the first and third quartiles of the distributions; family housers are households living rent free in a house belonging to family members.

IV. ECONOMIC ANALYSIS OF RENT CONTROL: THEORY

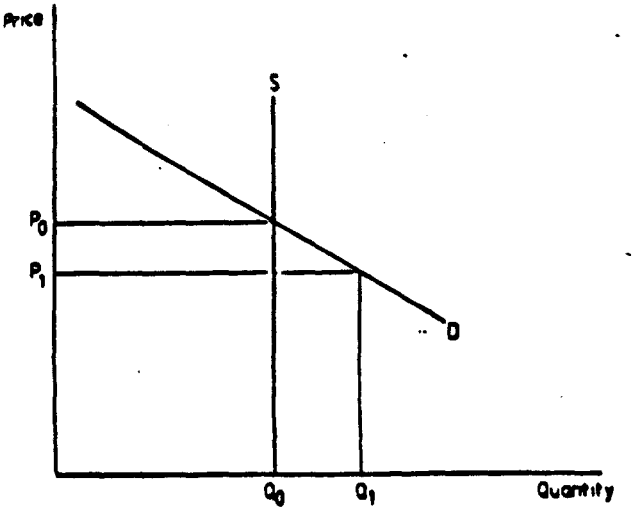
A. Introduction

This chapter outlines the economic analysis and theory of rent control to provide a perspective and prelude to the empirical results from the economic model of the effects of rent control in Kumasi, reported in the next chapter.[1/]

B. Analysis of Rent Control as a Tax on Housing

Simple rent control, ignoring dynamic price adjustment mechanisms, is usually viewed as a tax on the return to housing capital. Such a simple model of rent control as price control, where the price per unit of housing charged by landlords is reduced by administrative fiat, is depicted in Figure 4.1. Rent control is represented as a move from price (rent) P0 to P1. If rather than being reduced, rents are frozen at existing levels, then price inflation, as has occurred in Ghana, leads to a similar divergence between equilibrium and controlled prices.

Figure 4.1: Rent Control as Effective Price Control



In the short run the housing stock is fixed at Q0, i.e. the supply of housing S is perfectly inelastic, but at P1 there now exists excess demand (Q1-Q0). Previously the available units only went to buyers who valued them at P0 or above. But now price has been reduced to P1, demand has risen to Q1. Demand exceeds supply. We do not know precisely how suppliers will allocate the available supply between demanders in Kumasi. The work of Price (1971) and others suggests that few transactions in Ghanaian society are wholly economic; personal relationships are established as part of the negotiation and used as levers by both or either side. Rooms are never advertised; there are no real estate agents, all prospective tenants must keep constant vigilance and use as many personal contacts as possible to obtain information about, and tenancy of, rooms falling vacant. In these circumstances, it cannot be doubted that ethnicity and extended family factors are important.

The divergence between P0 and P1 also provides a strong incentive for the development of key money system, where amortised key money makes up the

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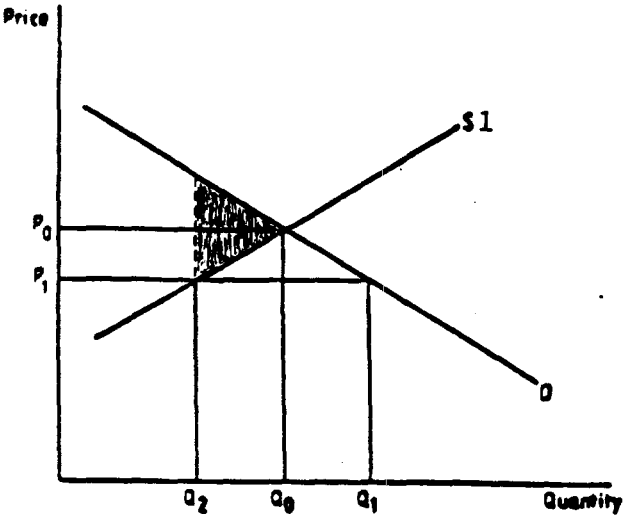
1/ Longer reviews of the literature can be found in Malpezzi (1986) and Malpezzi and Rydell (1986). See also the recent special issue of the Journal of Real Estate Finance and Economics devoted to international experience with rent controls (Volume 1, No. 3, November 1988).

difference (P0Q0-P1Q0). However, such a feature neither appears to be a strong nor broad force in the Kumasi housing market. Although advance rent payments are now common (see chapter 2), only commercial rooms attract a form of key money known as "goodwill." However, advance payments exhibit features of key money in the sense that they increase the present value of the landlord's receipts. The precise impact in terms of payments over and above official controlled rent will depend, as in amortization calculations, on the real interest rate and the period for which the advance rent is paid. But up to 1986 typical advance rent payment covered about one year ahead.

In the longer run, the supply schedule has more elasticity (S1) (Figure 4.2), and so if key money or advance payments have not become an effective equilibriating mechanism (because of strict enforcement, or simply because low incomes and poor capital markets make it difficult for many renters to finance key money or advance payments) then landlords simply decrease the quantity of housing services supplied to Q2. Some houses are demolished early, others are transferred to owner occupation (both of these factors are very rare in Kumasi), or transferred to alternative land-uses (commercial premises), and new starts are forgone.

Figure 4.2: Rent Control with Elastic Supply



Rent Control as Expenditure Control

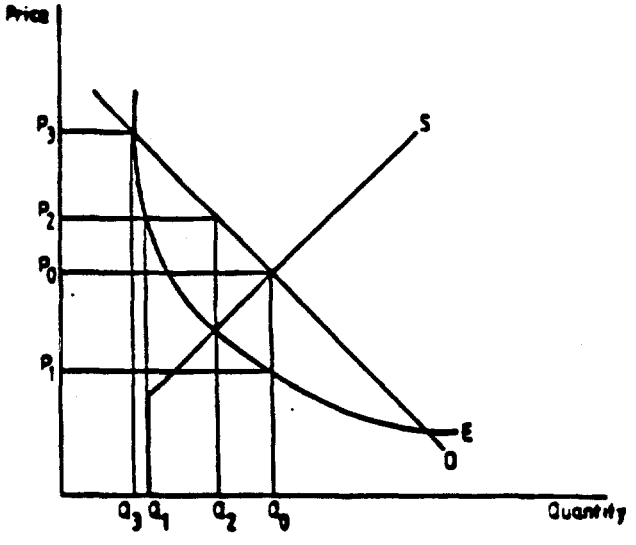
An alternative view of rent control is to model it not as a price control but as an expenditure control, following Olsen (1969) and Frankena (1975).

In this model, rent control initially lowers real rents to P1 (Figure 4.3) from P0. Rent is fixed at P1Q0. While supply is inelastic in the short run at Q0; in the intermediate run, landlords have some latitude to vary the quantity of housing services available in the market as represented by the supply curve S.

Real world rent control regimes fix rents, not the price per unit of housing services. Specifically, for rental expenditure fixed at P1Q0, landlords are constrained by the rectangular hyperbola E, the locus of all combinantions of housing services and prices yielding expenditure numerically equal to P1Q0. To prevent reductions in unit housing services and quality, continual reassessment of controlled rents in the light of the landlord's maintenance policy would be required to prevent the implied price per unit of housing service rising above P1. Downward filtering could be prevented if rent control were re-inforced with the introduction of heavy fines in the event of deterioration of the landlord's housing stock (Ricketts, 1981), but this is a judgement fraught with evidentiary problems. Such a strict rent control regime, based upon unit housing services, has not been adopted in real world housing markets.

Indeed, the final price per unit of housing services can exceed the original uncontrolled price. Thus landlords may reduce the unit supply of services to Q1 during the intermediate period, but charge P2Q1. Again, under this model there is excess demand for housing. However, under the expenditure control model, the demand curve is not relevant for determining the new equilibrium. The demand curve indicates how much buyers want given that they can buy all that they can pay for at a fixed price per unit of housing service. Clearly this condition is not met under the expenditure model of rent control (Olsen, 1987).

Figure 4.3: Rent Control as Expenditure Control



The existence of an alternative housing market (e.g. owner occupier or government owned sector) would further complicate this analysis, in that the existence of such sectors may limit prices to P0, since if prices rise further households will switch sectors.

C. Dynamic Models of the Effect of Rent Control on Maintenance

Rent control over a long period is generally assumed to result in reductions in the quantity of housing services supplied. Dynamic models of profit maximising landlords have provide some insight into this process (Malpezzi and Rydell, 1986). Studies in this area view the time path of real rent falling by a rate of general price inflation not offset by maintenance in the rent controlled market (Moorhouse, 1972). Rent control reduces maintenance on the housing unit, ceteris paribus (Kiefer, 1980). However, the scope for maintenance adjustment may vary in different markets, and with the age of the house and its construction type, so that depreciation rates can vary widely between areas (Malpezzi, Ozanne and Thibodeau, 1987). However, if a rent ordinance increased the rent ceiling if the unit is upgraded and decreased it if the unit is allowed to deteriorate, it can be shown that, if the rewards for upgrading and the penalty for downgrading are sufficiently large, the housing unit will be better maintained under rent control (Olsen, 1983; Olsen, 1987).

D. The Relationship Between Controlled and Uncontrolled Markets

Several papers have addressed the potential effects of a price control on a related, though nominally uncontrolled, market. Needleman (1965) was among the first to note the possibility of a price control covering part of a market price in a related market, though he presented no formal model. Gould and Henry (1967) demonstrated that price controls can increase or decrease the price of a substitute. However, their model cannot be directly applied to the housing

market, because it assumes households consume some of each of the two substitutes. The most thorough treatment of the possible effects of rent controls on related uncontrolled markets is the recent paper by Fallis and Smith (1984).

Fallis and Smith actually develop two related models, one for rent control regimes which exempt new units from price controls, and one for regimes with vacancy decontrol provisions. Their short-run models predict that under most conditions excess demand spills over into the uncontrolled market, and, in the short run, driving up the uncontrolled price. In the long run, they implicitly assume an elastic supply function that implies a reduction in the quantity of housing services from the controlled sector, and an expansion in the uncontrolled sector, narrowing the wedge between prices.

They also present an empirical test of the model using data from Los Angeles (1969-1978). Following Rosen and Smith (1983), they assume that there is a straightforward relationship between rental rates, R, operating expenses, E, and the vacancy rate, V, estimated as:

$$\dot{R}_t = \underset{(3.30)}{-6.25} + \underset{(1.64)}{.078\,\dot{E}_t} + \underset{(4.12)}{34.09\,(1/V_t)} + \underset{(3.10)}{26.49\,(1/V_{t-1})}$$

where dots indicate time derivatives and t-statistics are in parentheses. Rent control was introduced in Los Angeles at the end of this period, 1978. The estimates are used to forecast what rents would have been in the absence of controls, and the forecast compared with rents in the controlled and uncontrolled sector. After two years, controlled rents had risen by 10 percent less than the forecast, and uncontrolled rents by 22 percent more, confirming the hypothesis that rent control increases prices in the uncontrolled sector in the short run.

E. Two Approaches to Measuring Costs and Benefits

In light of the above, what empirical approach will we take to measuring costs and benefits in Kumasi? As noted earlier we will present two alternative approaches to measuring the static costs and benefits of controls. The first and simplest static model estimates the difference between actual housing expenditures and what we'd expect them to be in the absence of controls, using a cross country model calibrated with uncontrolled markets. The simple method does not decompose expenditure into prices and quantities, but it does have the advantage of yielding information about the effect of rent regulation on the "uncontrolled" market (to be defined below). The second method does estimate prices and quantities, using the method of hedonic indexes.

Cost-Benefit Using a Cross-Country Model

The first, simple approach can be expressed without any jargon with the following two questions:

(a) What do households pay for rental housing under controls?

(b) What would they pay in the absence of controls?

The answer to the first question is directly observable from a survey. Obtaining an answer to the second is the tricky part. Malpezzi and Mayo (1985, 1987a, 1987b) have developed a cross country model of housing demand which can be used to estimate rents paid by typical households at a city at a given level of development in the absence of controls.

This simple model does not answer some interesting questions. For example, what effect does rent control have on the rents for particular kinds of units? What are the consequent costs to owners of these units? How much do households value the reduction in rent from controls? What is the "transfer efficiency" of controls (i.e. the ratio of tenant benefit to landlord cost?) The next few pages present a more sophisticated model that can answer some of these questions.

Cost-Benefit Using a Model Similar to Edgar Olsen's

The second method is similar to that used by Olsen (1972) in his econometric analysis of rent control in New York.[2/] It is assumed that there is an uncontrolled housing market as well as a rent controlled market. The quantity of housing services provided by a unit reflects all of the characteristics associated with the unit: size, amenities, appearance, location and physical features. Thus the rent of any unit reflects all the characteristics associated with housing. Differences in rent in a non-controlled market would thus reflect differences in services associated with the good.

The costs and benefits of rent control can be assessed by comparing the controlled situation with the non-controlled situation. One way of implementing this with-without perspective is to estimate how much controlled units would rent for in the absence of controls, and consider the difference between that rent and the observed controlled rent as the cost imposed on the landlord and, conversely, the transfer to the tenant.

These transfers lead to changes in producer's, but more importantly consumer's surpluses, resulting from the existence of controls, as can be seen in Figure 4.3.

With an uncontrolled rent per unit of housing service, Pm, households would consume Qm units of housing service, and pay a rent PmQm. The immediate

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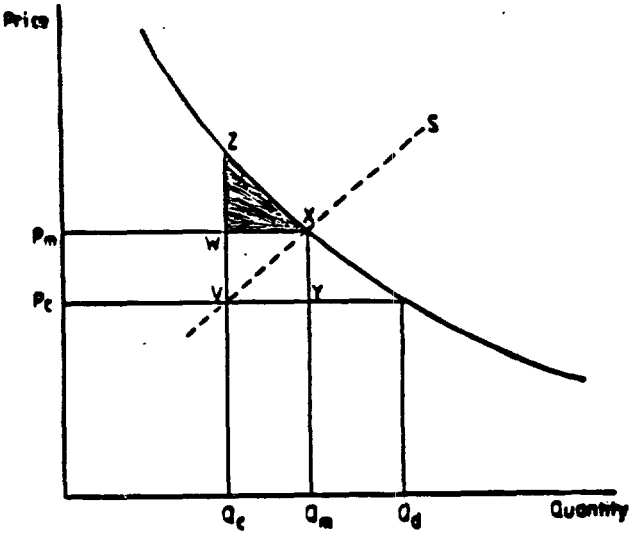
2/ For convenience we refer to this as the Olsen model because his 1972 paper was (to our knowledge) the first published study to analyze rent controls with such a model. Olsen cited the work of De Salvo (1975) and others as antecedents; similar models and extensions have been applied to housing market policies and programs of various kinds, e.g. Murray (1978), Mayo (1981), Schwab (1985) to name but a few. Malpezzi (1986) and Struyk (1988) apply variants of the model to rent controls in Cairo and urban Jordan, respectively.

effect of rent control is to reduce rent to PcQm. Thus the consumer spends (PmQm - PcQm) more on non-housing goods.

Figure 4.4: Rent Control and Consumer's Surplus



At price Pc the consumer would demand Qd units of housing services. However, under real world rent control regimes, landlords have no incentive to increase the flow of housing services to Qd; and indeed as landlords filter housing downwards, tenants are likely to end up consuming Qc housing units. Households will find it more difficult to obtain and move to a suitable unit. Households will systematically consume "off their demand curve."

With rent control expenditure on the units is reduced to PcQm. In the short run, price control has no effect on supply. But it has a profound effect on the allocation of supply between demanders. Previously the available units only went to renters who valued them at Pm or above. But now that price has been reduced to Pc, demand has risen to Qd. Demand exceeds supply. We do not know in detail how owners will allocate the available units between renters. But there is evidence to suggest that family and own use occupation has risen in Kumasi. However the allocation is done, the total market value of the available units to consumers (renters or owners) will be less than the value before price control.

If housing is filtered to Qc, there is a further efficiency cost since supply will be altered: i.e. there is an additional loss of producer surplus (WXV). Thus the triangle ZVX is a minimum estimate of the welfare cost of price (rent) control.

This geometric exposition illustrates the basic method quite well, but an algebraic generalization is better suited for actually estimating the size of welfare gains and losses using a sample. It can be shown that if the price elasticity of demand is constant, the benefit of a program which changes prices and quantities can be written as:

$$\text{Benefit} = \left(\frac{1}{P_m Q_m}\right)^{1/b} \left(\frac{b}{b+1}\right) \left[Q_c^{\frac{b+1}{b}} - Q_m^{\frac{b+1}{b}} \right] + P_m Q_m - P_c Q_c \qquad [1]$$

where

Benefit = cash equivalent value, a measure of change in consumer's surplus

Qm = predicted housing consumption in the absence of rent controls

Qc = housing consumption under rent controls

PmQm = estimated rent in the absence of controls, also denoted Rm

PcQc = observed controlled rent, also denoted Rc

b = price elasticity of demand.

In the special case where the price elasticity of demand, b, is equal to -1, the expression b/(b+1) is undefined. But it can be shown that in this special case the benefit can be expressed using natural logarithms as:

$$\text{Benefit} = PmQm\,[\log(PmQc) - \log(PmQm)] + PmQm - PcQc \qquad [2]$$

These two related equations will be the centerpiece of the empirical analysis in the next chapter. The benefit may be thought of as composed of two parts. The first is comprised of the two terms to the right of the brackets in equations [1] and [2]. This is simply the additional spending on non-housing goods brought about by paying a rent Rc (=PcQc) rather than Rm (=PmQm). This simple difference between market and controlled rents, Rm - Rc, is often used as an approximation to tenant benefits from the imposition of controls. But this simple benefit measure does not take into account how households value changes in housing consumption in addition to changes in disposable income. The second, comprising the terms in parentheses and brackets in the two equations, depends on the difference in housing consumption with and without rent controls. But whereas in the simple benefit measure (Rm - Rc) an extra dollar of non-housing is counted as being worth exactly one dollar to the tenant, in the benefit measures [1] and [2] extra housing is discounted based on the tenant's relative preference for housing vis- a-vis other goods.

The measures in [1] and [2] do not include all possible costs and benefits to tenants. For example, rent control may increase transactions costs for tenants, including search costs (Clark, 1982), and increase waiting time for housing units (the cost of which to tenants may be considerable, see Willis, 1984). All of these will reduce the benefits to tenants, but the full system may also increase the bundle of property rights, such as security of tenure, enjoyed by tenants thus increasing their benefits in this area. The above measures [1] and [2] are then better approximations of benefits than Rm - Rc, but they are still approximations.

The cost imposed on landlords is straightforwardly approximated by PmQc - PcQc, or the difference between controlled and market rents for the unit inhabited by the tenant. This measure of cost to landlords does not include losses from prior accelerated depreciation of the unit. However, this could be regarded as a saving in maintenance costs, which would generate benefits elsewhere, perhaps equal to the opportunity cost forgone. The cost to landlords would also include losses from the uncompensated transfer of property rights to renters. Thus, the true costs to landlords may therefore exceed the (PmQc - PcQc) estimates.

Estimating these costs and benefits requires four pieces of information for each consumer:

(a) the rent currently paid for the current controlled unit, PcQc;

(b) the rent that the current unit would rent for in the absence of controls, PmQc;

(c) the rent that the household would pay if they were at their equilibrium demand at market prices, PmQm;

(d) the price elasticity of demand for housing, b.

The section on empirical implementation below explains how these were constructed in some detail, for the Kumasi housing market. Briefly, PcQc can be observed directly from a sample of controlled households. PmQc will be estimated using the method of hedonic indexes, described below, which uses information from an additional sample of housing units rented at (as near as possible) market prices. PmQm will be estimated using two alternatives: (i) the cross-country model of Malpezzi and Mayo, and (ii) a demand relation from a sample of households facing (as near as possible) market prices. The M&M model will also be used to examine the net effect of controls on prices in the "uncontrolled" market. The price elasticity, b, will be a parametric assumption based on other studies. While each of these methods has potential problems, sensitivity analysis will give us some idea of the confidence we can place in these results.

V. ESTIMATES OF THE COSTS AND BENEFITS OF CONTROLS

A. Introduction

Once again, two separate approaches will be taken to estimating costs and benefits. The first, simpler approach will be based on the difference between actual controlled rents and rents predicted by the cross-country model of Malpezzi and Mayo. The second approach will be based on the Olsen cost-benefit model. The parameters used to derive the first set of estimates were taken from Malpezzi et al., and were presented in the previous few pages. The parameters for the second set will be derived here from the household survey data. Each will be compared to the actual current rent paid, PcQc.

Recall that the simple model requires two basic pieces of information:

(a) the rent currently paid for the current controlled unit, PcQc;

(b) the rent that the household would pay if they were at their equilibrium demand at market prices, PmQm.

The empirical estimation of the Olsen model discussed in the previous chapter requires four pieces of information:

(a) the rent currently paid for the current controlled unit, PcQc;

(b) the rent that the current unit would rent for in the absence of controls, PmQc;

(c) the rent that the household would pay if they were at their equilibrium demand at market prices, PmQm;

(d) the price elasticity of demand for housing, b.

Note both methods require PcQc and PmQm. For both we use the household survey data for PcQc, but we use the cross country model to estimate PmQm in the first instance and demand estimation using a sample of "uncontrolled" Ghanaian renters to estimate PmQm in the second.

The rest of this chapter is organized as follows. First we will describe how we estimate or otherwise arrive at the components just described: PcQc from the household survey; PmQm from a cross country model of housing demand; PmQc using the survey and the method of hedonic indexes; and an alternative measure of PmQm using the survey and demand estimation; and finally the price elasticity of demand. Then we will present the static cost benefit estimates, and evidence about their distribution.

Given the rather extreme results presented earlier, i.e., that typical rents are less than two percent of total consumption, and that a month's rent is roughly equivalent to the price of a loaf of bread, readers may reasonably ask the following questions:

> Why even bother with such statistical analysis? Isn't the demonstration that rents are so low sufficient? What could be gained from further analysis?

There are three answers to these questions:

(a) While the result that rents are very low is obviously robust,[1/] we would prefer a standard for comparison with basis in fact or theory.

(b) Also, the simple (implicit) comparison of observed rent to income ratios with similar statistics from other markets, controlled or uncontrolled, or with mere notions of what is a "reasonable" fraction, tell us nothing about the relationship between costs and benefits, or their incidence.[2/]

(c) Finally, Kumasi is one of several markets being studied in the larger research project, and there is a return to estimating costs and benefits in as comparable fashion as possible.

A related point is that by estimating such models in rather extreme circumstances we learn more about the robustness of the models. We have already noted that we will actually estimate costs and benefits using two related models. Neither is free from problems or criticism. But given the very low rents in Kumasi virtually all of the qualitative conclusions of the paper in the following chapters stand given any likely change in quantitative estimates.

B. Choice of Reference Group

Perhaps the single most difficult empirical problem is choosing a reference group. It must be reasonable to assume that they are enough like the controlled group that they are comparable--or can be made so statistically. It must be reasonable to assume that rents are not so distorted in the reference group by the presence of controls that they are unreliable guides to rents in the absence of controls--or that a good adjustment can be made for that distortion. Here we note the following:

1/ Three hundred cedis is roughly the price of a loaf of bread (admittedly a nicer loaf than is readily available in the U.S.). An express airmail letter from Ghana to the U.S. requires 200 cedis postage.

2/ As noted above, the models in this chapter are comparative static models. Dynamic costs of controls could be quite large, and are discussed in the next chapter.

(a) Regression analysis is, in fact, a statistical method which enables analysis of "treatment" and "control" groups which are not identical.[3/]

(b) One possible problem is that households in the reference and control groups are systematically different in their demand for housing; Malpezzi (1986) has found such selectivity bias does not make much difference in Cairo, but Caudill et al.(1987) found it did make some difference in Vancouver. We can use a simple correction from Olsen (1980) to test for selectivity bias in our results.

(c) As noted earlier, rent controls can, under some circumstances, affect rents in the uncontrolled sector. But the cross country model of housing demand can be used to test for and, if necessary, correct for such a problem.

There are several variables in the survey which could be used to estimate the market rent of the unit in the absence of controls:

(a) rent charged on rooms let in the house for commercial purposes.

(b) landlords' estimate of market rent;

(c) landlords' estimate of the replacement cost of the unit;

(d) rent paid on units in the high cost sector

(e) key money and/or advance rent paid in addition to rent in the controlled sector;

(f) rents paid for units which are renting for greater than controlled rents (are demonstrably "uncontrolled.")

None of these is without problems. After examining the data we chose alternative f (with some modification, discussed below). Each of the potential methods will be discussed briefly here.

Rent charged for rooms let in the house for commercial purposes was quickly rejected as an appropriate vehicle to assess market rent in the absence of controls. There were a very small number of observations in this category (N=15), although the average maximum commercial rent paid was C590 (median C400) compared to mean room rents of C340 per room (median C300) per month. Landlords also reported what they thought would be a minimum commercial rent. This was C220 per month (N=6 and median of C300). Apart from problems of interpreting commercial rents as proxies for residential, the small number of observations caused us to drop this option.

3/ See any intermediate statistics text for a more detailed explanation.

The landlord's estimate of market rent was also rejected. The average monthly rent was estimated to be C340, the same as the actual average house rent per room (medians C200 and C300 respectively). We believe that the simple way the contingent valuation question was framed did not control for possible biases such as strategic, hypothetical, information, instrument and starting point bias (see Schulze, d'Arge & Brookshire, 1981; Boyle, Bishop & Welsh, 1985). There were also few responses.

While replacement costs comprised a reasonable number of observations (N=131), preliminary hedonics on the landlord's estimate of replacement cost produce low R squared values (less than 0.13 for all houses) and disaggregating by sector produced very low numbers of observations. Moreover, the data were heavily skewed towards low replacement estimates which were unrealistic in terms of known building costs. Finally, in any market rents are not simply proportional to replacement costs. Thus replacement cost was rejected as a vehicle for analysis.

Under the Rent Control Law, 1986, premises renting for more than C1,000 per month are outside rent control. Out of the almost 900 renting households in the sample, only 36 were paying C1,000 per month or more. Thus, rent paid in the high cost sector, while a likely candidate as a suitable variable, could not be used, since the degrees of freedom were so limited (only 4 in multivariate models). Furthermore, many of the households rent their accommodation through their employer and pay a percentage of their salary rather than an amount depending on the quality of the house. We have no data on the amount paid by employees for the houses but hearsay evidence shows C25,000 per month to be quite common in 1988/9.

Key money is a one-time non-refundable deposit paid in addition to controlled rent. Key money can be translated into a rental equivalent (RE) with the following formula provided the time horizon is reasonably long:

$$RE = K1 * r$$

where

K1 = the amount of key money paid in the first period (assuming no subsequent deposits are paid)

r = real rate of discount.

This is valid if it is assumed that the landlord keeps the key money invested at the prevailing rate of interest. However, this form of key money is not a significant feature of the Kumasi housing market, unlike other parts of West Africa (eg. Nigeria).

Advance payments (A) are more common in Kumasi, and denote the practice of paying periodic (controlled) rent in advance. Again, advance payments can be converted into an approximate rent equivalent (RE) if the following equation is solved for RE

$$A = \sum_{t=1}^{n} RE/(1+r+p)^t$$

where A = advance payment
n = number of periods in advance
r = real discount rate
p = rate of price increase
t = time period.

In effect, RE is the same as a payment on a self-amortizing loan having the present value A. Roughly 15 percent of renters reported paying advance rent. However, the variance in the amounts paid was enormous (ranging from 2 to 53,000 cedis. Of advances paid the first quartile was 300, the median was 4,000, and third quartile was 10,000. Since advance amounts paid varied tremendously (partly with when the tenant moved in) we found it difficult to use them to predict market rents with any confidence. However, recent trends in advance are of interest in themselves, and we analyze advances separately below. Advances paid will also be used when we estimate gross rents (below).

After considering and rejecting the above, we took the simplest path. Rents are not controlled for units renting above 1,000 cedis. This is only about 8 percent of median income (yet relatively few households pay rents this high). Further, as we mentioned earlier in Chapter 2 controlled rents are so low that, while the practice is not widespread, some households choose to pay rents in excess of controls but less than the 1,000 cedis which would exempt landlords from controls. "Uncontrolled" units were therefore defined as those where the rent paid was greater than the controlled rent for that type of unit.

Table 2.5 (in Chapter 2, above) lays out the exact criteria by number of rooms and type of material (swish, concrete, etc.) While these units are outside rent control, since their rents exceeded controlled levels, common sense as well as the model of Fallis and Smith (1984) suggests that the presence of controls could affect the rents of these "uncontrolled" units as well. Many of these units have exclusive use of either a kitchen or bathroom, and shared use of other facilities, in contrast to the part of the sample where controlled rents are enforced. This could lead to upward bias in the imputation of uncontrolled rents, even though we attempt to control for characteristics of the unit and the household.[4/] Also, there may be some units which would rent just below the 1,000 cedi floor for uncontrolled rents in the absence of controls,

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4/ Briefly, this can be thought of as the problem of predicting "out of sample." Even though, in an idealized model, correctly specified, there should be no problem with such predictions, when working with real data and approximate specifications (Leamer, 1978), predicting out of sample has some risks.

but which rent for 1,000 or more to escape controls. But there could be offsetting bias because these rents could be held down by the threat of appeal to the Rent and Housing Committee. The net bias in "uncontrolled" rents, then, is an empirical question.

One way we control for household and, especially, house characteristics, is by limiting most of our analysis in this chapter to the tenement and indigenous sectors. While there are differences between these two sectors they are small compared to differences between them and the omitted high cost and government sectors. Of course further analysis of high cost and government sectors would be worthwhile.

In the next few paragraphs the issue of comparability of controlled and "uncontrolled" samples will be addressed further. Then we will use the cross country model again to examine the likely net bias of this procedure, and to suggest a correction for the bias.

Controlled and "Uncontrolled" Households Compared

Table 5.1 presents some key statistics. The uncontrolled households are, on average, 25 percent richer, more likely to have their own toilets, live in larger units, and pay twice as much in rent.

Table 5.1: Controlled and Uncontrolled Samples Compared

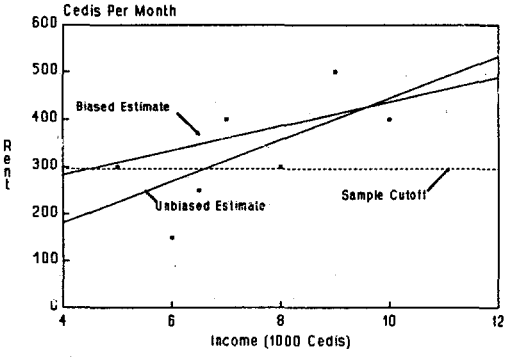
	Controlled	"Uncontrolled"
Number of Observations	677	78
Median Rent	300	600
Median Number of Rooms	1	2
Percent Living in 1 Room	93%	8%
Mean Persons Per Room	3.1	2.1
Percent with Own Toilet	1%	26%
Median Consumption	11,749	14,612
Median Rent-to-Consumption	.02	.05

Note: Derived from unweighted sample frequencies. Government and high cost sectors omitted.

The evidence suggests that the differences between households are a matter of degree rather than kind. Differences between units are more substantial, which is in itself suggestive. One possible correction for remaining bias will be described after we address the other issue, the extent and nature of the net bias in "uncontrolled" rents from the presence of controls.

Selectivity Bias

Figure 5.1: Effect of Selectivity Bias



Consider the following potential source of bias in the demand and hedonic estimates using households who pay more than the controlled rent as a proxy for "uncontrolled" rents. We have, in effect, chosen the sample on the basis of the dependent variable; while we retain information on controlled households we don't use those observations directly in the estimation.

It can be easily shown that this is a version of the so-called "censored sample" problem simply illustrated in two dimensions in Figure 5.1.[5/] Suppose the unobserved true relationship between (say) uncontrolled rents and income could be represented by the data points in the figure, and the heavy regression line through those points. But in the procedure adopted above, we stated that any rents lower than $300[6/] were denoted as controlled. In Figure 5.1 the regression estimate of the relationship is biased because the two points lying below the dotted line aren't included in the estimation.

More formally, the model is

$$\ln R_u = \mathbf{X\beta} + m \qquad (\text{if } R > 300)$$

$$R_u \text{ is unobserved} \qquad (\text{if } R \leq 300)$$

where R_u is "uncontrolled" rent, R is rent (controlled or not), and $\mathbf{X\beta}$ are the vectors of demand (or hedonic) determinants and coefficients; m is the error term.

Randall Olsen (1980) has proposed a simple consistent estimator for such models. In brief, the method works as follows. Estimate a linear probability model for selection into the sample, and then use the predicted value from the probability model to construct an explanatory variable in the hedonic and demand regressions in turn.

5/ Censored samples are those in which observations on particular values of the dependent variable (here "uncontrolled" rent) are not available but the right hand side variables are, permitting estimation of the probability of being in the selected sample. Another important class of problem, where the right hand side variables are also unobserved, is known as truncated samples, and is more difficult to handle. See Maddala (1986), and Heckman (1979).

6/ Actually a set of cutoffs depending on type of unit, but the graph represents the basic idea.

Even if the estimated regression coefficients change with the inclusion of the correction variable, the prediction for individual households may or may not change. Since the purpose of these regression models is predicting total rent, the question is whether the selectivity bias correction makes much difference in estimating PmQc and PmQm, and hence the final cost-benefit results.[7/]

We applied Olsen's estimator in preliminary work. This procedure made no appreciable difference in the predictive power of the hedonic or demand regressions; nor did they affect the predictions themselves, or the cost-benefit estimates derived from them. The estimates of PmQm and PmQc were the same within 3 percent with and without the correction. For the rest of this paper, therefore, we report results based on models without this correction. The alternative estimates are available on request.

Net versus Gross Rent

So far we have focused on net rents, that is on the monthly payment to landlord for housing services. However, we noted above that some households pay advance and/or key money. Some tenants also pay directly for various utilities or services associated with the dwelling. In some markets tenants pay for maintenance of houses, or even upgrade them.[8/]

In Kumasi few households pay directly for utilities. Among other reasons, they aren't often provided. Few rental households were found to pay for maintaining their unit. For this study gross rent is therefore defined as net rent plus (when relevant) the imputed value of paying in advance.[9/]

Recall that advance payments can be converted into an approximate rent equivalent RE:

7/ See Butler (1983) and Ozanne and Malpezzi (1985) for more details on the robustness of predictions versus robustness of coefficients.

8/ Malpezzi (1986) describes these in some detail for Cairo. Side payments -- key money, utilities, tenant expenditures on maintenance and upgrading -- accounted for a significant fraction of gross rent in Cairo.

9/ For households which have paid advances in the past which have amortized, gross rent and net rents are equal.

$$A = \sum_{t=1}^{n} RE/(1+r+p)^t$$

where A = advance payment
n = number of periods in advance
r = real discount rate
p = rate of price increase
t = time period.

Figure 5.2: Advance by Length of Tenure

Some 105 out of 754 sample households made advance payments in lieu of rent for a specified period (14 percent). A nominal discount rate of 20 percent was used to calculate the rental equivalent. While it might be expected that households with higher incomes would be willing to pay higher advances to secure a rental unit of their choice, advances were not highly correlated with total consumption.

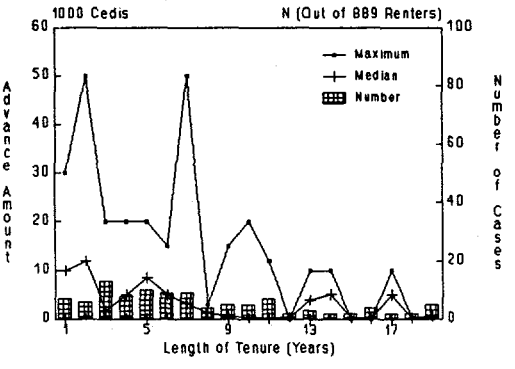


Figure 5.2 shows that, according to the sample of 105, at least some advances have increased markedly in recent years. Since 1980 the median advance -- of those who report advance -- is on the order of 2-12,000 cedis, and up to maxima of 15-50,000. The latter represent 50-167 months typical rent. The relative frequency of households paying advance has also increased.

Anecdotal Recent Evidence on Increase in Advances

The 1986 survey was carried out at a time when, with the recent decree raising controlled rents to a level above that to which rents had crept informally, landlords were satisfied. Since that time, however, prices have risen very rapidly while rents have not and landlords have begun to demand advances from all-comers. By early 1988, anecdotal evidence pointed to all new tenancies being subject to between two and five years' rent in advance and even some existing tenants being asked for their rent to be paid yearly in advance. At that time, the general belief appeared to be that an amount of, say, twenty times C300 would last twenty months unless controlled rents were increased. However, this appears to have been over-optimistic on the tenant's part.

In February, 1989, it was universal practice to ask for advances from all renters, except where landlords had strong personal relationships (an advantage for particularly long-standing tenants). Renters were reporting that their advances were being used up at a rate of about C1,000 (US$4) per month per room and the advance demanded was C50,000 (US$190) or more for a single room or C250,000 (US$960) for a self-contained apartment.

Any renter opposing the landlord and seeking satisfaction from the Rent and Housing Committee may win his case but would find that the provision in the rent laws allowing eviction in order to accommodate the owner's family members would nullify his pyrrhic victory.

While advances are and were growing in amount and frequency, they were not sufficiently widespread in 1986 to have much effect on rents in the aggregate. Table 5.2 presents the comparison of net and gross rents. While it doesn't make much difference with the 1986 sample, we will henceforth work with gross rents.

Table 5.2: Gross and Net Rents Compared

	Net Rent (cedis)	Net Rent to Consumption	Gross Rent	Gross Rent to Consumption
Units Paying Some Advance				
Median	300	.04	318	.04
N	105	105	105	105
All Units				
Median	300	.02	300	.02
N	754	722	754	722

Note: Unweighted statistics, government and high cost units omitted.

C. PcQc: Current Rent Paid

The first piece of information, the rent currently paid in the controlled unit, PcQc, is directly available from the sample survey. Again, to improve comparability, government and high cost units are omitted from the sample. The distribution of gross rents paid in the two remaining (and largest) sectors is presented in Table 5.3 and corresponding Figure 5.3.[10/]

10/ In Figure 5.3, as in similar figures below, the first and third quartiles of each variable are represented by the top and bottom "ticks" or horizontal line; the median by the middle tick.

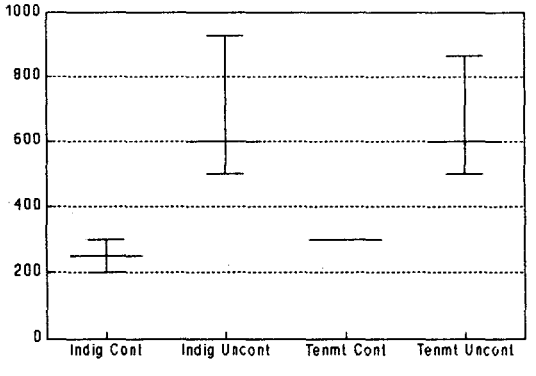
Table 5.3: Controlled and "Uncontrolled" Rents Paid by Sector (Cedis)

	Gross Rent Q3	Median	Q1	N	Gross Rent/Consumption Q3	Median	Q1	N
All Renters								
Tenement	300	300	300	403	.03	.02	.02	383
Indigenous	300	300	200	351	.04	.02	.02	339
Both	300	300	202	754	.03	.02	.02	722
"Controlled" Renters								
Tenement	300	300	300	359	.03	.02	.02	341
Indigenous	300	250	200	318	.03	.02	.02	307
Both	300	300	200	677	.03	.02	.02	648
"Uncontrolled" Renters								
Tenement	866	500	500	44	.05	.04	.03	42
Indigenous	929	600	500	33	.09	.07	.04	32
Both	875	600	500	77	.08	.05	.03	74

Note: Unweighted statistics, high cost and government excluded.

The striking results are the lack of variation in rents in both indigenous and tenement controlled sectors, and the much larger variation in "uncontrolled" rents. The difference between sectors is dominated by differences between controlled and uncontrolled units within sectors. Recall that the indigenous sector has more single rooms and more houses built in swish. Their controlled rents are somewhat lower as a result (see Table 2.5, above).

Figure 5.3: Rents by Sector (Cedis)



D. Estimating PmQm With a Cross Country Model of Housing Demand

This section presents a variant of the cross-country housing demand model of Malpezzi and Mayo (1985, 1987a, 1987b) which can be used to estimate market rents in the absence of controls. These estimates can be used to predict market rents in cities where no uncontrolled sector exists for comparison; to test for bias and to adjust rents in the uncontrolled sector if such rents have been affected by controls as in Fallis and Smith's model; and as an independent check on other methods.

First we will describe Malpezzi and Mayo's model generally, then we will present new estimates from a variant of that model. Malpezzi and Mayo first

estimated a simple log-linear model of housing expenditures in each of the sixteen cities:

$$\ln R = a + E_y (\ln y) + bH + cH^2 + u$$

where R is rent; y is income; H is household size; E_y is the estimated income elasticity of demand; a, b, and c are regression coefficients, and u is an estimated disturbance. The model was stratified for renters and owners. For renters, rent was defined as net rent, exclusive of separate utility payments. For owners, rent was defined variously, and in order of availability, as owner imputations of net rent, hedonic estimates of net rent based on applying renter-based hedonic price equations to owners' housing characteristics, or imputed rents based on applying a fixed amortization ratio (from one percent to one and one-half percent per month depending on the country) to owners' estimates of housing value. While other functional forms were tried, and other demographic variables were included in alternative estimating equations, results from the simple log-linear model were found to provide adequate fits and robust findings regarding major demand parameters.

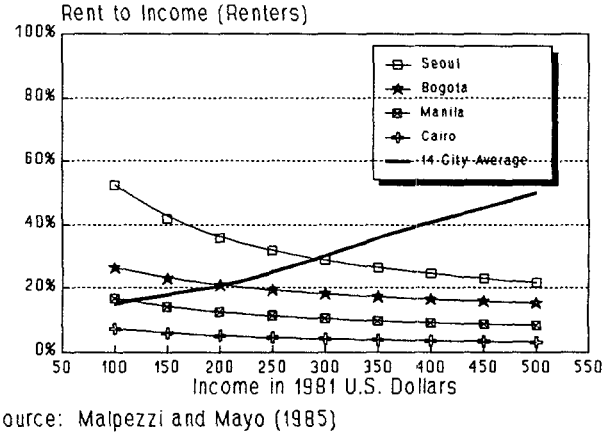
Table 5.4: Malpezzi and Mayo Demand Results

			Renters					Owners				
Country	City		Constant	Log Income	HH Size	HH size Squared	R-squared N	Constant	Log Income	HH Size	HH size Squared	R-squared N
Colombia	Bogota	(coef)	1.11	0.66	0.09	-0.006	0.40	0.77	0.75	-0.00	-0.003	0.49
	(1978)	(std err)		0.03	0.03	0.003	1016		0.03	0.04	0.003	821
	Cali	(coef)	2.81	0.44	0.13	-0.006	0.27	1.25	0.69	-0.05	-0.000	0.38
	(1978)	(std err)		0.06	0.07	0.007	257		0.06	0.07	0.005	256
Egypt	Cairo	(coef)	0.25	0.46	-0.17	0.010	0.16	0.89	0.17	0.12	-0.009	0.06
	(1981)	(std err)		0.06	0.09	0.008	303		0.12	0.21	0.019	76
	Beni Suef	(coef)	-1.2	0.51	0.38	-0.047	0.25	-0.09	0.42	0.14	-0.003	0.23
	(1981)	(std err)		0.14	0.28	0.029	63		0.13	0.14	0.010	63
El Salvador	Santa Ana	(coef)	0.37	0.48	0.13	-0.014	0.16	-2.5	1.11	-0.06	-0.004	0.37
	(1980)	(std err)		0.11	0.08	0.007	131		0.11	0.12	0.009	169
	Sonsonate	(coef)	0.79	0.50	-0.10	0.007	0.16	0.39	0.79	-0.13	0.001	0.57
	(1980)	(std err)		0.12	0.09	0.007	83		0.15	0.17	0.012	27
Ghana	Kumasi	(coef)	0.82	0.33	0.02	0.000	0.11		-	-	-	-
	(1980)	(std err)		0.04	0.03	0.002	814		-	-	-	-
India	Bangalore	(coef)	0.66	0.58	-0.08	0.003	0.18	2.84	0.43	-0.17	0.007	0.15
	(1975)	(std err)		0.04	0.04	0.002	1041		0.08	0.06	0.004	205
Jamaica	Kingston	(coef)	-0.12	0.70	0.16	-0.012	0.30		-	-	-	-
	(1975)	(std err)		0.08	0.07	0.007	223		-	-	-	-
Korea	Seoul	(coef)	5.04	0.45	0.07	-0.004	0.15	6.06	0.44	-0.04	0.002	0.12
	(1979)	(std err)		0.03	0.04	0.005	952		0.04	0.04	0.003	952
	Busan	(coef)	6.26	0.31	0.05	-0.001	0.08	5.93	0.45	-0.05	0.002	0.10
	(1979)	(std err)		0.07	0.06	0.006	508		0.08	0.10	0.011	296
	Taegu	(coef)	4.95	0.44	0.03	-0.003	0.23	6.32	0.47	-0.19	0.011	0.18
	(1979)	(std err)		0.07	0.07	0.008	292		0.08	0.08	0.006	152
	Kwangju	(coef)	2.70	0.62	0.09	-0.002	0.32	7.53	0.41	-0.27	0.018	0.14
	(1979)	(std err)		0.09	0.13	0.014	134		0.11	0.18	0.016	84
	Oth.K.c.	(coef)	3.33	0.54	0.04	0.002	0.17	2.16	0.79	-0.12	0.003	0.26
	(1979)	(std err)		0.05	0.05	0.007	1000		0.05	0.05	0.005	779
Philippines	Davao	(coef)	-1.6	0.88	0.00	-0.002	0.42	-3.2	0.99	0.04	-0.004	0.28
	(1979)	(std err)		0.03	0.05	0.002	1376		0.04	0.04	0.003	1968
	Manila	(coef)	1.27	0.56	0.01	-0.002	0.22	2.46	0.57	-0.02	-0.000	31
	(1983)	(std err)		0.04	0.04	0.003	605		0.04	0.05	0.003	390
U.S.	Pittsburg	(coef)	3.07	0.26	-0.02	-0.002	0.15	3.50	0.18	0.08	-0.005	0.21
	(1975)	(std err)		0.02	0.04	0.005	946		0.01	0.02	0.002	2378
	Phoenix	(coef)	3.68	0.18	0.12	-0.015	0.13	3.62	0.18	0.13	-0.011	0.24
	(1975)	(std err)		0.02	0.03	0.005	918		0.01	0.01	0.002	2284

Table 5.4 presents those estimated parameters of housing expenditure functions for renters and owners. In general the results are remarkably consistent with results from developed countries (see Mayo, 1981). The regression fits were typical for this type of equation: typical R-squared statistics are in the 0.1 to 0.3 range (minimum is 0.06, maximum, 0.57). Fits were similar for owners and renters.

The median of all renters income elasticities was 0.49; developing country elasticities ranged from 0.31 (Pusan, Korea) to 0.88 (Davao, the Philippines). Most clustered between 0.4 and 0.6 with estimated U.S. elasticities lower than developing country estimates. The median of all point estimates of owner income elasticities was 0.46, with extremes of 0.17 in Cairo and 1.11 in Santa Ana, El Salvador. The majority of point estimates lie between 0.4 and 0.6. In 9 of 14 cases where comparison was possible, estimated developing country owner income elasticities were greater than those of renters. Comparing expenditure equations across countries revealed practically no systematic variation of income elasticities with country or city income level or population size, but considerable variation in dollar-adjusted intercepts, which were positively related to average city income. Rent-to-income ratios therefore declined systematically with income <u>within</u> cities, but increased with income <u>across</u> cities.

Figure 5.4: Rent to Income Ratios, Cross Country Model



Source: Malpezzi and Mayo (1985)

These relationships are shown graphically in Figure 5.4 for renters in four representative cities. Relationships for owners are similar, although average rent-to-income ratios are invariably higher at every income level for owners within given housing markets.

The relationships portrayed in Figure 5.4 are very similar to the consumption patterns within and across countries documented by Kuznets (see Kuznets, 1961 and other works cited therein). Qualitatively, housing consumption is remarkably smaller at various income levels than are between-country differences at different average income levels. Malpezzi and Mayo explored alternative theoretical explanations for these results and then tested a series of long run cross-country housing expenditure models. The simplest cross-country model parallels the log-linear within-country model, but with the addition of a price term, the relative price of housing which was constructed using data from Kravis, Heston and Summers (1982).

Defining R as rent, y as household income, and p_H as the relative price of housing, Malpezzi and Mayo originally estimated the following models for renters and owners in developing countries:

Renters:

$$\ln R = -5.39 + \underset{(0.18)}{1.60} \ln y + \underset{(0.15)}{0.15} \ln p_H$$

$R^2 = 0.90$
d.f. = 13

Owners:

$$\ln R = 3.57 + \underset{(0.35)}{1.38} \ln y + \underset{(0.50)}{0.65} \ln p_H$$

$R^2 = 0.76$
d.f. = 11

where rent, and income are city means converted to 1981 U.S. dollars[11/], and pH is the Kravis-Heston-Summers price index, with the U.S. relative price normalized at one. Standard errors as in parentheses; R^2 is the multiple correlation coefficient, and d.f. are the numbers of degrees of freedom.

The implications of these models, which were confirmed with alternative specifications, are straightforward. In the very long run, housing consumption is income elastic. Price elasticities are smaller in absolute value than income elasticities, although confidence intervals are quite wide for the former. Long-run income elasticities are estimated to be slightly higher for renters than owners. This means that as cities' economies develop over the very long run, that owner and renter consumption patterns increase at a similar pace, ceteris paribus. However, because renter price elasticities are estimated to be higher than owner elasticities, the net effect of both incomes and prices rising with economic development is that owners' consumption increase faster than renters' consumption over most of the range of the data.

However, Malpezzi and Mayo's sample included both controlled and uncontrolled markets. While they tested for rent control's effects, no precise or robust effect was found in their sample.[12/] The cross country price term, which was (unsurprisingly) lower for the controlled markets, seemed to be picking up most of rent control's measured effects. But the sample was too small to be particularly confident about this result, and it is singularly inappropriate as a maintained hypothesis for cross country estimates of demand used to evaluate

---

11/ Note that in a log-linear expenditure equation the coefficient of price is equal to one plus the price elasticity; thus the price elasticity is the estimated coefficient minus one, or -0.85 and -0.35 for owners.

12/ Malpezzi and Mayo did not report these results in any of their published papers, but details are available from the first author.

costs and benefits of controls. Therefore Malpezzi et al. (1988) developed new estimates here using only uncontrolled markets.

Malpezzi et al. reestimated the cross country model segmenting the samples by controlled and uncontrolled markets.[13/] Reestimating the model above yields the following estimates for uncontrolled markets:

Uncontrolled Renters:

$$\ln R = -4.017 + 1.355 \ln y$$
$$(1.733)\ (0.299)$$

$R^2 = .71$
d.f. = 7

For controlled markets and the original data the model yields the following:

Controlled Renters:

$$\ln R = -5.934 + 1.709 \ln y$$
$$(1.412)\ (0.286)$$

$R^2 = .85$
d.f. = 5

As expected, the point estimate of the elasticity from this uncontrolled sample is greater than one, although the limited degrees of freedom reduces the precision of the estimates from M&M's original model. Using average sample incomes of C12,500 and an exchange rate of 90 cedis to the dollar this model predicts an average rent-to-income ratio of .09 for Kumasi in 1986.

Of course these estimates from the uncontrolled variant of the Malpezzi and Mayo model are estimates of the long run equilibrium average rent-to-income ratio. In order to predict the uncontrolled rent (PmQm) of particular households in a controlled sample--or of representative households at an income level above or below the average--it is necessary to combine an estimate of the average rent-to-income ratio derived from the cross market model, with an assumed within-market income elasticity. Malpezzi and Mayo found most within-market elasticities for renters ranged between .4 and .6. If anything these estimates may have a slight downward bias, so we suggest using an income elasticity estimate of 0.6.[14/]

13/ The Kravis-Heston-Summers price term was dropped from the new, smaller model for reasons described in Malpezzi et al. pp. 47-57.

14/ Analysis of the individual within-city elasticities from Malpezzi and Mayo was unable to discern any relationship between the elasticities and income, or between the elasticities and the presence of controls.

There is no question that these estimates could be improved with a still better cross country model. While these estimates are reasonable and we are confident of their utility for the rent control study, further improving the precision of these estimates can have a high payoff.[15/]

"Uncontrolled" Rents Compared to Predictions from the Cross-Country Model

Table 5.4 showed typical controlled rents to be less than 2 percent of total consumption. Median rent-to-consumption level for uncontrolled units was .05. Using the median income for Kumasi in 1986 cedis, Malpezzi et al. (1988) predicted that the median rent-to-income level would be .09 in the absence of controls. However, the median income in the "uncontrolled" sector is about 14,750 cedis, compared to about 12,500 for the city as a whole. Using an elasticity of .6 we therefore derived a slightly lower estimate of the typical uncontrolled rent-to-consumption ratio, .08.

Figure 5.5: Rent-to-Income Comparisons, Various Models

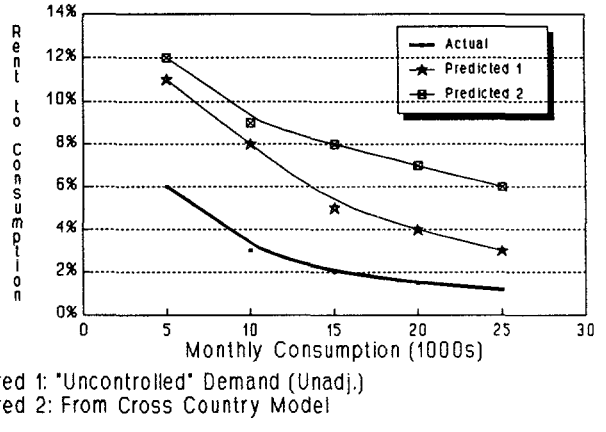


Figure 5.5 presents a simple comparison of these results. The bottom line is derived from the actual controlled data (i.e. constrained estimates). The middle line is from the "uncontrolled" Kumasi sample (unadjusted). The highest line is from the "uncontrolled" demand estimates from the cross country model. In Kumasi a household with a typical monthly income of US$ 150 or more would have an actual rent to income ratio of 0.025 in the controlled sector (see Table 5.1). Even in the uncontrolled sector with a household monthly income of US$ 195, the rent to income ratio is still only 0.05. The prediction from the cross country model is .09 for the market, .08 for the slightly higher income group in the uncontrolled sector. It appears that the net effect of the biases on "uncontrolled" rents discussed above and in Fallis and Smith (1984) is to lower "uncontrolled" rents.

Given data on household consumption, the average rent-to-income ratio, and an assumed elasticity (.6), estimating PmQm for each household with the cross country model -- free from such bias -- is straightforward. In addition, when we estimate the hedonic and demand relations below with the "uncontrolled"

15/ Particularly since there are many other uses of these estimates, such as evaluating shelter projects and other government housing policies. See Mayo and Gross (1986) and The Urban Edge (1984).

sample, the sample rent will be adjusted (multiplied by 1.6) to reduce the bias.[16/]

E. Estimating PmQm With Kumasi Survey Data

As noted above, the rent that households would pay if they were at their equilibrium demand at market prices (PmQm) can also be estimated from the household survey. Table 5.5 presents the estimated coefficients from the expenditure regression estimated using the sample of "uncontrolled" renters. Only households in the tenement and indigenous sectors are included. Households and (especially) units in the government and high cost sectors are so different from the rest of the sample that they were omitted.[17/] The dependent variable is gross rent, adjusted as described above (multiplied by 1.6).

The demand results are reasonable, with an R-squared of 0.18. The estimated consumption elasticity is 0.28. This is a low estimate compared to others from the Malpezzi and Mayo results above.

The relationship between rents and length of tenure is strong; transformation of the log-log model shows rents falling about 15 percent per year in the first few years of tenure, and around 1 percent per year at 20 years. The total discount at 20 years and beyond is about 40 percent. There have not been many studies of this discount in developing countries; this is high but within range of estimates of length of tenure discounts for U.S. cities found by Malpezzi, Ozanne and Thibodeau (1981). Household size is a weak demand determinant.

16/ See Malpezzi (1986) pp. 129-139 and Fallis and Smith (1984) for more detailed justification.

17/ In general, if we know the "true" model a priori and have all the data necessary to implement it, we could gain valuable information from the omitted government and high cost units. However neither condition is satisfied, and dropping these sectors as unrepresentative is, we believe, the conservative procedure.

Table 5.5: Demand Equations

DEPENDENT VARIABLE: Log of Gross Rent (Adjusted)
DEGREES OF FREEDOM: 73

R-SQUARE: .23 F: 5.18
R-SQUARED(ADJ): .19 PROB>F: .0010

VARIABLE	ESTIMATE	STD ERROR	T STAT	PROB>|T|
Intercept	5.016	1.437	3.49	.0001
Log of Consumption	0.277	0.150	1.89	.0694
Log Length of Tenure	-0.283	0.079	-3.60	.0006
Household Size	-0.001	0.029	-0.04	.9693
Household Size Squared	0.003	0.010	0.30	.7654

F. Price Elasticity of Demand

The fourth piece of information for the Olsen model, the price elasticity of demand, could not be directly estimated from the Kumasi housing data. Malpezzi and Mayo (1985) surveyed estimates of this key parameter in a number of developing countries, and found most estimates lie between -0.5 and -1.0. Hence these two values were chosen as upper and lower bounds for the benefit-cost measures.

G. Estimating PmQc With Hedonic Indexes

Hedonic regression models can be used to estimate the second piece of information required -- PmQc, the rent that would be commanded by the controlled units in the absence of controls.

Hedonic house price models have been widely used in environmental economics to estimate air quality (Ridker & Henning, 1967); neighborhood parks (Weicher & Zerbst, 1973; Hammer et al, 1974); lakes and reservoirs (Knetsch, 1964; Darling, 1973); aircraft noise (Walters, 1975); green belts (Correll et al, 1978; Willis and Whitby, 1985); land use zoning (Avrin, 1977); environmental risk and uncertainty (Brookshire, et al, 1985); and option prices and values (Smith, 1985). Hedonic price models are also common in housing policy analysis and have been extensively used to estimate the benefits of subsidized housing programs (see, for example, Kraft and Olsen, 1977; Olsen and Barton, 1982; Hammond, 1987; and Clemmer, 1984).

The purpose here, however, is to use hedonic price models to estimate PmQc (market price for controlled quantity) by comparing rents for different kinds of dwellings in the controlled and uncontrolled sector. Hedonic equations are one way that rents for different dwellings can be compared, or rents for identical dwellings in different markets can be predicted.

The hedonic model has the form

$$R = f(S, L, C)$$

where
- R = contract rent
- S = structural characteristics of dwellings
- L = neighborhood characteristics, including location within the market
- C = contract conditions or characteristics which affect the price such as utilities included in the rent, length of tenure in dwelling, etc.[18/]

The independent variables (S, L, C) represent the individual characteristics of the dwelling, and the regression coefficients are estimates of the implicit prices of those characteristics. The results provide estimated prices for housing characteristics. It is then possible to compare two dwellings by using these prices as weights. For example the estimated price for a variable measuring the number of rooms indicates the change in value or rent associated with the addition or deletion of one room, it indicates in a dollar and cents way how much "more house" is provided by a dwelling with an extra room.

A hedonic model can be used to estimate the implicit prices of measurable housing characteristics in the uncontrolled market sector. The coefficients of this model can then be used to estimate market rents for the controlled sector units.

Hedonic Estimates

Table 5.6 presents the hedonic index for 76 "uncontrolled" renters. The dependent variable is the natural logarithm of adjusted gross rent, and the independent variables are the number of rooms occupied by the household, that number squared, the number of verandas in the unit, the log of the length of tenure, and a set of dummy variables indicating the household's exclusive access to a toilet, whether the unit is in the indigenous sector, whether the unit is built of swish. The coefficients of linear variables can be interpreted as (approximately) the percentage change in rent, given a unit change in the variable in question. The coefficient of log variables can be interpreted as the percentage change in gross rent given a percentage change in the variable (length of tenure). For dummy variables (eg. exclusive use of toilet), the coefficient is approximately the percentage change in rent compared to some omitted category (not having such use).

18/ Note that household characteristics which do not affect the price per unit of services -- such as income -- do not enter the hedonic regression. Household characteristics which do affect the price per unit should enter.

Table 5.6: Hedonic Index

DEPENDENT VARIABLE: Log of Adjusted Gross Rent
DEGREES OF FREEDOM: 76

R-SQUARE: .83 F: 47.26
R-SQUARED(ADJ): .81 PROB>F: .0001

VARIABLE	PARAMETER ESTIMATE	STANDARD ERROR	T STATISTIC	PROB > |T|
Intercept	5.7100	0.2574	22.18	.0001
Number of Rooms	0.7517	0.1654	4.55	.0001
Rooms Squared	-0.1009	0.0285	-3.54	.0007
Number of Verandas	0.0149	0.0483	0.31	.7587
Log Length of Tenure	-.0098	0.0429	-0.23	.8204
Exclusive Use of Toilet	0.8864	0.0983	9.02	.0001
Indigenous Sector	0.0061	0.0756	0.08	.9361
Swish Construction	-0.1204	0.0911	-1.32	.1908

The above may appear to be a short list of characteristics on which to base a hedonic model and market price estimates. But recall that we have already limited the sample to the tenement and indigenous samples. Also, as Follain and Malpezzi (1979) have shown, a simple specification of 5 to 10 per structure variables (rooms, baths, etc.) produces about as good a fit as 40 variables. In other words, prediction of the dependent variable (our purpose here) is not sensitive to the number of variables, given a reasonable reduced set and fit (Boland, 1979). When the focus is on individual implicit prices, specification is more critical (Butler, 1982; Ozanne and Malpezzi 1986).

In general the regression results are quite reasonable. The overall fit of the equation compares very favorably with such models estimated in other countries: over 80 per cent of the variance in the log of rent is explained by the model. Coefficients are generally of the expected sign. However, note the large coefficient for the exclusive use of a toilet, and the fact that the number of verandas and the log length of tenure variables have no statistically discernible effect on rents. Also, there appears to be no statistically discernable difference between tenement and indigenous sectors, once we have controlled for other characteristics of the units.

H. Cost-Benefit Measures

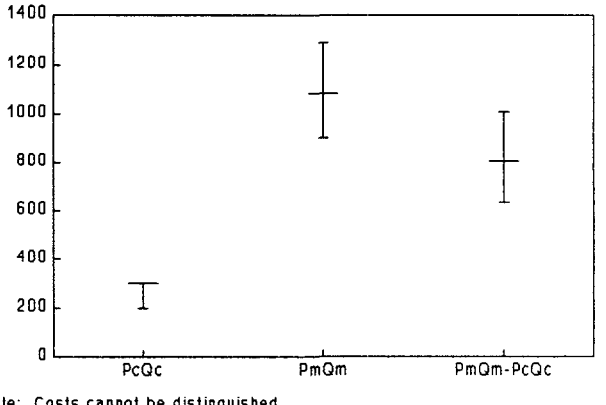
Costs and Benefits from the Cross-Country Model

This model is very simple: we compute the predicted rent from the cross-country demand model and compare it to the actual rent paid. In the notation above, we are comparing PmQm to PcQc. In other words this produces no estimate of the household's exact valuation of the benefits, and is at best an approximate measure of the cost of controls PmQc-PcQc.

Table 5.7: Summary Cost-Benefit Measures From Cross Country Model

	Actual Rent PcQc	Predicted Rent PmQm	Difference PmQm-PcQc
Tenement Sample			
Mean	290	1179	887
Q3	300	1334	1043
Median	300	1162	868
Q1	300	999	711
N	358	338	338
Representative Consumer	300	1162	862
Indigenous Sample			
Mean	244	1040	795
Q3	300	1186	955
Median	250	1025	766
Q1	200	829	584
N	322	312	312
Representative Consumer	250	1025	775

Figure 5.6: Rents and Predictions from the Cross Country Model



Note: Costs cannot be distinguished from benefits with this model.

The implicit assumption is that the cross country demand results can be used to predict long run competitive equilibrium rents in Kumasi. While we have confidence in these cross country demand models, it is clear that in any event the difference between estimates of PmQm and actual PcQc is large enough to dominate any likely imprecision of the estimates. Table 5.7 and corresponding Figure 5.6 present summaries of the results. Note that rows of the table do not add up exactly, because the sum or difference of medians (or of other statistics) is not generally the median of the sum or difference. The controlled rents are overwhelmingly in the range of 200 to 300 cedis. The estimates of uncontrolled rents from the cross country model range from 800 to 1300. These results are so strong that they could be described as a "smoking gun."

PmQm-PcQc is the estimated difference between expenditures with and without controls. We can compare these results with those from Olsen's method, presented in the next section. How efficient is the transfer of purchasing power to tenants, i.e. are the benefits received by tenants in line with the costs?

Costs and Benefits Constructed from the Hedonic and Demand Equations

Table 5.8 and corresponding Figure 5.7 present estimates of the various welfare measures and their components, using a variant of Olsen's model which was described in Chapter 4.

Each welfare measure can be calculated separately for each sample observation (the approach used to derive the sample statistics); or calculated for a representative consumer, constructed using, say, medians of the components. The two approaches do not yield exactly the same results. Again, note that rows of the table do not add up, because the sum or difference of medians (or of other statistics) is not generally the median of the sum or difference.

The representative consumer rows are calculated for a representative renter using median values of the components PcQc, PmQc and PmQm. Computing costs and benefits separately for each observation allows us to study their distribution. But since the true demand relation is unknown, and every household is off their estimated demand curve, there is no information in the sample to sort out how much of the difference between costs and benefits is due to the stochastic nature of the demand relation, and how much is due to rent control (Olsen and Agrawal, 1982; Malpezzi, 1986; Gyourko and Linneman, 1986). However, unlike Malpezzi (1986) and the other studies cited, we see from Table 5.8 that both approaches yield similar results in the Kumasi case.

Table 5.8: Cost-Benefit Measures From Survey Demand and Hedonic Models

	Current Controlled Rent PcQc	Market Rent for Current Unit PmQc	Est.d. Rent with no Controls PmQm	Cost of Rent Control Subsidy (PmQc-PcQc)	Tenant Benefits 1 (Ep=-1)	Tenant Benefits 2 (Ep=-0.5)	Median Efficiency, Ep=-1 (Benefit/Cost)
Tenement Sample							
Mean	290	613	1094	332	106	-264	
Q3	300	580	1220	287	221	125	
Median	300	574	1040	274	135	-76	0.50
Q1	300	570	909	270	14	-415	
N	358	343	328	343	328	328	
Representative Consumer	300	574	1040	274	122	-105	0.45
Indigenous Sample							
Mean	244	563	1105	319	72	-382	
Q3	300	580	1205	370	221	80	
Median	250	574	1044	291	123	-127	0.41
Q1	200	513	910	275	-17	-542	
N	322	319	311	319	310	310	
Representative Consumer	250	574	1044	324	169	-61	0.52

The key results from Table 5.8 are:

(a) Renters pay a fraction of the estimated market rents for their units. The rent paid is only 43 percent of the estimated market rent in the indigenous sector, and 52 percent in the tenement sector. Furthermore, while the controlled rents PcQc hardly vary, the estimated market rents PmQc vary with size and type of unit. Market demand PmQm varies even more.

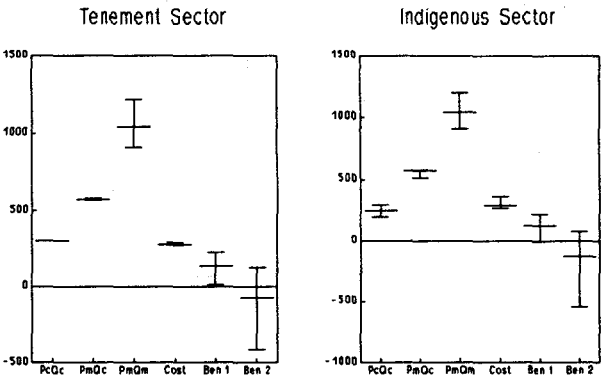
(b) The median cost of the subsidy implied by these rent reductions is estimated to be about 274 cedis per month in the tenement and 291 in indigenous sector.

(c) But household would (we estimate) spend even more on housing in the absence of controls. Median PmQm is over 1000 cedis in both sectors.

(d) Comparing PmQc and PmQm it appears that while units rent for less because of controls, households would spend even more at market prices; that is, consumption of housing services has been greatly reduced under controls.

(e) Rent control imposes a landlord cost (PmQc-PcQc), which exceeds the net benefit to tenants in both sectors. This cost to landlords approximates only the static cost of rent control. Dynamic costs, which can also be large, are discussed in the next chapter.

Figure 5.7: Cost Benefit Measures by Sector



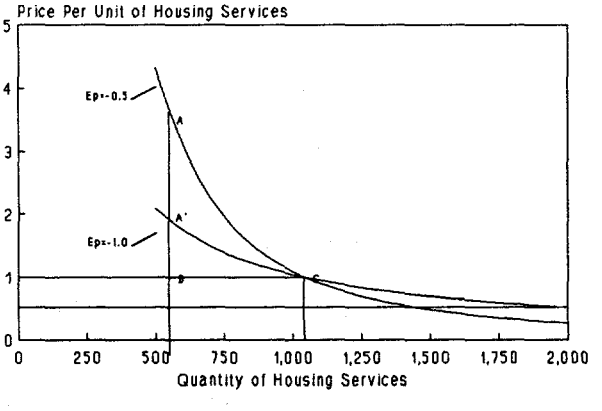
(f) Unlike some previous studies (Malpezzi, 1986), net benefits calculated for the single "representative consumer" are reasonably close to the sample median of benefits calculated separately for each household.

(g) The "transfer efficiency" (ratio of benefits to costs) is therefore low. If Ep=-1 (the most "favorable" assumption in terms of controls' efficiency), the efficiency is 40-50 percent. Tenants receive net benefits which are less than half the static cost to landlords. If the price elasticity is on the order of -0.5, net benefits to most tenants is negative; both landlords and (most) tenants are made worse off by controls.

(h) While costs and benefits are large relative to rents paid, they are small relative to income. The cost of the subsidy is usually on the order of 2-3 percent of consumption. Net tenant benefits are, at best, negligible compared to total consumption.

(i) These estimates of PmQm are smaller than those taken directly from the cross country model (above), but are of the same order of magnitude. This is not surprising, since we also used the cross country estimates to "calibrate" our estimates of uncontrolled rents due to biases discussed above. While the exact results here would change given different cross country estimates, the qualitative results presented would not change.

Figure 5.8: Changes in Consumers Surplus for Typical Tenants



With these results we can put some numbers on the graphs from the previous theoretical chapter. Figure 5.8 presents such a diagram. Normalizing the market price per unit of housing services at one, we estimate that the typical tenement household would consume 1040 units of housing services in the absence of controls and other market imperfections. In fact we observe households consuming 574 units, but spending only 300 (i.e. the price per unit of housing services is 300/574 = .52, or about half the market price). Two demand curves are drawn, representing the two alternative assumed price elasticities of -1 and -0.5, respectively. As with any normal good, if unconstrained this typical household would like to

consume *more* housing at the lower controlled price than at the higher market price. Depending on which demand curve we use, we estimate they would *like* to consume 1400 to 2000 units of housing services (for which they would pay roughly 700 to 1000 cedis in 1986 controlled prices). But they are constrained by a shortage of appropriate units at the lower price, and they end up consuming *less*, i.e. 574 units for C300. They benefit from the lower rent (a C274 subsidy from landlords) but they also lose from consuming less housing than they would consume in the absence of controls. As discussed in the previous chapter, this loss can be measured as the area under the demand curve and above the market price line, i.e. triangle ABC or A'BC. If the price elasticity is -1, the area of this triangle implies a loss of 137 which cancels out half the gain from lower rent; if the price elasticity is -.5, the loss is greater than the gain from lower rent, and *the tenant is made worse off by controls*.

The bottom line is that rent control reduces the rents households pay, but the benefit of this rent reduction is more or less offset by the welfare loss from underconsumption of housing. Three further points should be made. First, tenants often perceive that controls reduce rents even more than they do.[19/] Second, these estimates don't account for "persistence" or habit -- tenants are now used to low rents, and change will be resisted. Many tenants probably see no strong link between low rents and low quality housing. Third, we estimate that existing units of typical quality would rent for about twice current rents, but that households would typically spend more than three times current rents -- implying higher housing consumption. The latter is a long run, comparative static result. How to get from here to there -- especially in terms of better housing -- is the topic of the next chapter.

I. Distribution of Costs and Benefits

Distribution By Consumption

Table 5.9 and Figure 5.9 present summary cost-benefit measures by consumption quartiles, viz. the median within each quartile. The median rent paid for each unit (PcQc) remains constant at 300 cedis. The price the housing unit would rent for in the absence of controls (PmQc) is also remarkably stable. Even with the comparatively modest income elasticity estimated above, equilibrium demand in the absence of controls rises with income. So the cost of the subsidy does not vary much with consumption, but since PmQm does rise higher income households have the largest "disequilibrium in consumption," i.e. are most constrained by the lack of housing of suitable quality. Richer households have the smallest benefits (or the largest losses in the case where Ep=-.5).

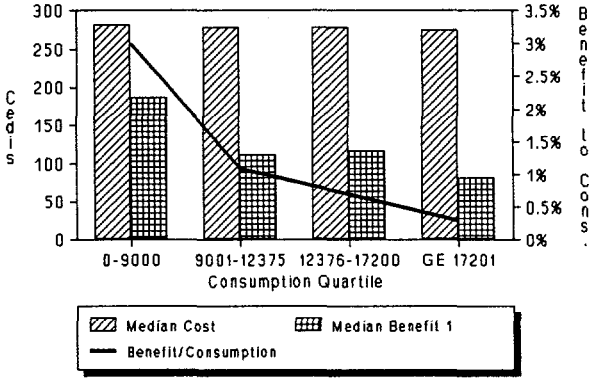
19/ In what is, to our knowledge, the only direct test of these perceptions, a study prepared for the city of Los Angeles (USA) by Hamilton et al. (1984), found that tenants there *believed* controls reduced their rent by an average of 33 percent. Los Angeles' rent control system is very lax, compared to Ghana's -- for example, rents are indexed to inflation, newly constructed units are exempt, and rents are reset when tenants move. As a consequence, the average *actual* rent reduction was estimated at about 2 percent.

Conversely, poorer households receive larger benefits, both absolutely and as a percent of total consumption.

Table 5.9: Summary Cost-Benefit Measures By Consumption

Household Consumption Quartile	Median Household Consumption	Controlled Rent PcQc	Mkt Rent Curr Unit PmQc	Uncontrolled PmQm	Cost of the Subsidy (PmQm-PcQc)	Benefits 1 (Ep=-1)	Benefits 2 (Ep=-0.5)	Benefit/Consump. (Ep=-1)
Median Within Top Quartile	21,160	300	573	1127	275	82	-214	.003
Median Within 1st Quartile	14,250	300	574	1069	278	117	-129	.007
Median Within 2nd Quartile	10,799	300	574	1053	278	112	-140	.011
Median Within 3rd Quartile	6,800	300	574	944	282	187	45	.030

Figure 5.9: Cost Benefit by Consumption



Benefits are negatively related to household income, suggesting that rent control may be somewhat progressive; but the benefits are, again, small. When the price elasticity of -.5 is used, only the lowest consumption quartile receive positive net benefits. Smaller benefits--or more negative benefits for richer tenants comes as no surprise since these are exactly those households with the largest welfare loss from low consumption of housing.

While benefits may be larger for poor tenants, again, overall they are small relative to the static costs imposed on landlords. Further, the distribution of benefits within the renter class is not the most important redistribution; more important is redistribution from landlords to tenants, discussed below.

Benefits By Length of Tenure

Summary cost-benefit measures were also tabulated by length of tenure (Table 5.10 and Figure 5.9). Here the picture is also clear. Median controlled rents do not fall with length of tenure; market rents for units occupied by long term tenants fall by a little.

But we estimate that market rents for long term tenants would be considerably lower than for recent movers.[20/] Therefore, long term tenants have

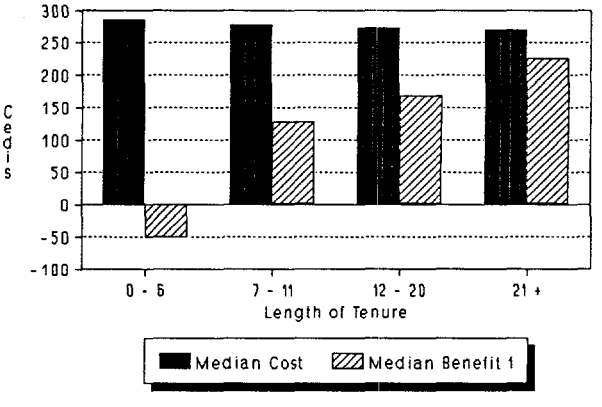
20/ As discussed above, and in Malpezzi, Ozanne and Thibodeau (1980), pp. 78-82.

the smallest estimated disequilibrium in consumption, and the largest benefits. Net benefits are still small in comparison to consumption. Note that the largest net costs are to recent movers. Even larger unmeasured costs are imposed on households who are constrained from moving at all.

Table 5.10: Summary Cost-Benefit Measures By Length of Tenure

	Length of Tenure	Mkt Curr Cont Rent PcQc	Est Rent Curr Unit PmQc	Rent no Cont PmQm	Cost of Subsidy PmQc-PcQc	Benefits 1 Ep=-1	Benefits 2 Ep=0.5
Median Within 1st Quartile	4	300	580	1279	285	-52	-649
Median Within 2nd Quartile	9	300	575	1049	278	128	-93
Median Within 3rd Quartile	16	300	572	958	273	168	14
Median Within 4th Quartile	26	300	569	824	270	226	164

Figure 5.10: Cost Benefit by Length of Tenure



J. Landlord and Tenant Incomes Compared

Does the implicit subsidy landlords confer upon tenants in a rent controlled market improve the distribution of income? The household survey of Kumasi ascertained whether the respondent owned the house or rented it from the owner or someone else, and whether anyone else in the house rents. Thus the sample can be divided into resident landlords and renters. Renters who own property elsewhere are misclassified as non-landlords, and non-resident landlords are not included. Further, we cannot control for the number of (total) units landlords control.

With these caveats, Table 5.11 presents a summary of the results. There are 92 resident landlords in the sample, who report a median household consumption of C15,668. In Kumasi there are many landlords with modest incomes, and many tenants with substantial incomes. In Ghana as in other countries there will be a significant number of cases where rent control transfers income in the wrong direction. Of course, with the present data the exact extent of this problem is unknown.

The landlord median is about 36 percent more than the median consumption of 725 controlled renters (11,563), and roughly the same as 105 uncontrolled renters. In other words--as Figure 5.10 highlights--while landlords are richer than tenants "on average," there is quite a lot of overlap. One fourth of

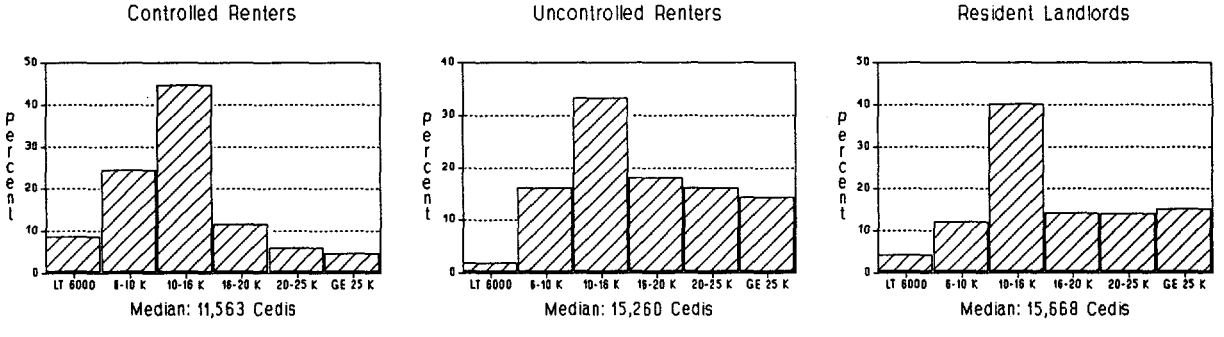
controlled renter consume more than that the median resident landlord; one fourth of resident landlords consume less than the median tenant.

Malpezzi (1986) presented similar evidence for Cairo. Again, richer landlords certainly own more buildings and more rooms. But in Bangalore, India, Malpezzi and Tewari (forthcoming) were able to control for the amount of housing capital owned; while it widened the gap in average incomes between landlords and tenants, significant overlap remained.

Table 5.11: Landlord and Renter Consumption

	Mean	Standard Deviation	Median	Q3-Q1	Mode	N
Resident Landlords	18,381	12,124	15,668	11,024	10,500	92
Controlled Tenants	12,808	6,356	11,563	6,791	10,700	725
Uncontrolled Tenants	17,554	9,151	15,260	10,665	9,850	105

Figure 5.11: Distribution of Consumption by Tenure



VI. RENT CONTROL, PROFITABILITY, AND SUPPLY

The previous chapter described the costs and benefits to individual landlords and tenants. What are the market wide effects, particularly on supply? This chapter begins by describing the supply side of the market in more detail. To anticipate the key results, despite very strict controls some additional housing is being supplied. To explain the apparent anomaly between rents which seem to offer no real return and a rental stock which, while poorly maintained still houses two thirds of the city, we will develop a simple present value model of housing investment. While simple, the model captures the essentials of the landlord's investment decision, as well as effects on tenants and government revenue. The model will also be used to examine alternatives for relaxation or decontrol.

A. Housing Supply in Kumasi

As discussed in detail in Chapter 3, the great majority of Kumasi's households live in rental housing, and most of those in rooms in compound houses. How has the supply of this housing in general and the rental stock in particular changed over time? Here we discuss new construction (and its counterpart of removals from the stock), conversion to other uses, and the supply from the existing stock.

New Construction

From the above, it can be seen that foregone starts on new building are probably the most likely response to rent control. The evidence for Kumasi shows substantial support for this. According to Census data and Boapeah's survey, the number of houses grew from 11,600 in 1960 to 21,000 in 1981 in response to, but not keeping up with, population growth (Boapeah and Tipple, 1983). By 1980, impressionistic evidence showed that the rate of growth of houses in the city had already slackened as the economic problems of the late seventies reduced real incomes, and as rents fell behind prices and costs. Apart from a modest spurt of starts during the Limann government (September, 1979 to December, 1981), most of which were at the very top end of the market, there had been a noticeable decline in house starts since the mid 1970's.

The new survey of the number of houses in Kumasi in 1988 supports impressions formed in 1986 that building had continued only slowly since 1981. Less than 800 houses appear to have been added between 1982 and 1985 and only 900 between 1986 and 1988, with the index for houses falling further behind that of population.[1/] However, the increase in rooms per house between the 1980 and 1986 samples (supported by no increase in occupancy rates) gives some grounds to believe that extensions to existing houses have allowed the growth in rooms to keep pace with population growth since 1980.

1/ The slow rate of new house building in Kumasi over at least the past decade is all the more notable because there is a tradition of gaining status through building houses in Kumasi; so much so that it has been a priority over building in the home village in some periods. (See quotation from Fortes in McCaskie, 1986. See also Schildkrout, 1978).

Rental Housing Losses -- Demolitions, Conversions and Foregone Starts

Demolitions of houses appear to be extremely rare except during the A.F.R.C. regime's "house-cleaning" in 1979 in which one or two houses used for storing contraband were blown up by the army. However, a demolition by landlord in order to evict a tenant occurred in early 1989 in Accra causing much public attention. A lack of a tradition supporting individualistic action may have inhibited demolitions in order to rebuild for commercial purposes even in prime sites, e.g. the town center and around Konfo Anokye Hospital/Bantama High Street.

In theory, rent control ought to motivate landlords to consider alternative uses for their properties, i.e. conversion to non- residential uses. There is little evidence of a spread of the commercial sector spreading into central residential areas. Throughout the city, the survey showed 10% of houses with any rooms in commercial use and only 3% of houses with any rooms converted into commercial use since 1980.

In the United Kingdom, rent control has provided incentives for landlords to sell their property into owner occupation (although many tenants also have security of tenure under the law, see Robinson, 1979; Maclennan, 1982). This does not occur in Kumasi because of a strong taboo among the dominant ethnic group against selling fixed property. As Tipple (1988) explains, not only do landlords abhor the idea of selling, but also the tenants would be unwilling to buy from them. The only exception to this has been the State Housing Corporation which has been selling its property to sitting tenants, or new property to the allocatee, for many years as the rents have fallen ever further behind the cost of maintenance. In the survey sample, 40% of households in the government sector owned their house, 22% were family housers. As a quasi-government organization, SHC cannot act with economic rationality alone and allow its property to decay in line with its returns. On the other hand, it has been required to operate on a commercial basis since subsidies were removed (Ghana, 1975). The result has been a slow decay in the housing stock still in SHC ownership and few new houses being built for rental by SHC.

Housing From the Existing Stock

Rent Control in Kumasi creates an incentive for landlords to allow their properties to deteriorate. The 1986 survey of housing in Kumasi shows that many renters live in housing which, structurally, has been allowed to fall into disrepair. Rents are generally insufficient to cover even maintenance costs. The hedonic models show that, while these units would rent for more than the controlled price in the open market, their price is still low and sometimes less than what tenants would be willing to pay for a room with additional facilities. Renters pay little but receive little in return except a location in the city. However, impressionistic evidence indicates that housing deterioration as a result of landlord behavior is compensated for somewhat by tenants' spending resources on maintaining and improving their rooms, probably encouraged by their perceived security of tenure which is exhibited by their very long mean duration

of stay to date. In addition, capital raised through the recent practice of demanding rent advances, is allowing some landlords to carry out repairs between tenancies -- either from the advance or by asking for extra to cover renovations.

Quite apart from rent control, the deterioration problem is compounded by the multi-ownership of family houses where ownership in common under a caretaker/lineage head requires lineage members occupying the house to share in the cost of maintenance. This appears to be a classic "prisoners' dilemma" problem (Robinson, 1979). Since rent does not cover maintenance costs, the different "owners in common" have little incentive to invest in maintenance of a common property, especially when no kudos are traditionally attached to part ownership of a building. Status depends on completing a new building rather than maintaining or rehabilitating an old one (Tipple, 1983 and 1984a).

In addition to the fact that units, not their quality, confer status, the control regime makes no distinction between houses with no services and those with services shared by many households. In order to benefit from an increase in rent, the landlord must make his rooms "self-contained" so that each household has exclusive use of water supply, sanitation, kitchen, and bathroom.

Apart from fulfilling the demands of the building regulations (and enforcement has been very lax for years), a landlord has very little incentive to fit water supply and sanitation, kitchen and bathroom, into his house. To increase the rent, full conversion to self-contained units is necessary, for only then can the improvement costs be passed through to the tenant by means of increased rents. Therefore, why should a landlord fit a water pipe to the house, or improve the latrine from a bucket to an aqua-privy or a ventilated indirect pit, when these will be shared facilities?

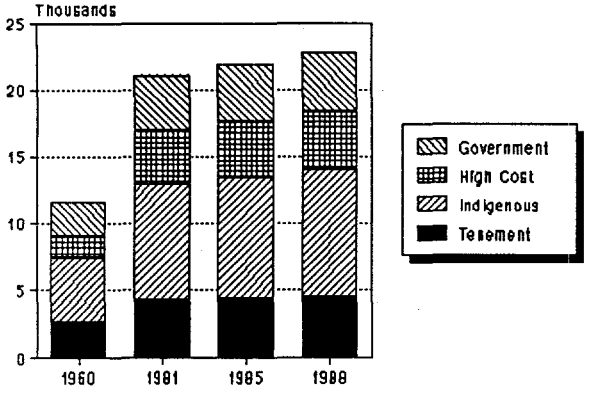
A similar question arises with qualitative improvements to the structure of rooms with shared facilities. As it would make no difference to the rent, what incentive can a landlord have for fitting ceilings or other improvements or repairing the fabric of the house?

Net Effects on Supply

What is the net effect of all of the above? While some starts have undoubtedly been forgone, neither have starts dropped to zero, as might be expected with such extreme controls. However, the current rent control policies also have effects on the quality distribution of houses. We have macro evidence on the number of units of different type, and micro evidence on the quality of the units.

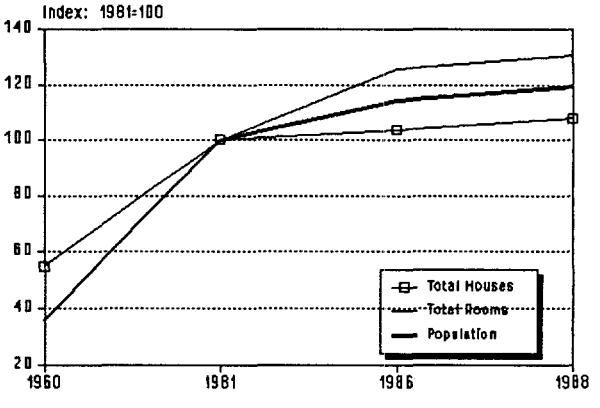
Figure 6.1 shows that the number of houses has grown over time but at different rates in different sectors. The trend for the high cost sector to grow faster than others noted from the 1960 to 1981 period by Boapeah and Tipple (1983) has been somewhat stemmed in the 1981 to 1988 period as the indigenous sector appears to have kept pace (both have grown by 10 percent over the 8 years). The total number of houses has not, however, kept pace with population growth in either the short or medium terms; while there was one house for every 20 people in 1960 (1960 Census of Population), there was only one per 29 in 1980 and one per 32 people in 1988.

Figure 6.1: : Number of Houses by Sector



As houses vary so greatly in size, number of rooms is probably a much more useful measure of housing growth. In 1960 (1960 Census of Population) there were 2.6 persons per room, by 1980 this had increased to 3.3 persons per room where it remains to date. Our data for 1986 shows a major increase in rooms per house in the high cost sector compared with 1980, but this is probably more due to sampling differences between 1980 and 1986 surveys than to actual growth. However, the evidence for growth of rooms in line with population is based on the stable occupancy rates rather than on numbers of rooms per house. Undoubtedly, there has been an increase in extension activity in recent years at a time when new starts have been severely constrained. Anecdotal evidence suggests that the advance payable on, say, two new rooms, could finance the major part of the cost of another room. Thus, the small investment on an existing site is seen to be capable of fulfillment and leading to further wealth creation when the beginning of a large house on a new site may be too onerous.

Figure 6.2: Population, Rooms and Number of Houses



Note: X-Axis Not to Scale

In terms of the change in the quality and utilization of the stock, we have evidence from chapter 2 than there are more family housers, that the service levels, never good, have deteriorated, and that crowding remains a problem. Evidence from chapter 5 suggests that in the absence of controls the majority of households would consume more housing than obtained from their current units: the median estimated PmQm of about 1040 cedis is substantially greater than median estimated PmQc of about 575.

Ultimately, in order to understand the interaction between rent control and supply, we have to understand the interaction between controls and the investment incentives faced by suppliers. We therefore turn to a simple present value analysis of the effect of controls on landlords' profitability.

B. Rent Control and Landlord Profitability

The previous Chapter described the costs and benefits to individual landlords and tenants. What are the effects of controls on supply? In order to understand how controls affect incentives to landlords, and hence supply, we start with a simple present value model.

Present Values

Government subsidies, regulations, taxes and other interventions -- including rent control -- change the cash flows to landlords. Some interventions impose costs (e.g., land use regulations, taxes, rent controls, building regulations) and some benefits (e.g., land subsidies, tax relief, financial subsidies) to landlords. The incidence of costs and benefits is discussed in more detail in Malpezzi (1988).

Present values are a summary of the cash flow and its components. Present values are computed by adding a stream of net costs and benefits from an investment after discounting them to account for the fact that a cedi today is worth more than a cedi tomorrow.[2/]

Consider a simple 4 period example:

$$PV = A_0 + A_1/(1+r) + A_2/(1+r)^2 + A_3/(1+r)^3$$

where A represents the net costs and benefits in each of four periods, and r is the discount rate, or the opportunity cost of capital. For example, if an initial investment of 300 cedis is followed by three years of net returns of 150 cedis per annum, and the discount rate is 10 percent, the present value is:

$$PV = -300 + 150/(1+0.1) + 150/(1+0.1)^2 + 150/(1+0.1)^3 = 73 \text{ cedis}$$

The present value rule states that if the present value of the investment is greater than zero, the investment yields greater than the opportunity cost of capital (the normal rate of profit for an investment of that type), and the investment should be undertaken.

A closely related concept is the internal rate of return. This is the discount rate at which the present value of the cash flow would be zero (benefits would equal costs, adjusted for the timing of receipts and expenditures). It can be interpreted as a measure of profitability.

A Present Value Model of Housing Investment in Kumasi

Rent control's market effects can be analyzed using a simple cash flow model of a representative rental investment.[3/] Table 6.1 presents such a model. Each column represents a year's time. Landlord-developers are assumed to build or purchase a unit in development period (year 0) and rent out the rooms therein for 10 years. During this time landlords collect rents and spend money on

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2/ Even in the absence of inflation.

3/ The general method used is described in any corporate finance text (e.g. Brealey and Myers 1981). Application of cash flow models to investment in developing countries is discussed in (e.g.) Gittinger (1982) and Mishan (1982). Examples of housing policy analysis using such models include DeLeeuw and Ozanne (1981), Brueggeman (1985), and Malpezzi (1988).

maintenance and taxes. At the end of the 10 year period the unit (structure and land) have some salvage value.[4/]

This model is quite simple,[5/] yet it allows us to compare two different rent regimes (labeled the baseline regime and the revised regime in Table 6.1, sometimes referred to controlled and uncontrolled). We can examine the interaction between controls, taxes, maintenance, depreciation, profitability and affordability in a simple but consistent framework.

Of course the model has limitations. It focuses on a "representative" investment, and the exact numbers presented aren't exact for all or even most units. But we can analyze more than one "representative" investment (including different structure types, service levels, locations, and rents). We don't want to focus on point estimates but rather on robust qualitative conclusions. Also, as it happens in Kumasi at least physical structures and current controlled rents are fairly standardized.

The cash flow model is only as good as its inputs; "garbage in, garbage out." But we can and have tested the model with a range of inputs not all reported here, and while the exact numbers change, the qualitative conclusions drawn from the simulations reported below remain robust.[6/]

We note once again that the real valued inputs to the simulations in this chapter are all in 1986 prices. We have assumed a constant 20 percent annual inflation rate for the ten year horizon of the model; while official data on recent price changes are not available yet, it appears that inflation has run well above 20 percent recently.

4/ The salvage period is often discussed as if the owner sells the unit. Actually it makes no difference to the analysis if the owner retains it; the salvage value is the opportunity cost of doing so.

5/ For example, we assume the landlords pay cash for the unit. In Ghana, few rental units are financed through the formal financial system. While it remains true that all durable assets must be financed in some way (even if self financed) ignoring finance is an appropriate simplification for the present purpose. The analysis could be readily extended to evaluate proposals for rental finance.

6/ We encourage interested readers to undertake their own analysis of other representative investments and using other parameter values (especially representing other changes in controls). The model itself is written in Lotus 1-2-3, and is available upon request from the authors. Using the computer model requires the Lotus spreadsheet system, version 2.0 or higher, which is not available from the authors.

Table 6.1: Cash Flow Model of Rental Investment

Year	0	1	2	3	4	5	6	7	8	9	10
General Price Index	1.00	1.20	1.44	1.73	2.07	2.49	2.99	3.58	4.30	5.16	6.19
Market Value of Land	500,000										500,000
Baseline Structure Value	2,000,000										1,488,188
Financial Cost of Land	(100,000)										
Financial Structure Cost	(2,000,000)										
BASELINE RENT CONTROL REGIME:											
Capital Gain/Loss											(111,812)
Maintenance		(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)	(20,000)
NOMINAL Monthly HH Rent		300	300	300	300	300	300	300	300	300	300
REAL Monthly HH Rent		250	208	174	145	121	100	84	70	58	48
NOMINAL Annual Gross Rent		54,000	54,000	54,000	54,000	54,000	54,000	54,000	54,000	54,000	54,000
REAL Annual Gross Rent		45,000	37,500	31,250	26,042	21,701	18,084	15,070	12,559	10,466	8,721
Rental Income Taxes		(2,250)	(1,875)	(1,563)	(1,302)	(1,085)	(904)	(754)	(628)	(523)	(436)
Property Taxes		(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)
Landlord's Real Cash Flow (under controls)	(2,100,000)	20,750	13,625	7,688	2,740	(1,384)	(4,820)	(7,683)	(10,069)	(12,058)	1,974,473
REVISED RENT REGIME:											
Change in Structure Value	352,477										
Revised Structure Value	2,352,477										2,129,667
Revised Capital Gain											529,667
Maintenance		(60,000)	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)
REAL Monthly HH Rent		1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
NOMINAL Monthly HH Rent		1,440	1,728	2,074	2,488	2,986	3,583	4,300	5,160	6,192	7,430
NOMINAL Annual Gross Rent		259,200	311,040	373,248	447,898	537,477	644,973	773,967	928,760	1,114,513	1,337,415
REAL Gross Rent		216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000
Rental Income Taxes		(21,600)	(21,600)	(21,600)	(21,600)	(21,600)	(21,600)	(21,600)	(21,600)	(21,600)	(21,600)
Property Taxes		(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)
Landlord's Cash Flow (no controls)	(2,100,000)	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	132,400	2,791,734
OLD REGIME COMPARED TO NEW											
Foregone Rental Income		(171,000)	(178,500)	(184,750)	(189,958)	(194,299)	(197,916)	(200,930)	(203,441)	(205,534)	(207,279)
Tax Savings		19,350	19,725	20,038	20,298	20,515	20,696	20,846	20,972	21,077	21,164
Savings in Maintenance		80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000
Change in Structure Value											(641,479)
Net Change in Cost to Landlords		(71,650)	(78,775)	(84,713)	(89,660)	(93,784)	(97,220)	(100,083)	(102,469)	(104,458)	(747,594)

Key inputs to the model are underlined in Table 6.1 and Table 6.2. The latter table lists underlying assumptions about changes in market conditions, depreciation, tax rates, and demand. Other numbers are calculated by the model given these assumptions. The landlord's financial cost of building or acquiring the unit (here 2,000,000 cedis for the structure and 100,000 for the land) may be greater or less than their corresponding value (here the structure is worth what it costs but the landlord acquires land through the traditional land allocation system at a financial price of 100,000, less than its value of 500,000 outside the traditional system). Baseline controlled rents are assumed (in this example) to remain at the nominal level of 300 cedis per month; inflation erodes their real value over time. Uncontrolled rents are assumed to be 1200 cedis per month in real terms, i.e. they keep pace with inflation.

Table 6.2: Key Model Inputs

Number of Units in Structure	15
Inflation Rate	20%
Real Discount Rate	10%
Expected Relative Price Changes in:	
Land	0%
Structure	0%
Wages	2%
Gross Depreciation as a Percent of Capital Cost	4%
Demand	
Average R/Y:	0.08
Elasticity:	0.60
Baseline Controls:	
Maintenance to Capital Cost	1%
Net Depreciation Rate	3%
Landlord Tax Rate	5%
Revised Controls:	
Maintenance to Capital Cost	3%
Net Depreciation Rate	1%
Landlord Tax Rate	10%

Any number of alternatives for relaxing or removing controls may be specified by changing the time path of rents in the revised case. Here we assume a simple but dramatic quadrupling of rents to 1200 cedis per room, which then rise with inflation.

Other assumptions for this example include a general inflation rate of 20 percent per annum; a real discount rate of 10 percent; and land and structure values rise with inflation (i.e. their relative price remains constant.) Wages, depressed for so long, are assumed to rise by 2 percent per annum.[7/] Gross depreciation of the unit is assumed to be 4 percent per annum; spending more on

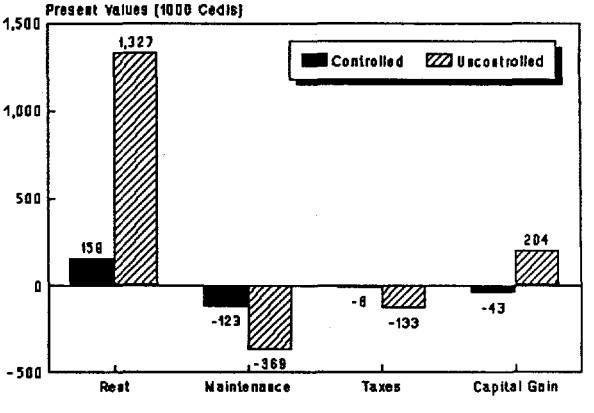
7/ None of the qualitative conclusions are sensitive to this assumption.

maintenance is assumed to reduce net depreciation one for one.[8/] Landlords pay an income tax of 5 percent on rents collected, rising to 10 percent for higher rents.[9/] Households at the median income are assumed to be willing to spend 8 percent of their income on such a unit; the income elasticity, .6, assumes that lower income households spend higher fractions, and vice versa.

Gains and Losses from Four Components and their Interaction

Five key components of landlord cash flow are: initial outlay, rents, maintenance, taxes, and capital gains. Initial outlay does not change when controls are removed, but the other four do. Rent control directly reduces profitability because it reduces the rents a unit can command. But reduced rents also affect maintenance (and depreciation), taxes, and capital gains. These "indirect" effects can be large and should be taken into account. Figure 6.3 summarizes the changes.

Figure 6.3: Change in Components of Landlord's Present Value



Rents. Ghana's current rent control regime fixes nominal and reduces real rents. In the example presented in Table 6.1 above, the reduction in real rents increases over time as inflation takes a larger bite. Our "uncontrolled" or modified regime assumes rents rise with inflation.

Figure 6.3 shows that the present value of real rents collected from this 15 room compound over 10 years under the decontrolled regime is about 1.3 million cedis, compared to 158,000 under controls.

Taxation. If taxes on rental income are collected from landlords, rent control reduces these taxes as it reduces rent. This partially offsets the reduction in rent to landlords, but also decreases government revenue.[10/] Tipple (1988) reports that effective property taxes for units of this type (when

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8/ One way the model could be extended would be to build in a more sophisticated production function relating maintenance to depreciation in a non-linear fashion.

9/ Tax on rental income rises with the monthly rent collected. See Tipple (1988, p. 34) for the full schedule.

10/ If the household spends the extra cash on goods or services that are taxed, the reduction in government revenue will be partially offset. We assume this effect is small.

collected) are on the order of 2,000 cedis. We assume this is unchanged in real terms over time.[11/]

Figure 6.3 shows that the present value of taxes rises from 8,000 cedis to about 133,000 cedis. From the landlord's point of view the tax increase partially offsets the rents collected.[12/] But it also represents a badly needed increase in government revenue.

Maintenance. Landlords have the option to increase or decrease maintenance. While good data are lacking, we assume in these first simulations that maintenance on a controlled unit is a minimal 1 percent of structure cost.[13/] When controls are removed landlords increase maintenance to a still modest 3 percent.

Figure 6.3 reflects this assumption that landlords spend about three times as much on maintenance if controls are removed. But if the unit is not maintained it depreciates faster. This will reduce the capital gain.

Capital Gains. Capital gains (and losses) stem from several sources. First, structures and land can appreciate more or less than general inflation. The simulation presented here assumes both structure and land prices move with inflation. Second, the land and the structure may originally (at period 0) be worth more or less than the value of resources put into it. We've assumed that the original value of the structure (in the baseline case) is worth its financial cost to the landlord-developer, but that the land is worth considerably more. The latter can readily be the case given the traditional system of land allocation, especially if the landlord is an Asante. Thus we immediately identify one incentive in the current system -- in traditional areas building a house can give the landlord control over land worth far more than the fees and ground rents paid. Third, the real value of structural capital declines as the unit depreciates. As we've seen, depreciation depends on maintenance, and in this version we've assumed a simple one-for-one offset. Fourth, if the rent control regime changes, increases in rents will be capitalized into value.[14/]

11/ In the current system, rates or ground rents are usually negligible. While we don't do so here, the model could be used to study the effects of indexing and increasing these rates.

12/ This model assumes that taxes are collected and that landlords bear the tax. Other assumptions about incidence could be explored in future work.

13/ Good data on maintenance are lacking. In developed countries maintenance and other recurrent expenditures are much higher -- on the order of 8 percent of structure values -- but more services are provided with the units. On the other hand, swish units require regular structural maintenance. The figures in these models represent best guesses.

14/ For these simple simulations we've assumed full capitalization of the difference between the average net income streams for the two regimes. We've also assumed that decontrol was completely unanticipated. These assumptions could be compared to alternatives in future work.

Finally, we note that we do not assume that the landlord actually sells the unit; among other things, we can abstract from capital gains taxation.

Effects of Rent Control on Landlord Profitability

Figure 6.4: Summary Present Value
New Unit, at Discount Rate of 10%

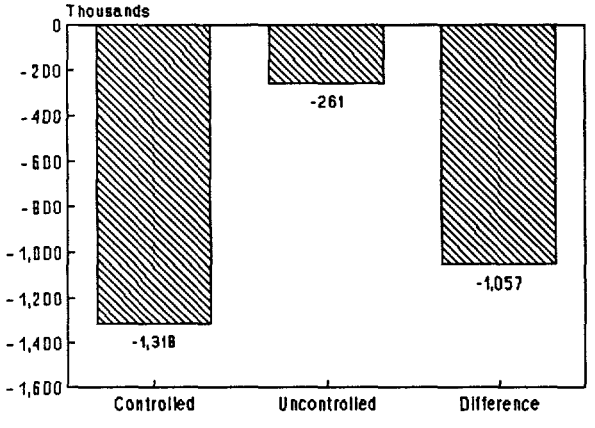

Figure 6.5: Internal Rate of Return: New Unit

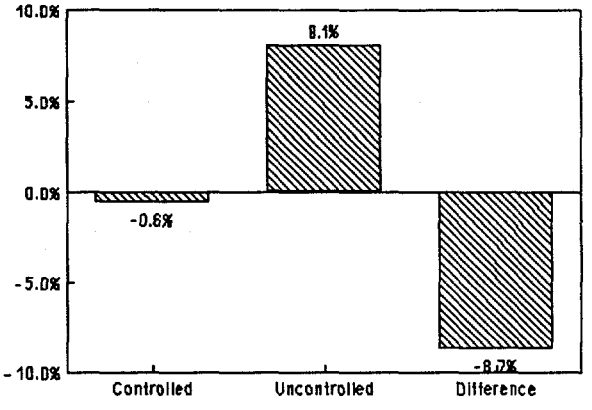

Figure 6.4 presents the overall net present value of the controlled and uncontrolled investments laid out in Table 6.1. We have assumed a real discount rate of 10 percent.[15/] Figure 6.5 presents the corresponding internal rate of return, or discount rate at which the present value of the unit is zero (the landlord-investor breaks even).

At a real discount rate of 10 percent, the present value of the controlled unit is about -1.3 million cedis. If the unit was uncontrolled, the present value would still be negative, but the "loss" would be smaller: about -260,000 cedis. We can interpret these numbers as follows. If investors could receive a real return of 10 percent on an asset with similar risks, they would prefer such an investment over rental housing in either case. But clearly they would lose less in the absence of controls.

What if (as will be developed further) there are no similar investments for Ghanaians which yield 10 percent? How high a rate of return could housing compete with? The internal rate of return for a controlled unit is estimated at about -1/2 percent per year, not too different from zero. In other words, landlords could break even with housing if other investments were yielding negative returns. Without controls, housing could compete for capital with investments yielding up to 8 percent. Controls reduce the rate of profit by about 9 percent overall. Like any other investment, if you want someone to build housing, you have to let him make money at it.

Now we can begin to see an answer to our earlier question: Why would anyone invest in housing currently, given stringent controls? Rates of return

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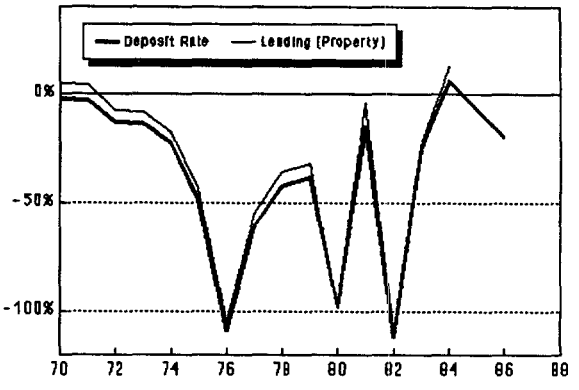
15/ Ten percent is, in our judgement, quite a high real rate. The Bank standard of 12 percent is even higher.

of zero and net cash flows are almost nil, as we have seen. But recall from Chapter 2 that returns to financial investments were negative until very recently.

Alternative Investment Opportunities

Figure 6.6: Real Interest Rates



There is a strong entrepreneurial spirit in most Ghanaian cultures and Kumasi has a reputation for being a source of cash ready to chase investment for profit. If housing ceases to provide ready returns, other forms of investment are available. In recent years anecdotal evidence suggests investment in (e.g.) trading, transportation and machine tools seems to have increased, all of which give a quick return. But these kinds of investments are small scale, and limited by the time and skills of the investor.[16/] Financial investments, which are not so limited, have consistently showed atrocious returns (see Figure 6.6), and further the financial system may still suffer the after effects of previous vetting of savers. Under such conditions "maximizing returns" may be more accurately thought of as "minimizing losses" or capital preservation.

Figure 6.7: Returns to Financial And Other Investments Compared

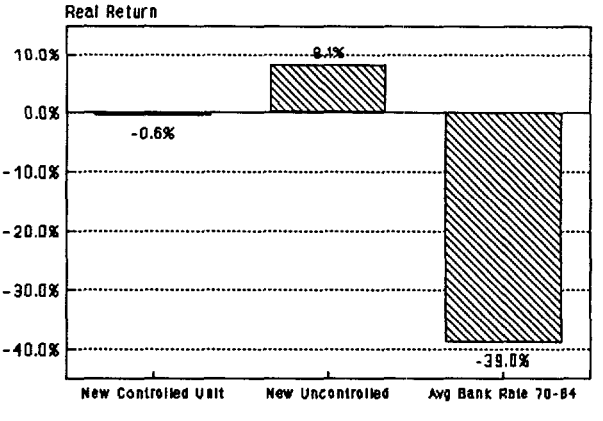


Figure 6.7 compares the average rate of return on financial assets over the 1970-1984 period to the internal rates of return for controlled and uncontrolled housing. The difference is arresting.

Returns to some other activities, such as trading, were probably higher than housing. But not everyone can trade, and if one has a large sum to invest alternatives are required.

Of course real financial rates are no longer on the order of -100 percent, as they were in the seventies. Paradoxically, as inflation abates and financial investments yield positive real returns, the capital gain/preservation motive for housing investment will weaken.

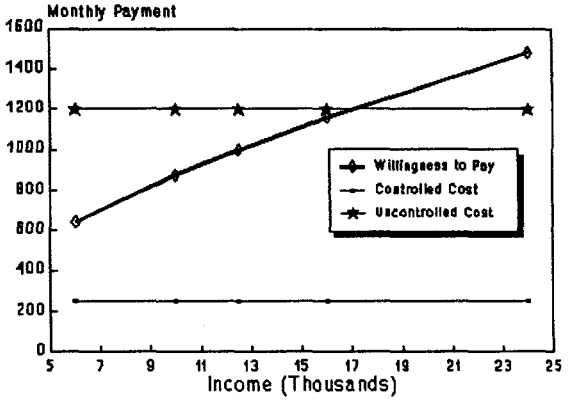
16/ Except to the extent informal financial systems can successfully intermediate. Experience suggests while better than no system these informal systems are very inefficient. See (refs).

Emphatically, we do not argue for subsidies or tax breaks to restore the status quo before Ghana's difficult struggle against inflation. Rather, we recognize that current cash flow will become a more critical investment incentive in a stable economy. Some housing investment may have occurred as a vent for savings in the past, but housing will -- and should -- face stiffer competition from a wider range of alternative investments. Rent control will bite deeper into incentives for such investment as recovery proceeds.

Affordability

The model has a simple demand side which enables us to study the affordability of each rent regime. Given an income distribution (midpoints of income quintiles) and average and marginal propensities to consume housing (the median income household's average willingness to pay for such a unit, and the income elasticity), the model generates willingness to pay for the entire income distribution and compares it to rents under each regime. Figure 6.8 presents this graphically for the first year. The diagonal line represents willingness to pay by income, given the income distribution and demand parameters from Table 6.2. The five dots on the line represent the income midpoints of the five quintiles. Note that controlled rents (the bottom horizontal line) are affordable to all 5 quintiles, while higher uncontrolled rents are affordable to the top 2 quintiles.

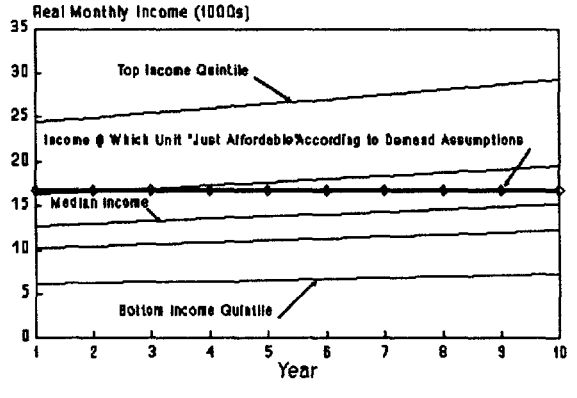
Figure 6.8: Willingness to Pay
Decontrolled New Unit (Yr 1)



Recall that this is a representative new unit. Representative does not mean that all units will deliver the same package of housing services, or will rent for this amount. Some units will be produced which will rent for more, some for less. Note in particular that rents are always higher for new units in uncontrolled markets. We will examine existing units below.

Since rents change over time, and since incomes can also rise and fall (given an assumption about the growth or

Figure 6.9: Affordability Over Time



decline of real wages, see Table 6.2)[17/] the model also generates the time path of affordability (Figure 6.9). The five unmarked horizontal lines represent willingness to pay in each of five income quintiles over time (10 years). These lines are rising because of the assumption noted above that real wages rise by 2 percent per year. The heavy marked line represents the income at which real uncontrolled rents are "affordable" over the same period given the particular demand assumptions made. This amount is fixed because (in this simulation) real rents are constant over time. So, in this simple case, since real rents remain constant, while real wages increase, the affordability picture improves somewhat over time.

Profitability and Affordability for an Existing Unit

Our estimated rent of 1200 cedis for this illustration was based on the market rent of the typical household in equilibrium (PmQm). But what about existing units? They yield fewer housing services, and our best estimate of typical market rents, PmQc, is roughly twice current rents (i.e. 600 cedis).

Figure 6.10: Internal Rate of Return, Existing Units

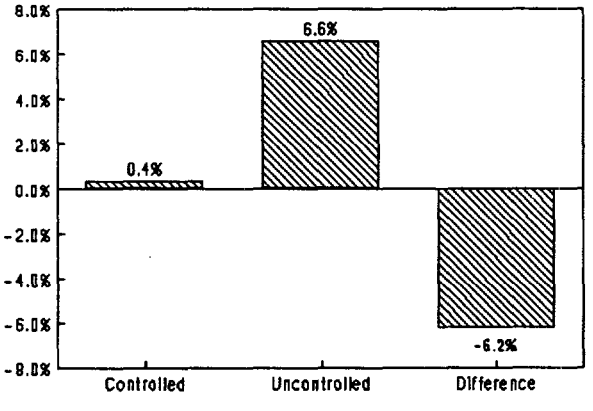
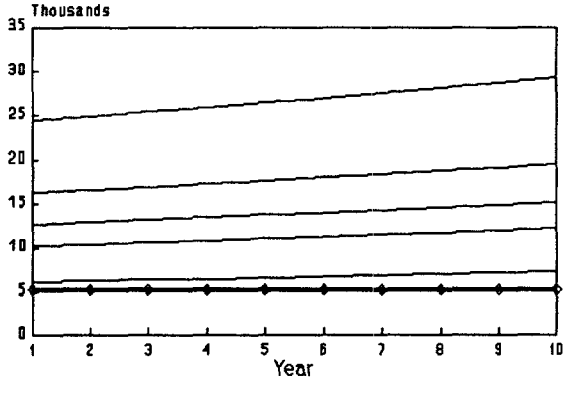


Figure 6.11: Affordability, Existing Units



In addition to changes in rents, the key difference is that existing structures provide fewer services and are hence worth less than new structures. We have assumed the structure is worth 500,000 cedis, and the land is worth the same 500,000 cedis as before.[18/] Figures 6.10 and 6.11 present the key internal rates of return and affordability results for these units.

17/ We assume that changes in real wages shifts the initial income distribution up or down proportionally.

18/ In other words we have assumed that if such units were traded, landlords could sell their existing units and land for about 1,000,000 cedis total. Such trades rarely occur in practice, but it gives us some guesstimate of the opportunity cost of not trading (i.e. what it costs an existing landlord who stays in business).

These assumptions yield similar profits to landlords, as measured by the internal rate of return. Note, however, that the unit is affordable even at the bottom income quintile, according to our demand assumptions. If rents for existing units rise to our estimates of market levels, decontrol will not make existing units "unaffordable."

What's Missing From the Model, and Related Conjectures

Risk. It is implicitly assumed that the time path of rents is known with certainty by all market participants. If landlords believed that controls would be reimposed, they would be unlikely to respond to decontrol by building or maintaining and upgrading units. If tenants believed controls could be reimposed, they might spend high fractions of their income initially to gain tenure rights in a unit whose real rents might decrease; but such behavior carries risks for them as well.

Imperfections in input markets and from other regulations. One motive for housing investment mentioned briefly above is that it yields an accompanying property right to use of land. In general, as Chapter 2 described, land, infrastructure, and financial markets have not worked well in Ghana in recent years. Planning regulations and building codes have at times been impediments. As a consequence, when someone does succeed in financing and building a house, a capital gain (at least relative to alternative investments) is guaranteed. Cash flow is not an issue, since cash flow under rent control is negligible. Whatever housing has been built, has been to capture capital gains (or reduce capital losses).

If controls are removed, cash flow can become a positive incentive. But if the other impediments to housing supply -- land, infrastructure, finance, other regulations -- are not removed or mitigated, supply will be constrained. Real rents will rise, possibly well above our estimates of equilibrium rents, until such supply is forthcoming. We said above that "if rents rise to market levels, decontrol will not make existing units "unaffordable." This will only come to pass if the supply side is enabled to respond. It is essential, therefore, that decontrol be accompanied by action on these other fronts.

Market-wide effects. What can we say about market wide effects, given analysis of representative but still individual units? It is important to carefully consider the difference between marginal changes to an individual landlord and market wide changes. For example, an individual landlord freed from controls could raise rents well above estimates of "market" levels and keep them there indefinitely, if everything else was held equal (notably if other landlords were still controlled). But if all landlords are freed from controls, they are bound by the fact that many if not most tenants would not pay rents greatly above

these levels, although rents could certainly rise above our particular point estimates.[19/]

So we have implicitly considered some market wide effects already, in the sense that our estimates of rent changes in newly decontrolled units are in a sense average rather than marginal changes. More sophisticated models can, in principle, account for market wide effects directly. While we are doing some work in this area, we feel that these models[20/] are not yet adequately calibrated and tested to fairly represent Ghanaian markets.

Summary of Effects of the Current Regime

Controls reduce the present value of rents and capital gains but taxes foregone and lower maintenance expenditures partially offset this loss. Such current investment as exists is motivated more by capital gain (or more accurately avoiding capital loss) and by nonpecuniary income (status conferred) than by current income from the unit. Units are currently affordable by virtually all households, given a unit is available. Service levels and maintenance will be decreased.

If rents for new compound rooms were of the order of 1200 cedis (compared to median estimates of 1050 cedis from the previous chapter), they would be affordable to the top 40 percent of the income distribution. If rents for existing units were to rise to 600 cedis (compared to median estimates of 575), they would remain affordable to virtually all income groups.

Markets always produce "affordable" housing for the poor, in the sense that everyone will live somewhere.[21/] The market does so now, in Kumasi as in everywhere else. Our concern is that in the current market this housing is overcrowded, with inadequate services, and deteriorating faster than need be. Rent control contributes to this problem. The previous chapter demonstrated that in Kumasi rent control reduces tenant's welfare by reducing housing consumption as much or more than it increases their welfare by reducing rents.

Rent control is not the only problem in rental or housing markets generally. Other problems -- in land, infrastructure, finance, materials -- adversely affect the market, and drive costs up. They drive costs up higher for the poor than for others, as we will discuss next.

19/ We note in passing that in the absence of careful surveys, anecdotal information usually overstates changes in rents. Everyone talks about the units with the most dramatic changes; units which have more modest increases remain out of the public consciousness.

20/ Some models represent multiunit, multihousehold "assignment" models similar to (e.g.) Murray and Rydell (1987). Some try to model the likely time path of prices market wide (e.g. De Leeuw and Ekanem 1972 and Muth 1987).

21/ In extreme cases -- in developed countries as well as developing -- shelter can be as minimal as cardboard over a piece of pavement.

C. Effects of Other Regulations

Rental housing suffers from the same problems as the market overall -- problems in the key input markets of land, finance, infrastructure and materials, and problems in the regulatory framework. Many such problems, when addressed, are not tenure specific but will aid rental as well as owner occupied housing -- for example, improvements in land titling, or in infrastructure provision. But other problems affect rental disproportionately. Building codes and land use regulations which discourage compound houses particularly affect rental housing. Rent controls and other rental regulation obviously discriminate against this form of housing supply. Less obviously, solutions to market wide problems -- such as land and finance -- need to be designed with both rental and owner occupied housing in mind.

Quite properly, most Ghanaian officials do not view publicly owned rental housing as a solution to housing problems. For example, SSNIT is working out its inventory of subsidized rental units -- finishing off uncompleted units and selling them to tenants. Their experience has highlighted the high costs and limited replicability of publicly (or quasi-publicly) owned rental housing.

Relaxation of rent control is necessary but not sufficient for expanding the supply of rental housing. Relaxation/decontrol must be accompanied by measures to ensure a rapid supply response to the demand for rental housing, or else rapidly rising rents could squeeze existing tenants and jeopardize decontrol. Political consensus is, after all, required for successful change.

Of the major constraints on private rental housing, many -- land, finance, infrastructure, materials, building codes and standards -- were discussed briefly in Chapter 2. While detailed discussion of each is beyond the scope of this report, the following points should be noted. Rental markets suffer from the same constraints as housing markets generally, but there are also some which affect rental particularly (in addition to the obvious problem of rent controls). Among other collateral actions, it will be necessary to:

(a) Pay particular attention to building codes, land use standards, and other regulations which discriminate against low cost compound housing. Land use regulations should be modified to permit construction of compounds in urban areas. Building in swish should be permitted, subject to proper construction techniques.

(b) Do not discriminate against rental in provision of serviced land. Don't require owner occupancy for access to land in any program designed to improve land availability (including sites and services).

(c) Don't neglect finance for rental housing. Ensure that rules for lending don't discriminate (intentionally or unintentionally) against rental housing.

These and other actions need to be taken as complements to any decontrol program. Let us now turn to analysis of several alternatives for decontrol.

D. Analysis of Decontrol Policy Options

There are a number of options which could be considered for removing or relaxing controls. Arnott (1981) presents a clear taxonomy. The main options, with a few comments are as follows:

(a) Blanket lifting: all rent controls are completely removed as of a certain date. This is the simplest method, but is very difficult politically, and may lead to short run dislocations.

(b) Decontrol new construction: an obvious option which is being undertaken in India, Brazil and a number of other markets. But new construction can still be inhibited unless government credibly guarantees units will not come under controls later.

(c) Rents could also be immediately decontrolled for units which are meet certain standards, either now or after upgrading (e.g. for units which provide acceptable water supply and sanitation). Standards would have to be carefully chosen, however, to meet requirements without imposing unnecessary costs.

(d) Floating up and out: controls are gradually relaxed, for example rent rises are some multiple of CPI or wage index changes, until controls are no longer binding on most units. Then controls can be abolished. This method can permit a smoother adjustment if potential landlords view the gradual program as credible.

(e) Vacancy decontrol: Units are decontrolled as they become vacant. This method has been tried in some North American markets, but may keep mobility down, with possible adverse effects on housing and labor markets.

(f) Vacancy rate decontrol: particular markets are decontrolled as the vacancy rate rises above some threshold. But while controls (and other problems) remain, vacancy rates will probably remain extremely low. How can vacancy rates increase while controls remain?

(g) Rent level decontrol: decontrol by market segment. Rents could be decontrolled from the top down (the current system, with a threshold of 1,000 cedis, embodies this to a limited extent). But such a system can provide perverse incentives to raise rents above long run equilibrium levels in order to escape controls.

(h) Contracting out: landlord and tenant negotiate a payment to the tenant in return for his giving up the right to controls.

(i) Decontrol new construction: an obvious option which is being undertaken in India, Brazil and a number of other markets. But new construction can still be inhibited unless government credibly guarantees units will not come under controls later.

Of course these options are not all mutually exclusive. In many respects floating up and out has some a priori appeal, because the market may take time to respond, particularly given the current problems in input markets, etc. Blanket lifting carries the danger of a sharp short run rise in rents which would be reduced over time. The present value model from above can be used to study scenarios derived from the above.

Do Nothing

This is the baseline case already described. Rents are frozen in nominal terms at 300 cedis. Even if there were a one-time revaluation, inflation would quickly erode its value (as has happened in the recent past). Households would continue to consume roughly half of the housing services they would consume in the absence of controls.

Also, we noted above that during the financial disruptions of the past decade and a half housing was one of the few ways to preserve capital. As the structural adjustment takes hold financial and other investments will offer more favorable returns, housing will no longer be such a vent for savings. If housing is prevented from offering a competitive rate of return by controls, housing conditions will worsen.

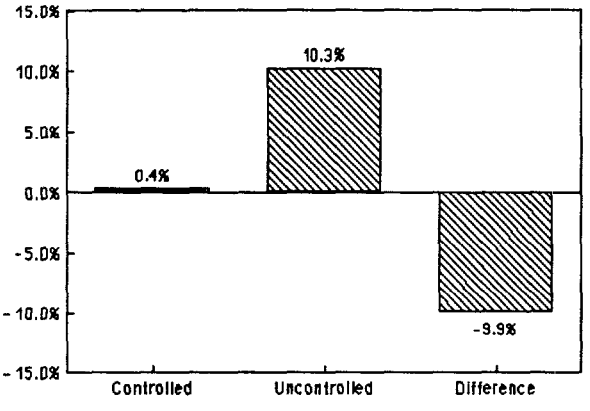
Blanket Decontrol

Conceptually, this is the simplest decontrol option. This second option was studied above, under the assumption that rents for new rooms in compounds quickly adjusted to the (highest) static estimate of market rents from the cross country model of the previous chapter. New rooms would therefore be "affordable" (given the demand assumptions) to the top 40 percent of the income distribution. Market rents for existing units (PmQc) are lower (and more affordable). But we noted that other market imperfections could constrain the supply response. Let's then examine a "worst case" where rents for new rooms rise much higher initially due to inelastic supply.

In this option we are concerned more with the changes in rents for existing units than for new units. If a household is given a choice between remaining in an existing unit and moving to a new unit, however expensive, they can't be made worse off because they have the option to remain. But they can be made worse off if rents rise for their current unit.

Blanket decontrol, where all controls are lifted at one time, is simplest administratively. But some rents in Kumasi have fallen so far behind market values that rises could result in major dislocations. Arnott (1981) indicates that the greater excess demand there is in a market, the greater will be the disruption caused by blanket decontrol. The data show that there is substantial excess demand in the Kumasi market; thus, disruption under this alternative could

Figure 6.12: Internal Rate of Return
Existing Unit, Rents Overshoot Equilibrium

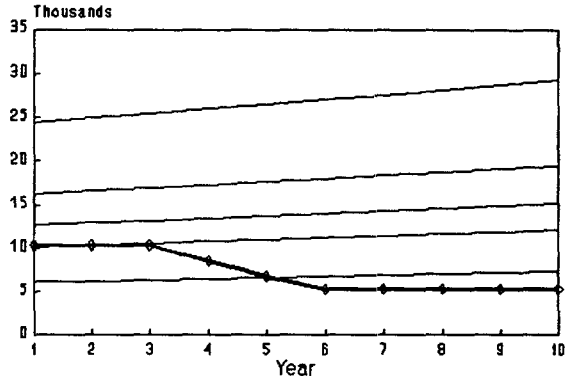


be large, especially if other housing market imperfections initially impede the supply response.

How bad could this be? Suppose rents for existing units rose to (say) 900 cedis initially instead of 600. Assume that only after five years does the time path of rents fall to the long run equilibrium of 600. Figure 6.13 presents the key affordability results; in the first year the units are affordable to the top four quintiles, but not the lowest.

There is always a built in check on this process. Rents have to be paid by someone, so units' rent can only rise as high as the market will bear. Our initial "average" affordability estimate was 8 percent of consumption, with an elasticity estimate of .6 The median income assumed for the bottom quintile is 6,120 cedis. This yields a predicted average willingness to pay rents of about 11 percent for this group. If initial rents for existing units rose by half again as much as our estimate, this would require the typical bottom quintile household to devote 15 percent of their income to housing. If initially rents were double our best estimate, low income households would typically spend 20 percent until rents came down to their equilibrium levels.

Figure 6.13: Willingness to Pay Over Time
Existing Unit, Rents Overshoot



While 11 or even 15 or 20 percent of income may not seem extraordinary to an outside observer, especially when low income households typically spend large fractions of their income for housing elsewhere, the change from the current situation is substantial. One way to cushion the blow and ensure political sustainability of decontrol is to replace controls with better targeted housing subsidies for the poor. This is the approach that was used to relax postwar European controls.

But large scale subsidy schemes are probably not administratively or budgetarily feasible in Ghana at this time. Are there any other alternatives which do not make such demands on the budget and on government's administrative capacity? Several decontrol alternatives should be considered in this light.

Decontrol New Construction and Upgraded Units

Completely freeing rents for newly constructed units can only increase supply. As noted, if a household is given a choice between remaining in an existing unit and moving to an expensive new unit, they can't be made worse off because they have the option to remain.

Exemption of new construction from rent controls is most attractive to the authors in the short term on the grounds that it encourages new construction. Similar exemption could be applied to improvement of existing housing, to encourage improvements in conditions without adversely affecting many existing low-income tenancies. It must be recognized that revaluing the upgraded units may be very complex to administer. However, given that there is quite a sophisticated rent control administration in place in Kumasi, this method may be practical.

In a sense, new construction is already potentially decontrolled. "Luxury" units renting for over C1000 are nominally exempt from controls. Given inflation since the date the ceiling was set, market prices for newly constructed rooms probably now exceed the C1000 ceiling for controls (at least in Kumasi and Accra). But landlords still face the risk that the schedule of controls will be revalued. As long as controls remain in place they remain a disincentive to investment. Our conjecture is that credible decontrol of new units and a firm plan for decontrol of existing units are required to build investor confidence.

In addition to removal of controls on newly constructed units, revaluation or decontrol of units which have undergone upgrading could also increase supply. In Ghana as in other countries, most housing services are produced from the existing stock; preserving and upgrading this stock is a critical but oft-neglected part of any housing strategy. It would be important to choose the threshold at which decontrol occurs carefully; for example, requiring (say) flush toilets would simply make the regulation irrelevant for much of the population.

Decontrol for New Tenants

This option has been considered in a number of developed and developing markets (for example, Los Angeles, see Murray and Rydell, 1987). Cities like Cairo, with functioning key market systems, have systems which function de facto in a similar way, since key money can usually be collected from new tenants but not from old. But these systems result in several perverse incentives. Landlords have incentives to undermaintain units or even harass tenants in order to reclaim the unit and increase their rental income. Tenants have incentives to avoid moving to units more in line with their current needs because they would give up existing rent discounts. Such systems have the potential to reduce mobility and decrease the efficiency of use of the existing stock.

Revaluation for new tenancies could be unhelpful as it would continue the problems caused at present by the demands of advance payments and result in an even less mobile rental sector than at present. As renters in compound houses live in closer proximity to other households than most tenancy groups in other countries, vastly different rents being paid by neighboring households, according to their length of tenancy, is likely to be socially unacceptable.

Floating Up and Out

The most effective method for encouraging new investment while protecting low income renters may involve a combination of indexation of increases with a "floating up and out" of controls. The latter involves the transition from controlled rents to market rents over a period of years. It is preferable to have an end date when controls are withdrawn completely in order to maintain landlord confidence in the reality of the end of the controls which have cost them so much. Indexation could provide a formula for determining the intermediate rent levels. For example, rents could be increased annually by, say, the Consumer Price Index plus a percentage of the previous year's rent until a set date when the final increase to market levels would be implemented. Any units reaching their market level before this date would, of course, remain there. This is quite possible for many rooms in Kumasi where there are no services and physical conditions are poor. This phasing would smooth the path of adjustment giving tenants who could not afford their current room at the market rent time to find suitable alternatives.

Figure 6.14: Internal Rate of Return
Floating Up and Out

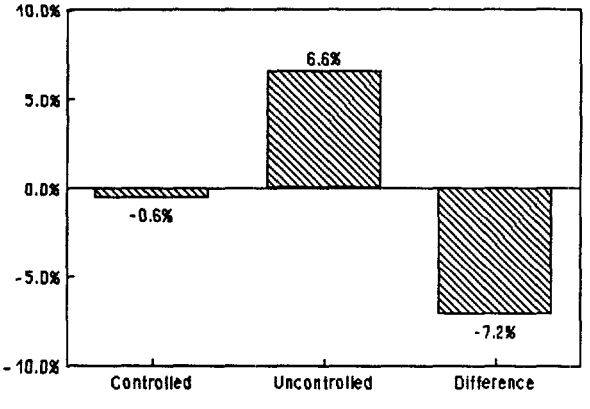
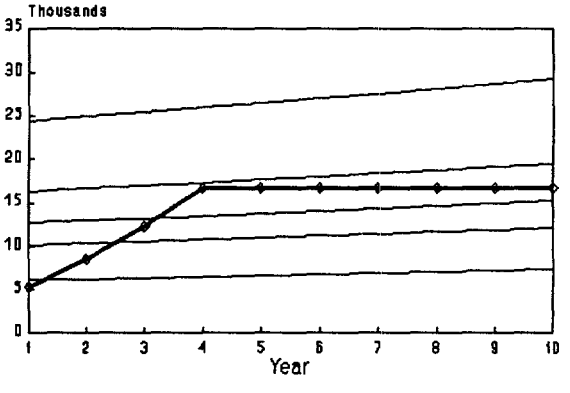


Figure 6.15: Willingness to Pay
Floating Up and Out



Figures 6.14 and 6.15 present the changes in rates of return and affordability for a newly constructed unit between the current system and floating up and out. Suppose (1) rents were completely indexed to inflation and (2) real rents were phased in as follows: real rents were doubled to 600 in the first year, 800 the second, 1000 the third, then finally freed at their free market level. Landlord profitability is roughly the same as it was for the first option presented in Figure 5.5, and affordability is ultimately also.

But the phase-in could prove less disruptive in tenants' minds. The latter may seem a strange point, but no system of decontrol is worth attempting which is not politically feasible and sustainable. Decontrol followed by recontrol does not do the market nor any participant any good. Only if relaxation is perceived as fair by a substantial number of both landlords and tenants will it succeed. Only if the government's commitment to the announced schedule is firm will landlords supply more housing.

Other Options

Other systems which differentiate between tenants and or units (such as vacancy rate decontrol) are unlikely to be workable in Kumasi. Data requirements and administrative capacity are simply too high. Any decontrol measures suggested should be simple to administer and as fair to all parties as possible.

The contracting out option, where landlords are permitted to pay tenants a compensatory sum in order to either change their lease or to let the room to someone else is most relevant in cities where the scale of rent is closely tied to date of occupation. Thus, in a city where newer tenancies are uncontrolled, landlords can negotiate to buy out their existing tenants. Existing rents in Kumasi are unaffected, in law, by the date of occupation; thus, contracting out is unlikely to be a useful mode of decontrol.

Decontrol by market segment could be useful for the self-contained units especially as many of them are employer housing in which the tenant would be cushioned from rent increases at least in the short term. Furthermore, this sub-market has been excluded from controls on previous occasions. However, rents in self-contained premises are currently heavily affected by those of shared accommodation and would have to rise very considerably to represent market values. If further segments of the market were required to spread control gradually to the whole stock, division of the remainder would be very complex. Thus, what is intended to be a gradual process, may need to be implemented in only two stages.

E. Summary

This Chapter showed that while housing quality in Kumasi is quite low, at least the number of rooms seems to have kept pace with population growth in recent years. Everyone lives somewhere, but often in overcrowded, unsanitary conditions.

While rents are very low, landlords have had some residual motivation to invest in order to reduce capital losses at a time when alternative investments did not yield positive real returns. Since rents are no longer economic, "family housing" increased.

Simple present value models were used to explore alternative methods of relaxing controls. If rents rose to the levels suggested by the results of the previous Chapter, landlords could obtain positive real returns and households would still pay reasonable fractions of their income for rents. However, it cannot be denied that many households would be shocked to see their rent burdens double for existing units.

Yet the present system is clearly not working. Government can choose between:

(a) Low rents accompanied by continuing overcrowding, insanitary conditions, reduced labor mobility, which will probably worsen as adjustment provides other investment opportunities to landlords, and

(b) Increases in rents which are not popular with tenants but which can mitigate the problems above, if combined with action on other impediments to the supply of housing.

Alternatives for decontrol exist. While there is certainly room for discussion of other alternatives, results presented above suggest decontrolling new construction, indexing rents for existing units to general prices, and letting real rents for existing units rise gradually has some appeal.

Once again, it cannot be overemphasized that whatever option is chosen, actions must be taken to ensure elasticity of housing supply so that increases in rents are accompanied by an increase in production. This requires that rent control is seen as one part of a housing strategy which also aims to release resources on the supply side; land, infrastructure, materials, and finance; so that supply and demand can reach equilibrium through increases in both the scale and the variety of the housing stock rather than through greatly increased prices.

VII. A FINAL SUMMING UP

Forty years of rent control have been successful in keeping rents in Kumasi very low, both as a percentage of consumption and in proportion to the cost of building. There can be few households in Kumasi who cannot afford the monthly rent of a room. But housing conditions are worse than we would predict even given low incomes. And payment of rent advances is further eroding whatever gains some tenants receive from controls.

The Kumasi results are striking in the sense that rent absorbs less than 2 percent of income on average. Indeed the rent to income ratio is extremely low even compared to other rent control regimes in less developed countries.

The private sector has always provided most housing in the city. Government direct activity has been limited to a few small houses, now mostly sold to their occupants. At the same time, although there are major cultural incentives to build houses in Kumasi, very few households build only for their own occupation.

Other severe problems in the housing market include problems in obtaining the inputs to housing: land at affordable prices, building materials, and finance. Land use and building regulations also take their toll. However, the evidence in this paper demonstrates that low rent levels have contributed to the poor state of housing in Kumasi in 1989.

Housing conditions in Kumasi show many of the characteristics of shortage. Occupancy rates and the percentage of households in only one room are both high. There are fewer single person households than in the past, and the high cost area is becoming more like the rest of the city than it was in 1980. While there has been a slowing down in housing starts since the mid 1970s, recent years have seen an increase in the number of rooms by additions to existing stock. Thus, although the number of houses has not kept pace with population growth since 1980, the number of new rooms has.

There has been a reduction in the proportion of stock available for rental since 1980. Landlords have been replacing rent paying tenants with family members who live rent-free to such an extent that the percentage of family house tenants has doubled in the 1980 to 1986 period. There has, however, been little transfer to commercial or other non-residential uses.

There is a generally low expectation of rent levels among both landlords and renters. Rents are only about half of the market price for which the unit would rent in the absence of rent control (roughly, 300 cedis controlled rent compared to 600 estimated market rent for current units). But we estimate typical households would spend considerably more than the the estimates of uncontrolled rents for current units (roughly 1100 cedis). This implies that housing consumption is well below equilibrium demand. Decontrolling rents would permit landlords to achieve a positive real rate of return on their investment, which may be sufficient (given the additional cultural status attached to house building) to stimulate an expansion in new housing units. However, collateral actions will be required in land, infrastructure, finance and other regulation to ensure that the supply response will be forthcoming.

Rent control is inefficient in the sense that the costs imposed by rent control on landlords are not all captured by tenants as benefits. This efficiency loss is severe in some sectors of the Kumasi housing market. In all cases, rent control costs landlords more than the net benefit to tenants. If the elasticity of demand for housing is around -0.5 (one reasonable assumption) a majority of tenants lose more from underconsumption of housing than they gain from lower rents.

In terms of distribution, the largest net benefits are captured by poorer households. Richer households suffer the most from consuming less than their equilibrium demand. Long term tenants receive larger gains than others; in fact for recent movers costs exceed benefits. In the last few years, landlords have begun to demand payment of rent for years in advance, creating considerable hardship for renters who must find many month's income in cash to obtain or hold on to a room.

Landlords differ little from renters except in the amount of housing they are able to consume. Their incomes are little higher than renters' per household; they are lower per capita owing to their greater household size. However, the larger number of rooms they occupy does allow owner households to have lower occupancy rates; they also have better access to water supply, toilets, and other facilities in the house.

Controls depress landlord's profitability and, hence, their incentives to supply rental housing. Even after accounting for reduced maintenance and taxes, our estimate for a typical new unit is that the rate of return falls from about 8 to -1 percent. We noted that -1 percent at least preserved capital during the period when returns to financial investments were highly negative, but that returns to financial investments should do better in the future. So must rental housing, if it is to compete for capital.

We estimate that, if decontrolled, rents for existing units would double (in 1986 prices), and rents for new units would roughly quadruple. However, these are estimates of long run equilibrium rents. While we have no dynamic model capable of <u>predicting</u> the time path of rents, we were able to explore the implications of different <u>assumed</u> time paths using the present value model.

Note also that since the ceilings for "luxury" units have remained fixed (at 1000 cedis) as well as rents, and we estimate that new units would rent for over 1000 cedis, new construction could be decontrolled "by default" if landlords believed the ceiling would not be changed in the future. A credible promise not to raise the ceiling could be one way to decontrol new construction.

Finally, while we emphasized "floating up and out" for existing units along with immediate decontrol for new construction and upgraded units, there are a wide range of options which can be explored in more detail with the aid of the present value model. Building a political consensus behind decontrol is not independent of but is more important than the technical means chosen for decontrol or relaxation.

Rent controls reduce efficiency in the Ghanaian economy by depressing the return to a major share of Ghana's fixed capital, in addition to reducing the social efficiency of the housing stock. However, it is vital that policies for changes in rent policy be taken as part of a broad housing strategy including policies to improve the functioning of input markets for land, services, building materials, and finance, so with changes in land use and building regulations as well, so that increases in rent would be accompanied by increases in the housing stock.

ANNEX TABLES

Table A.1: Type of House by Number of Rooms (Percent)

Type of house	Number of rooms 1-5	6-10	11-15	16-20	21-25	26-30	31+	Mean Number
1-st compound	21	27	33	9	4	0	6	12
Multi-st. comp.	6	18	21	28	10	3	13	17
Detached house	48	27	23	2	0	0	0	7
Semi-det. house	73	18	9	0	0	0	0	4
Terraced house	72	25	3	0	0	0	0	4
Total	35	24	24	9	3	0	5	10

Table A.2: Type of House, 1979 and 1986 (Percent)

Type of house	1979	1986
Single storey compound	\	41 \
Multi-storey compound	/=60	16 /=57
Detached house	13	24
Semi-detached house	17	12
Terraced house	\	6 \
Others	/=11	0 /=6

Note: 1979 data are from Srivastava (1980).

Table A.3: Monthly rents paid per household and per room (Percent)

Rent Paid (C)	per household	per room
0 - 99	2	4
100 - 199	5	7
200 - 299	26	33
300 - 399	50	51
400 - 499	3	2
500 - 599	4	4
600 +	9	1
Mean	366	264
Median	300	300

Table A.4: Distribution of Household Monthly Consumption by Tenure (Percent)

Household monthly consumption (C)	Tenure			
	Owner Familyhousers	Renters	Sub-renters	Total
0 - 4999	3	11	5	8	6
5000 - 9999	14	30	26	30	26
10000 - 14999	23	27	36	24	32
15000 - 19999	22	18	18	13	18
20000 - 24999	18	8	8	13	9
25000 +	19	6	7	12	8
Mean (C)	19600	13400	13500	16200	14300

Note: In 1986 C90 = US$1.

Table A.5: Household size distributions, 1970, 1980 and 1986 (Percent)

Year	Persons per household. 1	2	3	4	5	6	7	8	9	10-14	15+	All Sizes	Mean
1970	27	15	13	11	9	7	6	4	3	5	1	100	4.0
1980	14	12	14	14	13	12	6	6	3	6	1	100	4.8
1986	13	14	13	15	16	11	7	4	3	4	0	100	4.5

Sources:
1970, Ghana (1978, table 5); 1980, Tipple (1987a, Table 18);
1986, household survey.

Table A.6: Total household size distribution by sector, 1986 (Percent)

Sector	Persons per household. 1	2	3	4	5	6	7	8	9	10-14	15+	All Sizes	Mean
Indigenous	10	13	14	17	16	12	7	4	4	4	0	100	4.5
Tenement	18	16	12	13	16	8	7	4	2	3	1	100	4.2
Government	6	10	11	14	15	12	8	8	2	14	1	100	5.7
High cost	10	12	11	10	17	18	5	7	6	6	0	100	5.0
Total	13	14	13	15	16	11	7	4	3	4	0	100	4.5

Note. The indigenous and tenement sector are characterised by compound houses of one or more storeys. The latter has more two and three storey buildings than the former. The government sector has been built by government agencies, the high cost sector is dominated by dwellings for the elite. For further details of sectoral characteristics see Tipple (1987a).

Table A.7: Rooms occupied per household, 1980 and 1986 (Percent)

Rooms Occupied	1980		1986	
1	70	(70)	73	(73)
2	14	(84)	14	(87)
3	7	(90)	5	(92)
4	5	(95)	4	(96)
5	2	(97)	2	(97)
6	2	(99)	1	(99)
7	0	(99)	1	(100)
8	1	(100)	0	(100)
9	0	(100)	0	(100)
10+	0	(100)	0	(100)
Mean	1.7		1.6	

Table A.8: Rooms occupied by tenure (Percent)

No. of rooms occupied	Tenure			
	Owner	Family houser	Renter	Sub-renter
1	30	66	83	62
2	22	21	12	15
3	14	5	3	13
4	12	5	2	10
5	8	1	1	-
6	9	2	0	-
7	4	-	0	-
8	2	1	-	-
9	-	-	-	-
10+	-	1	0	-
Mean rooms	3.0	1.7	1.3	1.7

Table A.9: Total and co-resident household sizes, 1980 and 1986 (Percent)

Year		Persons per household.										All Sizes	Mean
		1	2	3	4	5	6	7	8	9	10-14 15+		
1980	Total	14	12	14	14	13	12	6	6	3	6	1 100	4.8
	Co-res.	15	13	15	13	12	11	5	6	2	5	1 100	4.5
1986	Total	13	14	13	15	16	11	7	4	3	4	0 100	4.5
	Co-res.	16	14	13	14	15	10	7	4	3	4	0 100	4.3

Sources:
1980, Tipple (1987a, Table 18); 1986, Household Survey.

Table A.10: Co-resident Occupancy Rates, 1980 and 1986 (Percent)

Persons per room	1980	1986
0.0-0.9	6	4
1.0-1.9	22	22
2.0-2.9	21	20
3.0-3.9	17	16
4.0-4.9	12	13
5.0-5.9	9	9
6.0-6.9	6	7
7.0 +	8	9
Mean (persons/room)	3.3	3.3

Table A.11: Overcrowded Households, Measured Against Different Thresholds, by Tenure (Percent)

	Percentage of households overcrowded at: Overcrowding threshold (persons per room)		
Tenure	2.5	3.0	3.5
Owner	38	34	29
Family houser	54	49	35
Renter	62	59	44
Sub-renter	64	46	26
Total	58	54	40

Table A.12: Households <u>without</u> access to services, 1980 and 1986 (Percent)

	Service			
Year	Kitchen	Bathroom	Toilet	Water
1980	15	3	22	33
1986	22	2	30	26

Table A.13: Households with exclusive access to services, 1980 and 1986 (Percent)

Year	Service			
	Kitchen	Bathroom	Toilet	Water
1980	16	15	13	12
1986	16	13	12	11

Table A.14: Households without Access to Services, by Tenure (Percent)

Tenure	Service			
	Kitchen	Bathroom	Toilet	Water
Owner	11	3	14	17
Family houser	24	3	43	34
Renter	24	2	26	25
Sub-renter	14	0	50	2
Total	22	2	30	26

Table A.15: Households with exclusive access to services, by tenure (Percent)

Tenure	Service			
	Kitchen	Bathroom	Toilet	Water
Owner	49	49	46	41
Family houser	12	8	6	6
Renter	12	8	8	8
Sub-renter	22	27	26	27
Total	16	13	12	11

Table A.16: Length of stay in the house, by tenure (Percent)

Length of stay (years).	Tenure			
	Owner	Family houser	Renter	Sub-renter
0 - 4	16	21	26	38
5 - 9	13	16	30	22
10 - 14	16	10	17	8
15 - 19	13	12	13	11
20 - 24	11	9	6	8
25 +	32	32	9	13
Mean (years)	19	19	11	10

Table A.17: Selected Index Numbers (Rounded), 1970 to 1986 (1963 = 100).

Year	General Consumer Price Index (Urban)(1)	Prime Building Costs Index(2)	Minimum Wage Index(3)	Rent, Fuel & Power Index (Urban)(4)	Controlled Rents of 1 room in Sandcrete(5)
1970	176	123	154	113	100
1971	-	129	154	-	100
1972	-	151	154	-	100
1973	260	177	154	119	110
1974	313	238	199	119	110
1975	431	331	308	119	110
1976	649	360	308	119	110
1977	1,370	502	615	382	110
1978	2,350	782	615	530	110
1979	3,520	1,210	615	677	338
1980	4,970	1,810	615	1,020	338
1981	11,000	3,200	1,850	1,830	338
1982	13,400	3,730	1,850	2,530	507
1983	28,800	4,780	3,850	3,900	507
1984	40,600	-	5,380	6,620	507
1985	46,200 (June)	-	10,800	8,700	507
1986	-	-	13,800	-	5,070

Notes:
1. From World Bank (1984) and Ghana Statistical Newsletter No.12/85 (1985).
2. From Ghana Quarterly Digest of Statistics (1981) and Statistical Newsletter No.16/83 (1983).
3. To 1974 from Issifu Ali Committee (Ghana 1974); 1975 - 1981 own data; 1982 - 1985 Bentsi-Enchill (1986); 1986 own data.
4. Before 1977 the index is just for rent. Sources, see 1 above.
5. C6.50 in 1973 (NRCD 158), C20 in 1979 (AFRCD 5), C30 in 1982 (PNDCL 5) and C300 in 1986 (PNDCL 138 and LI 1318).

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