IV THE EXTERNAL EFFECTS OF HOUSING INVESTMENT

by

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OUTLINE

Introduction
Private business actions create "external" benefits and
costs for others in the society.
Government tries to encourage business actions which
result in external benefits and to discourage
business actions which result in external costs.
"Housing problems" result in part from failure to
recognize external effects of housing investment.

Some Housing Problems in Japan
Many dwelling units are very small.
Many families must share basic housing facilities.
The physical condition of many dwellings creates
discomfort.
Many households lack separate dwellings.
Households face difficulty in adjusting their housing to
changing needs.

Sources of the Problem
Demand has increased due to population and economic
changes.

Supply of capital and land has been limited.

Some business customs discourage private housing investment.

The limitation of capital is the principal subject of this paper.

Accelerating Household Formation

Society benefits from establishment of separate households.

New households lack capital for immediate housing needs.

An external benefit results if housing investment permits household formation to accelerate.

This problem is intensified by changes in population age structure.

The Replacement "Demonstration Effect"

Market demand for housing improvement is often weak though incomes are rising.

In the United States, however, housing replacement demand is strong.

A demonstration effect stimulates improvement demand if substantial improvement has already taken place.

Housing investors will enjoy external benefits if improvement demand is stimulated.

Overcoming Local Housing Monopoly

Housing markets are local, protected from the competition of "imported" housing.

Housing is durable, protected in large measure from the
competition of new local supply. Owners of housing enjoy economic rents when local demand rises. Economic rents may take the form of falling quality rather than higher household rents. Market returns on additional housing investment are relatively low, though housing need is great. Additional housing investment creates external benefits by transforming economic rents into improved housing quality.

Market Costs Exceed Social Costs
Inefficient land markets result from poor information about available land and difficult legal procedures in buying land.
Inefficient capital markets result from some traditional practices of financial institutions and from the absence of facilities which assist housing investors.
Land and capital markets can be made more efficient by proper government actions, thus lowering the real cost of housing.

Some Micro-Economic Externalities
Decisions about the kind of housing to be built may overlook social costs. Examples include low-density development and segregated markets.
Government programs to control these external costs must be based on economic studies of urban housing markets.
Summary

Exter nal benefits of housing recommend government efforts to increase such investment.

Private costs of housing investment exceed social costs unless government acts to improve land and capital market organization.

External costs and benefits from the characteristics of new housing are not understood clearly enough.
Introduction

In a market economy consumers make decisions about the use of resources based upon the costs to themselves and the benefits to themselves as individuals. We recognize, however, that many actions by consumers or the businesses which serve them create costs or benefits which fall upon other members of society. The use of an automobile, for example, may create safety hazards for pedestrians and congestion of public roads, but it also permits a reduction in urban density by making suburban areas available for residential development.

One of the principal functions of government, in a market economy, is to discourage consumer or business behavior which causes social or "external" costs and to encourage private behavior which produces external benefits. For example, many regulations limit the way in which a private automobile may be built and used, but government also provides costly new highways to make the use of automobiles more convenient.

This paper is concerned with external effects of housing investment. Perhaps every nation in the world has a "housing problem," and probably most of these problems represent external effects, or more precisely the failure of governments to take proper action to control external costs or to encourage external benefits.

Most of my discussion is based upon my understanding of the housing economy of the United States. My knowledge of housing conditions and housing activities in Japan is quite limited. Nevertheless, I shall try to make some reference to
the situation in Japan and to make my discussion relevant to housing problems here.

Some housing problems in Japan

I am sure that you all know better than I that many complaints are heard in Japan concerning the small size of dwelling units. In the Keihin Metropolitan Area, for example, the average size of all dwelling units was 4.0 tatami per person (about 13.2 m² or 145 sq.ft.). In privately owned rented dwellings the average was 2.4 tatami (about 7.9 m² or 87 sq ft.), per person. More than 400,000 households (out of about 4.2 million) were living in units with less than 2.0 tatami per person. Of all the dwelling units in this metropolitan area only about 12 percent had a total area of 27 tatami or more (about 89 m² or 900 sq.ft.).

There is also a lack of privacy in the use of certain housing facilities. In the Keihin Metropolitan Area in 1963 eight percent of all the households had to share a sink for cooking, 12 percent shared a water supply with other households and 19 percent were sharing a toilet. Seventy-eight percent of the households did not have flush toilets and 51 percent were without a bathtub (though we realize that the use of public bath houses is still relatively popular in Japan).

It is difficult to make useful statements about the physical condition of housing. The 1963 survey found only about four percent of the dwellings in the Keihin area to be in serious condition. A foreign visitor is likely to notice, however, that many Japanese houses seem inadequately constructed from the viewpoint of protection from winter cold, and that the heating facilities, even in concrete apartments
provide only doubtful comfort. Perhaps more serious discomfort appear outside the dwelling, in the noisy, congested and hazardous mixing of various land uses.

The general shortage of housing is apparent from the survey. In the Keihin area in 1963 there were 311,000 households without separate dwelling units. This fact, plus the relatively poor business organization of the housing market seems to make it difficult for families to change their housing as their circumstances change. As a family increases in size or enjoys an increase in income it faces limited opportunities for finding a larger dwelling or of becoming a home owner. In addition, the household's choice of convenient location is greatly obstructed by the housing shortage and the manner in which the housing market seems to work.

I hope you will forgive my presenting a rather negative picture, overlooking for the moment the many substantial accomplishments of recent years and the active programs for further improvement. I must also point out that the Keihin area probably has more serious problems than other areas in Japan, though a housing shortage here is not offset by somewhat better conditions in the Chukyo area, for example.

Sources of the problem

To speak quite generally, these housing difficulties have been caused by changes in the demand for housing, certain limitations on the supply of additional housing, and a set of social and business institutions or customs to be found in Japan.

Among the demand factors contributing to the housing
problem are population growth, movement from rural areas to cities, and changes in the age structure of the population. Rising income creates a potential demand for housing improvement. Changing social customs are reducing household size, and we might add that the acceptability of housing supplied by employers seems to be diminishing.

On the supply side we find that there has been a policy of encouraging much of Japan's high rate of savings to flow into the so-called "growth industries" in the interest of rapid economic development. Another vital input for housing is land, and rising land prices seriously discourage housing development both public and private.

One of the institutional restrictions on housing investment is the long tradition of very conservative financing of private dwellings. Banks in Japan have little experience with the highratio mortgage loan for housing. In a more general sense the housing business in Japan is inhibited by complicated and uncertain laws regarding property (such as tenants' rights), by poor business ethics among real estate businessmen and by the limited availability of professional services, such as appraising, for the average household in search of a better place to live.

In the remainder of this discussion I shall take the point of view that nothing is to be done concerning housing demand. The size of households will not be raised, nor will city-dwelling households be forced back to the countryside. Of course no one wants family income to fall. Regarding business institutions I will suppose that these can be changed if citizens and government wish them to change.

This leaves the "hard" problems of supply, particularly of
land and capital. It is quite a different story, but I am beginning to think that much of the "land problem" of Japan's housing is really a problem of institutions rather than an absolute scarcity of land for urban development. Having thus disposed rather easily of all the other parts of the problem I will now turn to the problem of capital for housing investment. Specifically I shall try to answer the question: Are there external effects of housing investment which would justify diverting more savings into this sector of the economy?

Accelerating household formation

The concept of a "household" means that the population is divided up into groups which use living facilities in common. Each society defines the desirable composition of a household in its own way and entrusts the household with certain social and economic functions. As a rule, most societies consider that young people should establish separate households at the time of marriage, and that the new household thus formed will raise children, provide a stable mode of life for its members and in a great many ways act as a social microcosm.

In order to perform these functions the household requires, among other things, a separate dwelling. The household will pay for this dwelling from the income which is earned currently. In effect the household will repay the capital cost of the dwelling while receiving the economic value of that dwelling. The capital cost must be invested, however, before the household can begin to use it and indeed before the household can be established.

If the household itself is obliged to accumulate all or most of the capital needed for a separate dwelling before that
dwelling can be created, then the establishment of the household may be delayed beyond the time when social practices recommend it. On the other hand, if other members of society invest in the dwelling when the new household is to be formed then the proper functioning of that household is assured.

The benefit of investment which anticipates the need of new households for housing is social rather than private. The private investor who may perhaps provide such a dwelling will receive only a periodic return on his capital from the budget expenditures of the household. The society will have a functioning new social unit. If the dwelling does not seem worthwhile to the private investor it may still be worthwhile to the society.

To make this situation clearer, we might consider a situation in which children were required to pay for the construction of their school buildings before their education could begin. This requirement would certainly delay education well past the time when, in a very natural sense, it is really useful and necessary. Though the children cannot yet afford the schools, the society cannot afford to postpone the investment. So for new households it is in society's interest to provide some capital equipment - housing - in advance of the users' ability to pay.

This problem becomes most acute when the current number of new households - or new schoolchildren - is greater than the increments of previous years. Then it is impossible to accommodate today's "generation" in the facilities which were used by the previous generation. Net expansion is required, and this requirement for capital exists before the users of that capital have accumulated their own savings. Housing investment
serves a social purpose in this case. This is one form of external benefit from housing investment which justifies public encouragement of the housing sector.

The replacement "demonstration effect"

If the number of households is not increasing then the demand for additional housing investment is essentially a "replacement" demand. There are two principal kinds of housing replacement, that which maintains the average quality of the stock by offsetting physical deterioration and that which raises the quality of the stock by scrapping some dwellings which are still useful.

It is an interesting and important fact that the "improvement-replacement" demand for housing seems to be very weak in many parts of the world. Though the general level of income rises we often find that the quality of housing does not rise in proportion. In this sense the demand for housing is said to be income-inelastic. As a consequence housing conditions remain relatively static as the real level of household incomes rise, and the market demand for additional housing capital is low.

The United States, however, provides an example of the reversal of this tendency. Improvement of the housing stock there is a very important part of total housing investment, and households pay a larger fraction of their incomes for housing than is common in most other countries. The fraction generally ranges between 15 and 25 percent, in contrast to ratios of ten percent or less in many other countries. Yet the United States has a very high level of real income per household.

The explanation probably lies largely in what is called a
"demonstration effect". Rapid population growth has required substantial housing construction in every urban area, and rising incomes have encouraged housing developers to build this increment in the stock at higher and higher levels of quality. The result has been that families living in every urban area are exposed to a wide range of quality in the housing stock. They can see that substantial improvements in their present housing are possible and, by a familiar market process, they become less and less satisfied with what they already have. The demonstration of higher housing standards in some parts of the community seems to awaken a demand for improvement in all parts of the community. Of course, some sociology enters the picture, for a family's housing standard becomes a measure of its social position.

A strong demand for housing improvement, then, may appear only after substantial and widespread improvements have already taken place. There is an underlying market demand, but until investment on a sufficient scale occurs this demand will not rise to the surface. The problem of commercial television is somewhat similar, since a television set will not be useful to one household until many households have one. Only then will interesting broadcasts be available. New or improved products require varying amounts of "pump priming", and housing improvement appears to be a significant case.

The external benefit of housing investment in this case is private rather than social. The acceleration of household formation provides benefits to society very broadly, but the demonstration effect of housing improvement provides a benefit for housing investors, ultimately.
Overcoming local housing monopoly

A third form of external benefit from housing investment arises from the fact that local housing markets have inherent characteristics of monopoly and these monopoly characteristics cause the "real" or resource rate of return on housing investment to be much greater than the market rate of return. Investment in additional housing produces limited market gains to the investor but substantially greater economic benefits to the households which occupy the dwellings.

The monopolistic nature of local housing markets results from several obvious characteristics of the housing product. For one thing, housing is neither imported nor exported. It is not a commodity of international trade nor is it a commodity of trade among cities. The housing supply of city A does not compete with the housing supply of city B. There is no world market for housing in the sense that there is a world market for copper or automobiles. Nor is there a national market. A housing market is always local, or at best regional.

Of course, resources for the construction of housing can move from one region or nation to another. Housing is such a durable commodity, however, that the stock of housing already built is the principal form of supply at any one time, and this supply is changed relatively slowly. The existing supply of housing in any urban area has a virtual monopoly with respect to whatever housing demand exists in that area. Housing which has already been built cannot be moved from one housing market to another. Thus the income produced by housing is in the nature of economic rent. The rents or prices paid serve the function of rationing the commodity among competing users but they do not indicate the resource cost of the housing stock.
Rents and prices paid for housing reflect the two further facts that housing is a basic necessity of life and that there are no approximate substitutes for housing. Every household is obliged to enter the competition for the housing which is available and the price which a household will ultimately pay has no necessary relationship to the resource value of the housing it obtains.

This situation can be represented in diagram form, making several helpful simplifying assumptions. The supply of housing, \( S \), is the stock available to the community at the time of an increase in demand. The increase in demand, we might assume, takes the form of a doubling of the number of households. There is no change in the pattern of household incomes or in household preferences for housing. The new demand, \( D' \), is simply twice as far from the vertical axis as the original demand, \( D \).

Let us suppose, also, that the initial equilibrium of the market provided a level of rent, \( OC \), just sufficient to
compensate the investor for all resources embodied in the housing stock. This is the minimum rent which would encourage independent investors to expand the housing stock.

It is important to note what has happened to household expenditures and to the value of the housing stock as a result of the increase in number of households. Each household pays one half of the new rent per unit, that is, $\frac{1}{2} OR$. However, two households are now sharing each dwelling in the original supply. The rent per dwelling is much higher than before, the height of OR depending on the steepness or inelasticity of the demand curve. If rent $OC$ previously represented the maximum housing expenditure each family could afford its demand curve, when faced with a virtual reduction in supply, may be of unit elasticity so that $\frac{1}{2} OR = OC$, approximately.

The area $CRSE$ is economic rent which is created by the increase in demand for the fixed housing stock. This value is transferred from housing users to housing owners. Any measures to relieve the housing shortage will reduce this economic rent. The owners of the original housing stock would not be motivated to invest in additional housing if they acted in their joint interest. Even acting as individuals the owners of existing dwellings control land which may be needed for higher density redevelopment. They would be unwilling to demolish the existing valuable building unless this meant a gain greater than their present economic rent, an unlikely situation.

Independent investors might endeavor to meet the housing demand of this city by constructing new housing at cost $OC$. Without the doubling-up of families which has taken place in the original stock of houses these new dwellings will rent for $\frac{1}{2} OR$. This may or may not be attractive to potential housing
investors.

The real benefit of the new housing, however, must be measured by the reduction in economic rent, CRSE, which is transferred back from housing owners to housing users. This transfer will be completed when the housing stock has, in our example, doubled to S'.

This simple illustration has been constructed so as to emphasize that the effect of housing shortage on individual households may be a reduction in housing conditions rather than an increase in housing expenditures. Therefore, the market return from offering a new dwelling to an individual family will not really measure the improvement in housing conditions which that new dwelling will provide. An important part of the benefit of new housing investment is the transfer of economic rents from owners who have been placed in a monopolistic position to housing users. This is an external benefit, and it is perhaps a paradox that economic development planning which stimulates urban population growth often discourages housing investment, so that these economic rents remain in the hands of owners of the original stock of housing. If the social benefit of reducing these economic rents were perceived, economic development plans might allow considerably more capital to flow into the housing sector.

Market costs exceed social costs

Private housing investors must obtain land and capital. If the markets for these resources are not efficiently organized then the private cost of new housing will be greater than necessary and housing investment will be discouraged.

The efficiency of the land market depends on the system of
information which tells potential developers about the availability of land and upon the legal procedure for acquiring land. Information about available land is often obtained through brokers and brokers' fees are a part of the cost of land. Ill-informed or untrustworthy brokers add to the cost and the risk of land acquisition for housing development. Money may be spent unnecessarily in the search for land and developments may take place on land which is not well suited for new housing.

Uncertainties and costs also arise from legal systems of land ownership if these systems are complicated and obscure. In various parts of the world, including Japan, the rights of tenants create a legal situation which make land transactions difficult. Clear systems of title registration and land use control which make the purchaser confident of the extent of his rights to the land have the effect of facilitating every kind of urban land development, including housing.

The efficient organization of the capital market requires financial institutions which collect savings from every possible source and distribute these savings in some rational way among all possible uses. Housing investment requires certain special institutions such as a recognized system of appraisal, a resale market for mortgage loans and, where it is feasible, a system of investment insurance to spread the risks of equity or mortgage investment.

In much of the world, including the United States, financial institutions tend to specialize in a few types of investment rather than allocating their funds impartially to all sectors of the economy. Supplementary services such as appraising and the operation of a secondary mortgage market are also relatively rare throughout the world.
Although the land and capital markets are primarily the domain of private business their establishment and efficiency often depend upon the creative role of government. Only government can change the system of land ownership, for example, so as to encourage businesses to make better use of land. As another example, the government of Japan has in very recent years encouraged the use of real estate appraisals by creating a system of examination and licensing for appraisers. The system of regulating real estate brokers, on the other hand, seems to have some serious deficiencies here, and the lack of public confidence in brokers may inhibit productive transactions in land. In the United States a system of mortgage insurance covers part of the housing investment field and there is an effective secondary mortgage market for some types of housing loans. Everywhere there is room for improvement.

Such improvements, when they are made, reduce the market cost of housing investment in terms of money and risks. Thus, government acts can create external economies which improve the priority of the housing sector for a share of national savings.

Some micro-economic externalities

The external benefits and costs which have been discussed so far refer to the housing sector as a whole. There are some questions which concern the kind of new housing investment which is made rather than the total amount of such investment. I will call these questions "micro-economic", because they refer to the actions of individual housing investors.

Many city planners, political scientists and others who are interested in housing questions have criticized housing investors for ignoring certain external costs which result from
the kind of housing which these investors create. In the United States, for example, recent housing has been constructed at very low densities. This means that the urban areas have spread out over surrounding districts, resulting in higher transportation costs for the urban population as a whole and the loss of much land from agricultural or recreational use.

Another form of criticism concerns the tendency for housing investors to build for certain social and economic groups of the population and not for others. This results in geographic segregation of urban areas, with some districts inhabited by low-income households, or elderly people, or minority groups while the newer areas serve higher-income, middle-aged households exclusively. Many observers feel that such residential patterns weaken the democratic character of the community. However, individual housing investors find such patterns most desirable from a business point of view.

There are many other issues which could be mentioned. In general the feeling is that external costs which private housing investors create should be controlled by some form of public action. There is always the danger, however, that government programs to reduce social costs from private business behavior may produce new forms of social cost. Microeconomic theory about urban development is not yet equal to the task of guiding this kind of government activity. Some very interesting work is being done, including the construction of econometric models of urban housing markets. At present, we cannot say as much about the micro-economic external effects of housing investment as we can say constructively about the macro-economic problem of total housing investment.
Summary

Many economists who have been concerned with economic development take the view that housing investment does not contribute to economic growth. This opinion seems to be based upon evidences in the private market of housing investment returns and housing costs. In this paper I have argued that certain external benefits result from housing investment, so that social benefits exceed private benefits. Society at large is benefitted by accelerated household formation, housing investors are helped when the demand for housing improvement is stimulated, and housing users are helped when the effects of local monopoly situations are overcome. All of these benefits escape measurement in the existing private market.

I have also argued that private costs of housing investment will exceed social or real economic cost if the organization of land and capital markets is inefficient. The proper operation of these markets depends upon carefully designed government programs which cost little in themselves but substantially reduce the real cost of new housing.

Considering these external effects of housing investment it is possible to say that efforts to expand the scale of housing production are not inconsistent with general objectives for national economic development.

Many issues of external benefit or cost arise from the characteristics, as distinguished from the scale, of new housing investment. The correct interpretation of these micro-economic effects awaits the development of better methods of urban economic analysis.