

# SPECULATION IN REAL ESTATE MARKETS: IS IT SOCIALLY UNDESIRABLE?

by L. M. Farrell

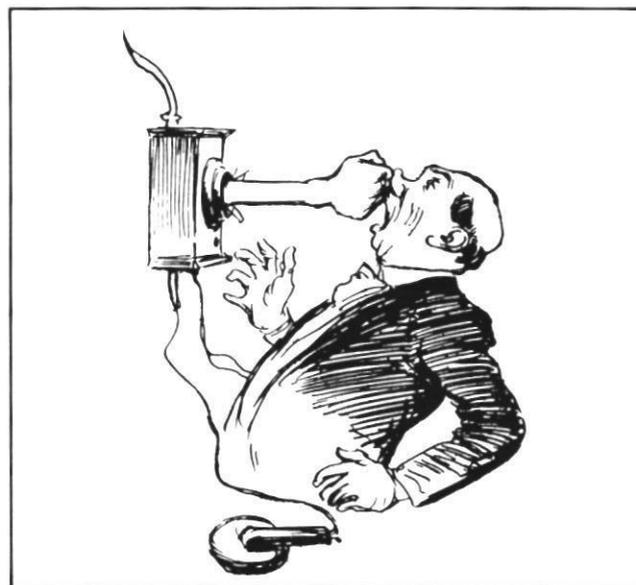
Real estate speculation has been attacked frequently as a fundamental underlying cause of rapidly increasing rates in the price of both land and housing, particularly in areas undergoing increased levels of urbanization. It is often argued that real estate markets are in disequilibrium over the long term, due to the existence of imperfections and the extended lag adjustment periods which characterize these markets. It is also argued that the socially desirable efficiency effects usually associated with speculation in the commodities or foreign exchange markets are inoperative in real estate markets. Some form of government intervention is often suggested as a means of controlling speculation and improving the efficiency of real estate markets.

Notwithstanding the obvious differences between real estate and other asset markets the argument could be made that in the long run real estate markets are relatively efficient and that the effect of government intervention is to increase uncertainty, reduce the efficient allocation of risk bearing and impose additional costs on the owning, developing and transacting of real estate.

Real estate speculation may be considered to be socially desirable if it increases the efficiency of the intertemporal allocation of risk. This determination for a particular real estate market is an empirical question which cannot be known *a priori*.

## **Speculation: A Direct Consequence Of Uncertainty**

Speculation exists because of the uncertainty of future events. The risk of fluctuations in the future value of an



asset is a fact of life which must be borne either by the asset holder or by someone else. For investors who have different degrees of risk aversion, the existence of a mechanism for shifting risk is socially desirable because it allows each investor to select his/her optimal degree of risk thereby increasing investor utility or well being. The existence of a speculative market for risk bearing contributes to economic productivity when it increases the efficiency of the intertemporal allocation of risk.

Risk and uncertainty are often distinguished on the basis of the availability of information concerning future investment returns. Risk is associated with projects for which a probability distribution of future returns can be estimated, either subjectively or objectively. Uncertainty involves situations in which these probabilities are not known. Investors reduce the degree of uncertainty by insuring against risk and by data collection and analysis. Nevertheless, an area of uncertainty which is not able to be quantified often remains.

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At any point in time a set of opinions or economic expectations concerning the outcome of future events will exist. The term "economic expectations" refers to the set of imagined and temporary projected economic consequences of a given action.

Speculative profits and losses occur only if expectations or opinions about the future change. A price change by itself does not necessarily imply the existence of speculative profits, if the price change has been anticipated and discounted by the market. If the future were certain, all expectations would remain fixed and risk would not occur. However, the existence of uncertainty about the future generates the possibility of changing expectations over time as unanticipated events occur. This situation creates the possibility of speculative profits and losses.

Speculative profits and losses are spontaneously generated as result of changes in economic expectations in an economy where the future cannot be completely anticipated and discounted.

The uncertainty about future events that is found in all asset markets is increased in real estate markets due to the nature of real estate. Government intervention in the real estate market tends to increase uncertainty. The development of a new supply of real estate stock is dependent upon the approval of various government agencies. Lengthy approval periods and numerous regulations regarding upfront development requirements and construction permits increase uncertainty on the supply side as well as development costs.

The government has enacted housing programs to stabilize demand and make housing more affordable to various income groups. In some markets with an inelastic supply, the subsidies provided by government housing programs may have been capitalized into the purchase price thereby distorting the real demand. One unanticipated indirect effect of various subsidy programs may be increased uncertainty concerning the real long-term demand in housing markets.

Increased uncertainty resulting from an enlarged government presence in real estate markets can alter investor expectations about future prices. Risk is increased as is the potential for speculative profits and losses.

High rates of price appreciation do not in themselves prove that speculative profits have been created. Such price increases may occur under conditions of fixed expectations. In such cases the price increase has been anticipated and discounted by the market, and a speculative profit has not been created. In discussing the discounting process, Milgram notes that "to the extent that growth has been foreseen, it will be built into property values at the beginning of the time period considered and will not influence the movement of price over time."<sup>1</sup>

Property taxes on vacant land may also create the illusion of rapid price increases and the suspicion of large speculative profits. Property taxes on land reduce its base value because the tax is capitalized into the value of the land. Thus, as the land approaches development, the rate of price appreciation is more rapid, creating the impression

of speculative profits. However in conditions of unchanged expectations speculative profits are not earned by the real estate investor.

### **Risk Bearing In Real Estate Markets: Speculation, Hedging And Arbitrage**

Speculation and hedging are two techniques that have evolved in response to uncertainty about the future. Both involve the risk that expectations regarding the outcome of some future event will change due to some unforeseen occurrence. While arbitrage is often associated with risk bearing, it is not a risk-bearing device because it does not involve earning a return based on changes in expectations. Returns from arbitrage are earned primarily for performing search and information services under conditions of fixed expectations.

Smith (1976) defines speculation as "... the purchase or sale of an asset in the expectation of a gain from changes in the price of that asset."<sup>2</sup> Defined in this manner, it can be seen that speculation is pervasive in a market economy from the housewife who purchases additional supplies of coffee or sugar in anticipation of a price increase to industrial users of various inputs who increase raw material inventories at relatively low prices and the commodity speculator trading in wheat, soya bean or coffee futures.

All three types of speculation involve the risk that expectations about the future will change. The housewife who speculates on future coffee prices and the industrial speculator who buys raw materials in anticipation of increased input costs are speculating in an item that will be used eventually by the individual speculator in production or consumption.

The third example of speculation, in which the speculator may not see the commodity involved, separates the risk bearing element involved in holding the item from the actual use of the item. This third type of speculation is, as Alchian and Allen (1969) state, "... characterized in folklore as a (situation in which) antisocial, money-mad speculators gamble on the price of wheat, corn, etc. causing prices to fluctuate to satisfy hungry speculators bent on profiting from changes in supplies or demand."<sup>3</sup>

Speculation in real estate often falls into the third category, although there is some reason to believe that during the period 1968 to 1977 many Americans combined risk bearing and actual use by speculating on their own homes.<sup>4</sup> Speculation in real property markets involves the risk that expectations concerning the future value of a price of property will change. Given that real property markets are not without risk, the relevant questions become: What is the best method of bearing risk? Who is most efficient at bearing risk?

Cootner defines hedging as "the simultaneous purchase and sale of two assets in the expectation of a gain from different subsequent movement in the price of those assets. Usually, the two assets are equivalent in all respects except maturity."<sup>5</sup> For example, if a wheat merchant purchases 1,000 bushels of wheat at \$1.45 a bushel

in July, for sale in December, he/she risks the changes in value due to fluctuations in the price of wheat. If he/she simultaneously sells a futures contract promising to deliver 1,000 bushels of wheat at a given date in December at a price of \$1.52 per bushel, he/she is "hedging" because his/her wealth is affected only by relative movements in the price of wheat and of futures contracts. If the wheat merchant waits until December to deliver the wheat, he/she will make a gain of seven cents per bushel out of which he will deduct his carrying costs.

If the price of wheat rises between July and December to \$1.55, in October without a rise in December futures prices, the wheat merchant could make a profit by selling the wheat in October and then buying back a December futures contract to cover the one he/she sold. Cootner (1968) states that the effect of the hedge is to provide "an option to benefit from certain minimum relative price movements (but) with the freedom to take a larger gain if the opportunity arises."<sup>6</sup> Hedging allows the wheat merchant to reduce his/her personal risk by shifting it to the speculator, who accepts the risk in the expectation of making a return from future price changes. Hedging does not reduce the total risk that must be borne in the market.

Hedging can occur in the wheat market because a futures market exists which makes it possible to sell short. Hedging does not exist in the urban property market because owners of urban property cannot usually make short sales. The option of shifting the risk is not open to the property owner who must bear the risk of changes in real estate values due to changes in expectations.

A property owner could potentially achieve the same effect as a short sale by changing his/her type of tenure. If the property owner expected property prices to decline at some future point, he/she could sell the property and rent a substitute property until prices did decline. At that point, he/she could buy back into the market. A sale leaseback may accomplish similar results. However, in practice, transaction costs, nonhomogeneity of real property, and illiquidity in the real property market would make such a strategy difficult to implement on a large scale.

Under certain conditions, hedging implies a shift between markets for assets which can give rise to speculative gains or losses. A shift from holding money to holding real goods such as land during periods of rapid inflation is a case in point. The realization of speculative gains would depend on whether inflation is anticipated or unanticipated and on the rate of change of inflation.

This latter type of hedging characterized various real property markets over the period 1968 to 1977. Given the poor performance of the various financial markets in the early 1970s, combined with rising rates of inflation, Gilder<sup>7</sup> suggests that a shift from financial assets to real assets, including gold, objets d'art and real estate has taken place in the United States.

Arbitrage may be defined as "... the simultaneous purchase and sale of equivalent assets at prices which guarantee a fixed profit at the time of the transaction

although the life of the assets and hence the consummation of the profit may be delayed until some future date."<sup>8</sup> For example, if the price of eggs in New York exceeds the price of eggs in Chicago by more than transportation and transactions costs, an opportunity for profits from arbitrage exists. Eggs can be purchased in Chicago for sale after delivery in New York at a later date. Arbitrage reduces the price spread between the buying price in Chicago and the selling price in New York; the transfer of eggs from Chicago to New York increases the price in Chicago and reduces the price in New York.

Specialized arbitrageurs will increase social welfare if they are more efficient in detecting market imperfections than other market participants. Arbitrageurs, in their pursuit of profits, force the price of the commodity in all markets toward equilibrium; "shopping-around" costs are reduced as a result.

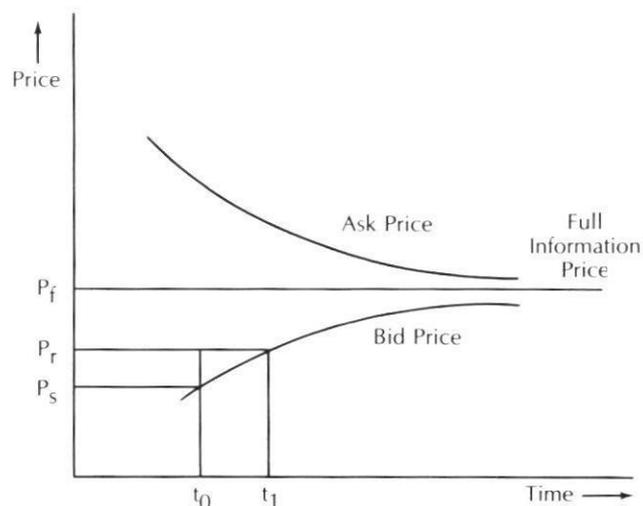
Because expectations are assumed to have remained unchanged over the period in question, arbitrage profits are earned not as a result of risk bearing but for providing search and information services. In practice, arbitrage profits may often occur simultaneously with speculative profits due to changed expectations making it difficult to distinguish arbitrage profits from speculative profits. In real estate markets, an opportunity for arbitrage exists if, given fixed expectations, the full information price of a particular piece of property is not known.

The figure illustrates the situation in which the full information price  $P_f$  is unknown at time  $t = t_0$ . A price spread exists between the bid and ask price as indicated. Over time, as more information regarding the full information price of the property becomes available, the spread would narrow as both the bid and ask price converge on  $P_f$ , the full information price.

Given the assumption of fixed expectations,  $P_f$  will remain unchanged. The arbitrageur can earn a profit by placing "... (his) bid in between but below the full

FIGURE

Arbitrage in Urban Property Markets



information price and sell at a higher price as the bid price approaches the full information price."<sup>9</sup> Due to unchanged expectations, no speculative profit has been earned. If the property is purchased at time  $t = t_0$  for a price of  $P_S$  and sold at some later time  $t = t_1$  at a price  $P_R$  the profit  $P_R - P_S$  is earned for providing search and information services.

It may be difficult to visualize a situation in which expectations remain constant as the spread between the bid and ask prices converges on the full information price. A combination of arbitrage and speculative profits, the latter generated as a result of changes in expectations, is more likely to occur.

In some cases, arbitrageurs may have a monopoly on information unrelated to any special skills which they possess as a result of access to private sector or public sector files on prospective land investment decisions or as a result of collusion with public officials. In such cases arbitrageurs would have different expectations from those generally held by the market and would be in a position to earn speculative profits as the expectations of the market change in response to the release of previously information on which arbitrageurs based their expectations. In this case, arbitrageurs would be acting as speculators. Profits earned would be due to changed expectations and not for providing information and search services.

### The Efficient Allocation Of Risk

Speculation which separates the risk bearing element involved in holding an economic good from the actual use of the item arises due to uncertainty and the necessity to bear the risk of changes in future value. Speculative risk bearing activity which increases the intertemporal allocation of risk is socially desirable. It allows individuals to achieve their optimal level of risk and maximize their total satisfaction.

Speculation is socially desirable in situations in which it increases total utility over a given period of time. Speculation which allocates resources among time periods by transferring consumption from one time period in which it has a relatively low marginal value as measured by price, to a time period in which it has a higher marginal value, again measured by price, is assumed to increase the efficiency of the intertemporal allocation of resources.

Based on the effect of speculative activity on price fluctuations, two types of speculation can be distinguished: stabilizing efficient speculation and destabilizing inefficient speculation. The main factor in determining whether speculative activity will be efficient or inefficient is the degree of market power exercised by the speculator.

Speculators are knowledgeable in their expectations about the future, and if they are price takers, then, given the assumption of the market's tendency toward a long run equilibrium, speculation will reduce price fluctua-

tions and decrease the time required for the market to achieve equilibrium.

A speculator who is a price taker and who correctly anticipates future market price movements can increase the intertemporal allocation of resources by providing information in the form of future prices to the market. Speculative purchases made in the expectation of an increase in price will raise prices in the current period and reduce present consumption. If the speculator has been correct in his/her estimate of future price increases, and if he/she sells in the subsequent period of higher prices, supply in this later higher price period will be increased, bringing about a reduction in price. In this manner price fluctuations are stabilized as a direct result of the speculator's activity in the market. The efficiency of intertemporal allocation has been increased because consumption has been postponed from a period of low marginal utility, as measured by the price, to a period of high marginal utility.

If a competitive speculator is wrong in his/her forecast of higher prices he/she will destabilize prices by postponing consumption from a period of relatively higher marginal utility to a period of relatively lower marginal utility. The intertemporal efficiency of allocation will be reduced. Such a speculator will purchase at a higher price and sell at a lower price and if he/she is consistently wrong in his/her forecasts he/she will lose money and will eventually leave the market. As Carr and Smith<sup>10</sup> note, only competitive speculators who have skill in forecasting future prices will earn a profit and remain in the market, performing a function which improves the market's efficiency.

Speculators who are price takers may destabilize prices by incorrectly anticipating future price changes. The equilibrium hypothesis of speculation implies that such behavior will be eliminated as these speculators lose their money and leave the market. However, speculators may destabilize prices and yet earn a positive return and not be forced to leave the market. Baumol<sup>11</sup> suggests that because speculators cannot foretell the future with accuracy they identify peaks and troughs after the price trend has been well established, then buy on the upswing and sell on the downswing. Such activity is destabilizing, Baumol<sup>12</sup> argues, because it accelerates both upward and downward price movements because speculative sales occur when prices are falling and speculative purchases are made when prices have begun to rise. On this basis, he concludes that speculative activity may be profitable and yet, on balance, destabilizing.

Baumol's argument appears to rest on the assumption of the existence of price trends in speculative markets. Since the efficient market hypothesis implies that past prices do not provide information about future prices, it would seem that the validity of Baumol's criticism would be dependent on the degree of inefficiency of the market in question. Such a question would be amenable to resolution on an empirical basis and should not be resolved *a priori* as Baumol would seem to suggest.

Thus far, it has been assumed that speculators are competitive, because they are price takers who cannot affect the price of the commodity in which they trade. Spurr<sup>13</sup> suggests that, particularly in urban land markets, the speculator may not be a price taker. To the extent that a speculator possesses market power, he ceases to be a competitive speculator and becomes a monopolistic speculator capable of affecting the market price of the commodity in question.

Competitive speculation may be distinguished from monopolistic speculation based on the degree of market power possessed by the speculator and the degree to which various alternatives may be substituted for the commodity in which speculation is engaged. Carr and Smith state that speculation is competitive when "speculator does not consider himself to have any influence on the market price but (who) believes that the price is going to rise or fall quite independent of his own actions."<sup>14</sup> Monopolistic speculation will occur in a situation in which "... a speculator attempts to buy or control a significant proportion of the existing stock of a commodity with a view of influencing the market price of the commodity."<sup>15</sup>

Monopolistic speculation can result in an inefficient allocation of resources because a monopolistic speculator is not a price taker and, as a result, need not forecast future prices accurately in order to remain in the market. A monopolistic speculator can realize a profit by restricting supply and selling at higher prices. A profit has been earned not as a result of increased efficiency but as a result of the monopolistic speculators' ability to earn monopoly profits. Further, monopolistic speculators may act "... in concert (with other land owners) withholding some of the land they have acquired (such that) the selling price of developed land will rise and developers as a group, will make monopoly profits."<sup>16</sup>

Studies of commodities markets before and after the prohibition of futures trading suggests that prices are more stable with futures trading than without. For example, Alchian and Allen<sup>17</sup> state that after the organized futures market in onions was abolished in 1959 by federal law in the United States, forecasts of future onion prices were less accurate than those provided by the futures market. Consumer prices for onions were found to vary less during the interval between crops when the speculative market existed than they did after it closed. The fact that prices did not fall as low nor rise as high when futures trading was permitted suggests that futures traders tend to buy at low prices and sell at high prices and, in so doing, earn a profit.

In spite of evidence suggesting the positive effects of speculative activity, speculation has been prohibited by law in various jurisdictions. In discussing evidence which suggests the beneficial effects of speculation, Cootner cites a willingness on the part of various government agencies to ignore the advantages of speculative activity:

"Despite this evidence (of the beneficial effects of speculation) periods of very low prices or very high

prices still are often blamed on speculators and futures trading has been regulated or prohibited on many occasions—because it works so well futures trading has been banned when, for political or social motives, interference in the economic mechanism is desired."<sup>18</sup>

In a study of the skill of speculators in forecasting future prices in commodity markets, Houthakker<sup>19</sup> found *prima facie* evidence of forecasting skill which can be separated into two categories:

- 1) A general skill which consists of simply being long in the commodity. In this case, no special skill or information was found to be a necessary condition in forecasting future commodity prices.
- 2) A special skill was found which indicated that speculators earned profits as a result of making continuous adjustments to changes in current information.

Although nonprofessional small traders did earn significant speculative profits if they maintained a long position in a particular commodity, no evidence was found to indicate that they had forecasting ability in both the long and the short run.

### Speculation In Real Estate Markets

Speculation in real estate markets has been the subject of much discussion over the years. Comparison with other asset markets suggests that real estate speculation is not of just local importance but has attracted increasing public attention both nationally and internationally prompting government action in some jurisdictions.

Concern with rising house prices and their impact on the ability of potential small homeowners, particularly first-time home buyers, to afford to buy a home has prompted anti-speculation legislation in Vermont and Ontario, Canada. The issue of anti-speculation has also been under close study in such areas as California, Washington, D.C. and Montana.

From an economic viewpoint, speculation in real estate markets can be analyzed on the basis of its effects on distribution or allocation. However, very little empirical analysis of speculation or the impact of anti-speculation laws in various markets has to this point been undertaken.

Speculation in urban property markets is criticized as inefficient because real estate markets are subject to significant market imperfections and speculation causes costly and socially undesirable urban sprawl.

It has often been argued that real estate markets are very imperfect and should not be left to the unregulated forces of the marketplace. When compared to stock or bond markets, in which liquidity and relatively cheap information are readily available, real estate markets appear to be poorly organized. Real property markets can be further complicated by the various legal entanglements and time lags that often occur. In some cases, the legal

mechanisms and institutions under which real property is transacted can lead to changes in the nature of the property itself. Encumbrances and "clouds on the title" may alter the property rights transacted and may limit the uses to which a particular property can be put. As Samuelson<sup>20</sup> notes, this effect may be particularly true in a market in which inexperienced speculators are active. In such a case, a speculator who is not knowledgeable about the potential of a given property may form unreasonable expectations about future uses and thus the present value of discounted future net rentals. In the long run, unreasonable expectations would be eliminated but given the durable nature of real estate the short run implications of unreasonable expectations could be quite inefficient imposing additional costs.

If it is assumed that real estate markets tend toward a long run equilibrium the impact of the various aspects of real property which distinguish it from other economic goods—durability, nonhomogeneity, its composite nature whereby it possesses significant externalities—need not necessarily imply inefficiency in the market. In fact, as Milgram<sup>21</sup> suggests, in a real estate market characterized by a number of professional participants, expectations might be expected to be homogeneous to some extent.

Speculation would be socially desirable if it functions to help the market reach equilibrium sooner and more efficiently in the long run. The desirability of speculation from an efficiency point of view would depend on the extent to which the conditions in a particular market satisfied the criteria for efficient speculation: 1) speculators who are price takers and 2) speculators who are knowledgeable. If these criteria are fulfilled, then speculation might be desirable. This result implies that the desirability or undesirability of speculation is an empirical question which cannot be answered from an *a priori* set of views but must be studied empirically in each market individually. The blanket province-wide or state-wide application of anti-speculation legislation may not be the optimal method of controlling the undesirable effects of speculation.

A case in point is the Ontario Land Speculation Tax Act (OLSTA) which was passed in June 1974 in an attempt to reduce the rapid price increase that occurred primarily in the Toronto single family housing market in the early 1970's. The OLSTA was applied province wide without regard to either market structure or type of speculation. Such a tax seems to be too unrefined and haphazard to effectively eliminate inefficient speculation. It would be more reasonable to apply such legislation on a more selective basis if it has been determined that speculators are not price taking efficient speculators. The across the board implementation of the OLSTA would hamper the activities of efficient speculators and reduce the efficiency of that particular real estate market.

In the case of the Toronto market, Smith<sup>22</sup>, Markusen and Scheffman<sup>23</sup> suggests that speculators were price stabilizing competitive speculators before the tax was passed. If this is the case the OLSTA, which was intended to lower prices and increase efficiency, may have reduced effi-

ciency and imposed additional costs in the Toronto real estate market.

Previous empirical analysis of the type of speculation in the Toronto market has produced differing results. Spurr<sup>24</sup> cites a heavy concentration of ownership of peripheral developable land as an indication of monopolistic elements in the property development market in Toronto. However, as Markusen and Scheffman<sup>25</sup> point out, Spurr fails to include the ownership of presently developed property in the Toronto market which could be redeveloped given sufficient price increase. Spurr's estimate understates the dispersion of ownership of potential supplies of developable land by failing to include developed land in his estimate of the concentration of ownership. Although it could be argued that submarkets could be segmented spatially in the Toronto market, Markusen and Scheffman<sup>26</sup> suggest that submarkets in the Toronto area can be substituted for one another implying that the Toronto market is to some extent homogeneous with respect to location, other things equal.

The empirical analysis of urban property markets is complicated by the interrelationship between market power and degree of concentration which is particular to real property markets. In most speculative markets, the degree of concentration depends on the market power of individual speculators plus the suitability of alternatives as substitutes. Concentration in a particular industry or market would not necessarily imply the existence of market power in the absence of significant barriers to entry.

However, in the urban property market concentration can constitute an effective barrier to entry. If one property owner owns all of the land within a distance, say X, of the only central business district, this ownership constitutes an effective barrier to entry. Further, a high concentration of property ownership decreases potential competition. Therefore, in an urban property market a significant concentration of ownership is a sufficient condition for the existence of potential market power.

However, even if a particular property owner does possess market power, he may not use it. The effects of market power in the urban property market are less clear than in other markets due to location of urban property. In some markets monopolists produce at that output at which they maximize profits. In the urban property market, the monopolist cannot do this as easily because, once he/she sells a piece of property, he/she may be hard-pressed to find new inventory to replace it. The monopolist in the real estate market must balance sales against price appreciation. Even in a case of monopoly ownership of land it is not clear that land will be held off the market to push up prices. In a study of the land market in Toronto, Markusen and Scheffman found that the role of monopolist was "... to weigh the trade-off between a low rate of development and a high rate of price appreciation."<sup>27</sup> In itself, they conclude, the existence of monopoly power in real estate markets is not a sufficient condition for the exercise of monopoly power and, therefore, not a sufficient condition for resource misallocation.

The results of the analysis suggest that there is no evidence to support the claim that monopolistic speculation occurred in the Toronto market prior to the introduction of the OLSTA. It could be argued that the type of speculation which occurred prior to the introduction of the OLSTA was efficient speculation which produced a beneficial effect in the long run. If this is the case, then to the extent that the tax removed efficient speculators from the market, it may have exerted upward pressure on costs over the long term.

Critics blame speculation for wasteful and unsightly "urban sprawl," the tendency of post-World War II suburbanization to expand discontinuously across previously rural landscape. As Clawson notes, lack of continuity in this expansion typified by "large closely settled areas intermingled haphazardly with unused areas . . . has been given the designation of 'sprawl' which well connotes its hit or miss character."<sup>28</sup>

Critics are quick to point out, as does Clawson, that urban sprawl is inefficient ". . . because it fails to make use of the most accessible land and also because certain public services such as roads and sewage systems may be relatively expensive in the context of such development."<sup>29</sup> Such development is considered unnecessarily expensive in terms of initial capital investment in public services, public and private maintenance costs and transportation costs.

Implicit in this position is the assumption of a short range rather than a long range perspective. Discontinuous urban development does impose more costs in the short run than does compact development, but critics often overlook its ability to adjust to changes in technology and social standards at relatively low costs compared to that of continuous compact development. As Lessinger states: "Scatter suits an economy where growth and technological social and economic changes predominate. Compaction may suit a stabilized economy without inequalities in the distribution of income, seeking optimization of its resources."<sup>30</sup> However, such conditions do not exist in many real estate markets in North America.

In practice, a trade-off between sprawl and compaction might be a practical compromise, especially in view of the recent rapidly-increasing cost of servicing new land for development. The argument against urban sprawl typifies the problems in an economy in which the costs of a policy decision are immediate in the form of higher servicing costs, and the benefits, such as increased flexibility and choice, are more remote and more difficult to estimate in dollar terms.

The argument against urban sprawl may be somewhat shortsighted in trading off short term cost savings for long term protection against obsolescence which is inevitable in a growing economy. In considering this trade-off, Lessinger notes:

"From time immemorial urban areas have staved off eventual obsolescence by practicing 'scatteration' in growth patterns. An area which builds compactly all at one time is exposed to terrible risks. The whole com-

pact unit is made to adapt to the special tastes, cultures, technologies, labor supplies and materials supplies of one particular time. But this constellation is soon past. By contrast, scatteration introduces flexibility."<sup>31</sup>

In a study of the efficiency effects of discontinuous urban development, Ohls and Pines found that, rather than producing inefficiency, there are ". . . some reasons for believing that discontinuous urban development may often be consistent with efficient allocation or resources."<sup>32</sup> In some cases, counterproductive forces such as possible monopoly elements or inefficient tax incentives could exist and may be expected to reduce market efficiency. But it cannot be concluded that discontinuous development is *a priori* inefficient. The Ohls and Pine results indicate that sprawl did not cause inefficiency in all of the cases studied. They state this quite definitely in saying ". . . nothing shows that all cases of discontinuous development reflect inefficient market processes."<sup>33</sup>

Thus, urban sprawl may improve the allocation of real estate resources over the long run in some markets. To the extent that speculation encourages sprawl, it cannot be categorically stated that real estate speculation is socially undesirable.

Critics of speculation in urban real property markets also state that it results in the redistribution of wealth from homebuyers to speculators who do not contribute any value to the property. This criticism assumes that speculators control the market. According to this scenario speculators drive up housing prices and by so doing prevent the "little guy" from buying a home.

This argument is contested from a number of different perspectives. There is some question as to the extent to which the rate of price increase and the price rise in absolute dollar amounts has exceeded the rise in the general price level as measured by the Consumer Price Index (CPI). It is not clear whether housing prices have increased more rapidly than the prices of other goods and services, or whether the recently observed increase in house prices is due to a readjustment of the relative price of housing due to lags in the price adjustment mechanism. A study of the relative price of housing in Los Angeles by the Community Analysis Bureau, City of Los Angeles<sup>34</sup> found that housing prices in selected areas of the city lagged behind the CPI over the period 1965-1970; over the period 1970-1975 prices increased faster than the CPI. A comparison of the rate of price appreciation in housing as compared to the CPI for just the 1970-1975 period would suggest that the rate of price increase in housing was greater than the CPI. However, this conclusion is not justified because it is based on a time period which is too short and does not detect the long term lag between house price changes and the change in other prices.

These results indicate that housing prices may periodically lag behind the CPI, and then catch up and possibly lead the CPI for a substantial period. If this is the case,

observed rapid increases in the price of houses may represent a long term readjustment and cannot be interpreted to indicate that house prices are increasing faster than the general level of prices for other goods and services.

Increased house prices do not always indicate that producers are earning above normal profits. Schmid<sup>35</sup> points out that in recent years developers' cost have increased rapidly in some markets, bringing about a reduction in the spread between production cost and sales price. To a significant extent, increased development costs have been caused by changes in the required level of public services at the time of construction and changes in the method in which public services have been financed.

In the past, public services were often paid for by the new homebuyer over an extended period. Faced with rising public service costs, some municipalities have increased up front development fees and levies in an attempt to recover some of their costs immediately and, in some cases, discouraged the development of single-family housing.

Empirical work by Maisel<sup>36</sup> studied the impact of increased development costs on the cost of lots for single-family housing construction. According to Maisel, increased development costs accounted for approximately 28 percent of the increase in the cost of single family lots over the period 1950-1963 for selected submarkets in California. Approximately 22 percent was due to decreased densities, and the remaining 50 percent was due to increases in the cost of land which accrued as a residual in the pricing of new homes.

Initially, price increases may seem to indicate a redistribution of wealth from home owners to "unscrupulous" speculators. However, closer analysis indicates that price increases are often caused by factors other than speculation, including increased development costs imposed by various levels of government and increases in the cost of land, labor and building materials. Short-term price increases which exceed the rate of inflation do not necessarily indicate long term disequilibrium but suggest that the analysis should be based on a longer time period to allow lagged factors to be fully reflected in prices. The length of time may be inversely related to the efficiency of the market in question. Stabilizing efficient speculation reduces the costs of risk bearing and should reduce the total cost borne by homebuyers.

Many equity based criticisms of speculation fail to consider the risk-return aspect of investment in real property. In general, if it is assumed that investors are averse to risk then the higher the risk of an investment the higher the return investors would require to be willing to make the investment. This general principle requiring that risk be compensated by a risk premium has been difficult to apply to the analysis of real estate investments. Wendt and Cerf<sup>37</sup> state that conceptually real estate investment analysis has recognized the principle of the risk-return trade-off. In practice, however, lack of adequate and reliable information and the essential differences of real

estate types which makes them difficult to compare has in many cases prevented the application of the risk-return concept to the analysis of real estate investments.

Pellatt summarized the current state of real estate investment analysis by noting "... the calibre of by far the majority of real estate investment analysis must be categorized as poor in comparison with the quality of analysis available in the stock market, the bond market and the mortgage market."<sup>38</sup>

Although the absence of reliable statistical information in real estate markets makes quantification of the exact degree of risk in a given investment situation difficult, this in no way refutes the existence of risk, the risk bearing service and the fact that risk that cannot be shifted to another investor must be borne by the property owner himself. If the property owner is more averse to risk than another investor, the risk premium required by the property owner is higher. Additional costs to pay this higher risk premium should be reflected in increases in market price which will have to be paid by the final purchaser of real estate.

Analysis which fails to consider the element of risk in real estate markets misses a critical point essential to the efficient functioning of the real estate market. Government legislation, such as the Ontario Land Speculation Tax Act, may, in an attempt to reduce the price of housing, overlook an essential component of the market as a result of failure to consider the risk bearing function performed by speculators. One effect of such legislation may be to increase the costs of risk bearing and over the long run increase the cost of housing. This unintended and the unanticipated result runs counter to the expressed objective of the legislation which is to reduce rather than increase housing costs and make housing more affordable for the average homebuyer.

## Conclusion

- Speculation in real estate markets is socially desirable if it increases the efficiency of the intertemporal allocation of risk. Speculative markets exist as a result of the uncertainty regarding the outcome of future events and investor desires to select an optimal degree of risk which maximizes total well being or utility.
- Knowledgeable, efficient price-taking speculators operating in relatively efficient real estate markets can increase the overall well-being of society.
- Government intervention in real estate markets is not always justified. Real estate markets which are relatively efficient could become destabilized due to increased uncertainty resulting from government policy decisions that are often politically motivated rather than based on considerations of economic efficiency.
- Both the knowledgeability of the real estate speculator and the degree of market power the speculator exercises in a given market are empirical questions

which can be investigated in the context of a particular market.

- The degree of efficiency of a particular real estate market is also a question which can be studied empirically.
- The social desirability of real estate speculation is a complex empirical question which is a function of both the efficiency of the market in question and the type of speculator operating in that market.
- The desirability of real estate speculation in a particular market is a question which should be resolved empirically on a case by case basis and cannot be determined *a priori*.

#### NOTES

1. Milgram, G. et al, "Undeveloped Land Prices During Urbanization: A Micro-Empirical Study Over Time," *Review of Economics and Statistics*, Vol. 1, No. 2 (May 1968).
2. Smith, L. B., "The Ontario Land Speculation Tax: An Analysis of an Unearned Increment Land Tax," *Land Economics*, (February 1976), 52.
3. Alchian, A. A. and Allen, W. R., *Exchange and Production Theory in Use*, (Belmont, California: Wadsworth Publishing Company, Inc., 1969).
4. Grebler, L. and Mittelbach, F. G., *The Inflation of House Prices*, (Lexington, Massachusetts: Books, 1979).
5. Cootner, P. H., *International Encyclopedia of the Social Sciences*, (D. L. Sills, editor, Crowell, Collier and MacMillan, 1968), Vol. 15, pp. 117-121.
6. *Ibid.*
7. Gilder, George, *Wealth and Poverty*, (New York, Basic Books, Inc., 1981).
8. Carr, J. L. and Smith, L. B., "Public Land Banking and the Price of Land," *Land Economics*, (November 1975), 51.
9. *Ibid.*
10. *Ibid.*
11. Baumol, W. J., "Profitability and Stability," *Review of Economics and Statistics*, (1957), 39.
12. *Ibid.*
13. Spurr, P., *Land and Urban Development*, (Toronto: James Lorimer and Company, 1976).
14. Carr and Smith, *op. cit.*
15. *Ibid.*
16. *Ibid.*
17. Alchian and Allen, *op. cit.*
18. Cootner, *op. cit.*
19. Houthakker, H. S., "Can Speculators Forecast Prices?" *Review of Economics and Statistics*, (May 1957), 39.
20. Samuelson, P., "Intertemporal Price Equilibrium: A Prologue to the Theory of Speculation," *Weltwirtschaftliches*, (1957), Archiv. 181-219.
21. Milgram, *op. cit.*
22. Smith, *op. cit.*
23. Markusen, J. R. and Scheffman, D. T., *Speculation and Monopoly in Urban Development: Analytical Foundations with Evidence for Toronto*, Ontario Economic Council, (University of Toronto Press, 1977).
24. Spurr, *op. cit.*
25. Markusen and Scheffman, *op. cit.*
26. *Ibid.*
27. *Ibid.*
28. Clawson, M. "Urban Sprawl and Speculation in Suburban Land," *Land Economics*, (May 1962).
29. *Ibid.*
30. Lessinger, J., "The Case For Scatteration," *Journal of the American Institute of Planners*, Vol. XXVIII, No. 3 (August 1962).
31. *Ibid.*
32. Ohls, J. and Pines, D., "Discontinuous Urban Development and Economic Efficiency," *Land Economics* (1975).
33. *Ibid.*
34. Minter, N., Knipps, L. K. and Arguelles, S., *Housing Price Trends in the City of Los Angeles, 1965-1975*, Community Analysis Bureau (City of Los Angeles, 1976).
35. Schmid, A. A., *Converting Land From Rural To Urban Uses*, (Resources for the Future Inc. 1968).
36. Maisel, S. J., *Background Information on Costs of Land for Single Family Housing*, Housing in California, Governor's Advisory Commission on Housing Problems, 1962.
37. Wendt, P. F. and Cerf, A. R., *Real estate Investment Analysis and Taxation* (New York: McGraw-Hill Book Co., 1979).
38. Pellatt, P.G.K., "The Analysis of Real Estate Investments Under Uncertainty," *The Journal of Finance*, Vol. XXVIII, No. 2 (May 1972).