THE FUNDAMENTALS OF RESIDENTIAL LAND PRICE DETERMINATION

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THE FUNDAMENTALS OF RESIDENTIAL
LAND PRICE DETERMINATION*

1. Introduction

Land is so basic to our existence that it tends to be thought of in a category apart from other items that are bought and sold. Rapid changes in the price of residential land puzzle and concern many people, who then react uneasily by creating mythologies about the process of land-price formation. As was apparent during the land-price inflation of the mid-seventies, each different story has its separate set of villains and scapegoats.

The purpose of this survey paper is to set out some of the basic factors that bear on the price of residential land, to de-mythologize the process by which price is created without masking genuine issues that divide different and often conflicting views of that process.

* This initial draft of this paper was prepared in June 1977 as a background research document for the Federal/Provincial Task Force on the Supply and Price of Serviced Residential Land. I am greatful for the comments provided at that time by many Task Force participants, and wish to acknowledge specifically the responses of Professor Stanley Hamilton, Dr. Frank Clayton and Professor Jim Markusen, which have helped me to clarify a number of points in the discussion.
As the discussion develops it will soon become apparent that land does have two features different from other items of household purchase that lead to unusual price effects: each parcel of land is geographically unique; and land in general yields its benefits over an indefinitely long period of time. The first of these singularities results in enormous variations in the price of land from place to place, even among units of land that are put to comparable use - think of the price of a typical residential building lot in Toronto or Vancouver compared to its price in Granby or Sudbury.

The second of the unusual features of land, its long economic life, may lead to fluctuations in the level of land prices at any one location that far exceed the fluctuations we observe in the price of other commodities. Because land is a capital asset, it can be revalued or re-priced by dramatically large amounts, and quickly - literally overnight, if opinion requires it. Its market price, like the price of stock-market shares and unlike the price of bread or automobiles, is based on the capitalization of expected net benefits. The consequence of this is that the mere expectation of greater or smaller future benefits than were before anticipated is enough to cause an immediate price change.
Much of the rest of this essay may be regarded simply as an elaboration of the importance these special features of land hold for the determination of its price.

2. The Proprietary Unit of Land

Land, with or without buildings, is bought and sold in registered units. Each such unit has associated with it a set of rights and responsibilities regarding the allowable use of the land, the rights that others may have over the use of the property, the liability for tax payment, and so on. The physical property along with these rights and obligations defines a proprietary unit of land. These proprietary units vary in size from large farms down to standard urban building lots. Whatever its size, however, the unit must remain spatially intact and cannot be marketed in pieces (although certain rights associated with the property may be separately sold or leased).

There is, of course, a legal process by which a proprietary land unit can be subdivided or severed, so that two or more units can be created from the original one. This can be one of the important points at which government policy and government administration intrude upon the development of residential building lots. To be approved, a sub-division proposal must create land units compatible with government policy towards development in the area.
and compatible with government servicing requirements. Also each newly created land unit must meet the minimum requirements with respect to such things as overall size or front-lot footage.

Characteristics and Value of the Land Unit

The unit of land ownership is defined by the legal lot, no matter what the state of development of the land. It is clear, however, that the nature of any given land unit can change dramatically in the course of development. If a 100-acre farm is subdivided into 200 half-acre lots, the characteristics of the original 100 acres have changed simply through a legal procedure, with absolutely no physical alteration to the property. If major service facilities, like water lines, sewers and roads are now constructed adjacent to the original acreage, and municipal permission is received to build on the land, the lots have gone through another dramatic change in characteristics. Each change of this sort redefines the nature of the basic, proprietary unit; correspondingly each change affects the market value of this unit.

Other characteristics will also affect the value of a lot. The lot's setting with respect to urban job centres and shopping facilities will clearly be important; and so will its immediate surroundings, along with any generally held expectations of change in the area - is a new airport expected? new roads? better public-transit facilities? The
market price of a proprietary land unit is affected as well by the particular financing arrangements underlying any sale, and by the property-tax liability that an owner expects to incur. For example, better mortgage arrangements or lower property taxes will lead to higher purchase prices.

In general, the characteristics of a lot become better defined as development progresses. In other words, the lot becomes increasingly differentiated from other lots as it and the surrounding area become developed. Ultimately, a particular house, perhaps a unique house, is built on the lot, a neighbourhood becomes established and defined, and the lot comes to bear a relationship to an urban area that is shared by only a relatively few other properties.

3. The Price of a Land Unit

To buy a piece of land is to acquire ownership of a proprietary land unit with all of its diverse characteristics. Except when other interests are explicitly provided for, the owner is entitled to exclusive use of the property. He can make changes within the limits allowed by law, and is responsible for any liabilities attached to the property. The land unit may be sold with the owner pocketing the proceeds, except for any public sharing by way of speculation taxes or transfer taxes. As well, the owner may rent the property, again taking for himself the net proceeds less taxes.
Capitalized Value of a Land Unit

What is it worth, this package of ownership rights and responsibilities that attaches to any given land unit? The worth or capital value of a piece of property is obviously a very forward looking concept. It will depend on the expected on-going, year-by-year value to the owner using the property, less any anticipated costs. For a rental property, the present worth will depend on the anticipated net revenue stream after all costs have been accounted for, including any construction or other major capital costs. Fundamentally, then, the value of a land unit is the capitalized or present value of a stream of net benefits (to the owner-user) or of net revenues (to the owner-renter) that may either continue on into the distant future or be terminated by the sale of the property, in which case the anticipated future sale price has also to be taken into account when reckoning today's value.

The Rate of Return on a Land Unit

Another way of looking at the value or price of a land unit is to think of land as a long-lasting asset that yields the owner some annual amount, either as a user benefit or as rental income. For a person to want to own such an asset, this annual yield (net of all costs) has to be at least equal to the net yield that could be obtained by holding some other equivalent asset.

Suppose that comparable alternative assets, like bonds, earned 10 per cent a year. Suppose, further, that
some fully developed residential land unit with a building on it was expected, with a considerable degree of certainty, to yield benefits, net of costs, worth $6,000 a year. To earn the standard 10 per cent, this residential land unit would have to have a capital value of $60,000. If it was offered for sale for more than that, potential buyers would prefer to buy bonds and rent the residential space; if it was priced lower than $60,000, there would be many potential buyers bidding up the price. This is, of course, a simple example, devoid of complicating tax effects that might make a bond or residential land worth different amounts to different people, but the principle remains unaltered in the face of such complications, for which adjustments to the analysis can easily be made.

One of the key points to understand about the determinants of land prices is that the annual return on a piece of land is often taken in the form of capital gain rather than direct annual benefit or revenue. Consider, in what is a polar example to the one in the above paragraph, an undeveloped land unit that is standing idle, one that is not used in any beneficial or revenue-earning way. Suppose, just to make the example easy, that there are no taxes or other expenses associated with this land (or, perhaps there is some net revenue from farming that just matches the tax expense). A person is willing to hold this land in order to sell it, still undeveloped,
at some later date. The value of the land today obviously depends on the price that the property is expected to fetch later on.

Suppose it is expected that the land can be sold for $100,000 seven years hence. If 10 per cent a year is again a reasonable return for a person to earn on an asset like land, then the price today will be only $50,000. Growth at 10 per cent a year will double this initial sum in a little over seven years. In this case, the asset holder - the land owner - has not taken earnings on an annual basis, but has, in effect, let the earnings accumulate over the whole seven years and then taken them in the end (if his expectation about the future selling price proved to be accurate) as a lump-sum gain. But the earnings are still only equivalent to 10 per cent a year.

Speculation

This is a good point to pause and deal with the notion of speculation, which is a frequently referred to but seldom well defined aspect of land holding. It is convenient, and not offensive to normal usage, to define pure land speculation as the behaviour of buying, selling and holding land without altering the land and with the purpose of taking earnings in the form of capital gains. Thus, with reference to the above example, anyone buying the land today at $50,000 and expecting to sell it seven years from now for $100,000 without developing
the land in any way, is a pure speculator. Frequently, land will be held with the expectation of making a future capital gain, but only after the land has been processed through some stages of development. This type of ownership combines elements of land speculation with elements of land development, and will not be considered as purely speculative. Ownership or development that is entered into with the intention of taking user benefits or net earnings, has in it no element of speculation. There may, of course, be very few developers or investors in this category, especially in an inflationary period when even owners of older buildings may expect to take part of their return in the form of capital gain.

The pure speculator acts as an intermediary in the land development process, holding land during the ripening period that precedes development. There is nothing necessarily anti-social in this behaviour; in fact, it is simply a form of land banking that occurs in recognition of the fact that it would be grossly inefficient to develop all land immediately. What the public tends to find disconcerting, however, is that the speculator takes his earnings in the form of capital gains, and the land-price increases that lead to these capital gains can be quite substantial, especially in periods with inflation-induced high interest rates. It was shown, in the example a couple of paragraphs back, that with a return of only 10 per cent a year, a speculator will expect
to see the price of land double in seven years. Given that the future price of land is rather uncertain at any times, so that investment in land is riskier than investment in bonds or mortgages, the minimum rate of return that a land speculator will have wanted in recent years may well have been above 10 per cent. If it was as high as 14 per cent, then land expected to sell for $100,000 in seven years will be worth no more than $41,000 now. Without anything being done to the land, and with only the minimum 14 per cent a year being earned, the price of this land will rise to almost two-and-one-half times its original price within seven years, if all expectations are met. Such is the force of compound interest acting on earnings that are left to accumulate and not taken on an on-going annual basis.

Stabilizing and Destabilizing Speculation

There is, of course, nothing that guarantees that the land speculator's earnings will be no higher than the average earnings on comparable assets elsewhere in the economy, nothing that is except other speculators. If speculators and other participants in the market expect higher land prices in the future, they will tend to bid among themselves for land, each one being willing to pay up to the price that would lead him to expect average earnings (with due account being taken for risk) on his investment. This competition pushes up the present price of land, in anticipation of future price rises, thereby smoothing out the path of the price
change, and permitting the original land owners to gain a greater share of the anticipated rise in value of their land. If expectations about future prices change, with lower prices than before now anticipated, the speculator may sell land holdings, thus lowering the current price and again smoothing out the transition of prices over time.

If there is little competition among buyers, this price-smoothing effect may not occur, and speculative earnings may be well above average earnings on comparable assets. The smoothing effect may also not occur if speculators are collectively wrong in their anticipation of future prices. If land is bid up in price today in the expectation that the future price will be higher, but it turns out that future price is lower than anticipated, then the effect of speculation will have been to push prices above their warranted level today, an increase that will have had to be adjusted for later on. Of course, speculators who make mistakes like that lose money and may tend to leave the business; but that is no guarantee that their places won't be taken by other mistaken speculators. We can, however, conclude at least this: that the greater the number of informed speculators operating in the land market, the more stable will the price changes be over time, and the more the gains and losses will be spread out over time and among owners.
Speculator-Developer Behaviour

It is easy now to build upon this discussion of speculative land prices with some comment on the formation of prices in the face of mixed speculative-development behaviour. Suppose a developer contemplates purchasing a piece of serviced land and anticipates putting up an apartment building on the land at some point in the future. To retain our 10-per-cent-return assumption and keep the figures easy, suppose this developer believes, given his expectations about construction costs and apartment-building values, that the best time to build will be in about seven years, when a $500,000 building should be built which, he believes, can then be sold for $700,000. Stripped down to essentials, the developer's expectation is that he can, in seven years' time, make a net profit of $200,000 on the development.

How much is the land worth? With a 10-per-cent return on comparable investments available elsewhere, this developer clearly has to make at least that rate of return on this venture. Since an annual return of 10 per cent implies a seven-year doubling time, the developer will pay up to $100,000 in order to make the expected $200,000 seven years later. The value of the undeveloped land is basically a residual in this calculation: take the expected gross revenue from the property, subtract costs, adjust for time, and the result is an estimate of the upper limit on the price of land. (Notice that the calculation would have been the same if,
rather than selling the apartment building, the developer decided to operate it, expecting to take out $70,000 a year net of all costs. This $70,000 a year at 10 per cent is roughly equivalent to a capital value of $700,000.)

Speculation Taxes and Residual Values

This view of land price as a residual value is the final perspective on the matter to be introduced in this section. It can be helpful in understanding the effect on price of a variety of events. Suppose, for example, that the government enacts a speculation tax of 50 per cent of the capital gain made on land that is not developed during the period of ownership. If all other taxes are ignored and purely speculative behaviour is assumed under the new tax regime, then the tax won't affect the expected future price of land, $100,000 seven years from now, if the land is expected to be sold for development. But the speculator cannot now pay $50,000 for the land and still make a 10-per-cent annual return after taxes. At the end of seven years, half of the $50,000 capital gain would be taken in taxes, so the net return would be only $25,000 on the $50,000 investment that had been made seven years earlier. This is equivalent to about 6 per cent a year. In order to make 10 per cent on his investment, the speculator would be able to pay only $33,333. This would permit him to gross $66,666 after seven years, if his expectations turned out to be correct, and to
keep a profit of $33,333 after the speculation tax, a profit equivalent once again to 10 per cent a year. The effect of the speculation tax has been to lower immediately the price of land, thus shifting wealth away from present land owners, whoever they may be. The final price, however, has not been affected, so the rate at which land prices increase from their lower base must be more rapid than before.

Of course, the effect of the speculation tax may be quite different. It will clearly encourage the speculator to undertake some development in order to avoid the tax. Continuing to use the above example, let us suppose that the land which is anticipated to be worth $100,000 seven years from now is expected to have that value because a builder will be able to put a $200,000 building on the land and immediately sell the whole package at $300,000. The builder takes no speculative earnings, but simply makes a standard profit on the building activity. The anticipated land price of $100,000 has thus been derived from the expectation that the complete development will sell for $300,000.

If the speculator now considers undertaking development on his own, he can still anticipate getting $300,000 for the completed development after seven years. But it is reasonable to assume that his cost of constructing the building will be more than the anticipated $200,000, because the speculator is not as skilled at that type of activity as the specialist builder. Suppose the building costs the speculator
10 per cent extra, $220,000, say. This leaves only $80,000 as the expected residual value of the land seven years hence. This enables the speculator to pay up to $40,000 for the land today (since he has been able to avoid the speculation tax by developing the land himself). Again, the effect of the speculation tax has been to lower the present price of the land, this time from $50,000 to $40,000, so that the cost of the relatively inefficient building activity that has yet to occur is borne now, by the present land owner. Because land value is a residual, dependent upon expectations of future benefits and future costs, anything that changes these expectations tends to have this sort of immediate effect on land prices, with the result that current wealth gets redistributed, often in unanticipated and unplanned ways.

4. Buying and Selling Land

It has been convenient so far to ignore one important complication in the formation of land prices. This convenience must now be set aside so that we may look more deeply into the pricing process.

People have been assumed to hold relatively constant expectations about the benefits or net revenues to be obtained from a piece of property, but in fact this generally isn't the case. Expected revenues, and the anticipated costs of producing those revenues, will depend in part on how other,
related parcels of land are being used. The expected benefit of a unit of residential land to a potential owner depends on how easily and at what price alternative residential locations can be obtained; and the value to a potential developer of a land unit to be used, say, for an apartment building, depends in part on how many other competing apartment developments are being planned.

Special Features of the Land Market

Ultimately, it is the market that mediates the expectations of many different people, and ensures that prices adjust to take account of the actions of others. It does this in ways that will later be examined in some detail. For the moment, however, we shall focus on more general aspects of the market.

As a matter of definition, a market is any institutional arrangement that permits mutually beneficial exchanges at agreed upon terms to take place. To say that a market exists is to imply little more than the absence of coercion in the exchange process. Given this rather benign concept of a market, it is strange to find people who react against the very idea that a market in land exists, a reaction that seems to spring misguidedly from the observation that land is more-or-less fixed in total supply, and not manufactured like many marketed goods. In complete contrast, there is an opposite view not only that a land market actively exists, but that it operates to allocate land in society's best interest, especially when it isn't interfered with by governments.
In spite of the language that is sometimes used, it is not the existence of land markets that is really at issue. Rather, these conflicting views reflect fundamentally different perceptions of the kind of markets that exist. The issues that are raised by these different perceptions are highly significant in the formation of public land policy. Unfortunately, easy answers cannot be vouchsafed.

As a marketed product, land has a special feature that alone contributes to most of the ambiguity and debate over the role of land markets. This feature is the unique set of spatial co-ordinates that defines each unit of land. How important for the functioning of land markets is this uniqueness? Does it mean that there is a separate market for each parcel of land, because each parcel is importantly different from all others? If so, then each owner is a monopolist, with at least some degree of control over the price of his lot.

A less extreme position might recognize the importance of location, but not hold that this importance implies the uniqueness of each separate land parcel. Over some defined area, one lot might be thought to be much like another lot; but the set of lots within that area might be judged to be quite a different product from lots in another area.

This question of the importance of geographical uniqueness is critical in the consideration of land markets. A market is defined by the buying and selling of more-or-less like products. If each parcel of land is unique, then each
parcel constitutes a separate market. If, however, other characteristics of land units strongly dominate over location, then a single market for residential land might range over the whole of an urban area, with a lot on one side of a city being a ready substitute for a lot twenty miles away on the other side of town. The question comes down to this matter of substitutability, with each separate market consisting of a set of ready substitutes. The reason the question of uniqueness is so important is that the extent to which individual land owners have control over prices in the market depends heavily on the breadth of the market in which they are operating.

This issue cannot be solved conceptually. The question calls for empirical answers that might well vary from area-to-area. What we can do at this point is describe the issue and elaborate some of the implications of different answers. It is especially important to avoid the automatic presumption that separate land markets are defined by separate developments, or separate suburban municipalities. To begin with, that assumption would narrow unduly the results of an investigation into land markets, and as well would run counter to a growing body of general evidence that ascribes primary importance to land-unit characteristics other than specific geographic location.

Supply and Demand

With this broad introduction to the idea of a land market, we shall turn now to a more specific analysis of component
parts of a typical market. As usual, the market will be separated into a supply side and a demand side. This division is somewhat more arbitrary in the case of land, a product the area of which at least is fixed in total supply, than it is for manufactured commodities, like bread or boots. In those markets there is a clearly identified set of producers supplying the market, and a set of potential customers contributing to demand. In land markets, the same individual, a land owner, might be both a demander and a supplier. He might hold land for his own use, unless the market price for his land reached such a height that he felt inclined to sell to someone else, or to convert the land to some more intensive use.

In subsequent sections, we will deal carefully with this joint supplier-demander behaviour, and trace its implications in the formation of land price. But we will also consider more traditional supply and demand patterns in residential land markets. Operating in the suburbs, or commuter shed, of urban areas there is generally a development industry whose product is serviced residential land, with or without buildings. These are the suppliers, in normal market language, and they produce a certain flow of new acreage to the market, a flow that depends on various considerations that we discuss in the next section. At the same time, there is in any growing urban area a demand for new land units, a demand that is created largely by potential newcomers to the area. We have, therefore, in the analysis of land markets, to consider both the
production and consumption of new land units and the impact of the vast acreage of residential land already owned and in use within the urban area.

5. Supply of Land for Residential Use

Monopolistic vs. Competitive Supply

There are two fundamentally different kinds of supply behaviour, monopolistic and competitive. The monopolistic supplier of land has some control over the price at which his land sells. Within limits, he can set a price and let the buyers decide how much land they want to buy at that price. In general, the higher this price is, the less that will be bought at any one time. In order for a supplier to have this kind of price control, the market in which he is operating must be quite narrow; buyers must perceive some significant difference between the land owned by the monopolistic supplier and alternative land. This concept of monopolistic supply may be extended to include markets in which several suppliers can control prices by operating collusively, or in which a dominant supplier sets prices which are then adhered to by other less important suppliers operating in the same market. In other words, we need not confine monopolistic supply behaviour to situations where there is literally only one supplier.

A competitive supplier, in contrast, has no control over price. Buyers and sellers taken together in the relevant
land market collectively determine price, but no separate agent can individually alter this market-determined price. In this case, the market in which the supplier operates is sufficiently broad that any attempt to raise prices above the market level would simply drive buyers to other suppliers from whom they could obtain equally satisfactory land. The greater the degree of substitutability among land units in any urban area, the more likely it will be that supply behaviour is competitive.

The basic motivation of both the monopolistic supplier and the competitive supplier we shall take to be the same. Even though they have different degrees of price control in their different markets, they are both members of the land development industry, and they might both reasonably be presumed to operate with normal economic goals. Their basic motivation, then, is to maximize the value of their current assets, their current land holdings. This is a sturdy and standard assumption, one that underlies just about every analysis of land markets that has ever been undertaken.

The desire to increase as much as possible the current value of land holdings is the key to understanding why certain types of developments are planned, and why they are planned for a particular time. In other words, it is the key to understanding the rate at which land is supplied for residential development. For the remainder of this section, we shall explore these matters within the context of a competitive
market. This competitive context will be retained for the subsequent two sections. Later, we shall return to the issues raised by monopolistic supply behaviour.

Value-maximizing Behaviour

Whatever its present stage of development, a land unit can always be used in the future in many different ways. Even land that is fully developed and built upon can be changed in the future, with the buildings being converted from one use to another, or torn down to make way for another structure. Land that is less developed can be used in a great variety of ways. If the land is serviced and ready to go, an owner has the option of selling the land or of building any one of what are likely to be a large number of legal alternatives. Not only does a best alternative have to be chosen, but the best time to build the best alternative has to be decided upon.

This question of timing is even more critical for land that is not yet serviced, or perhaps not even subdivided. What is the best time to press for subdivision, or to incur the costs of servicing? Each of these activities takes administrative time and effort on the part of the land owner, and will generally increase the liability associated with the land unit either through capital levies or increased property taxes, or both.

Each of these alternatives has associated with it a different set of expected revenue streams and cost streams.
When these expected revenues and costs are discounted back to the present, they give (as we saw in an earlier section) a certain residual value to the land today. The planned course of action will be the one that yields the highest present residual value. This can occur in either of two ways. Either the existing owner makes some calculations of the value of various alternatives, and then decides to proceed in accordance with the value-maximizing plan, or several potential owners and suppliers of land make independent evaluations of different alternatives, with the one that conceives of a more valuable plan than the others being able to bid more for the land. If there is active buying and selling among members of the land-supply industry, then the market will act to ensure that a parcel of land is ultimately owned by the person who contemplates a course of action that makes the land today most valuable.

By no means does the most valuable plan of development necessarily imply that the various stages of development—subdividing, servicing and building—should take place immediately. Given expectations about the price of dwelling units in the future, and given estimates of the costs of each stage of development, and expectations about how those costs will change over time, the best course of action may well be to delay development, to hold the land vacant or to plan some interim use, possibly for many years.
Effects on Land Use of Various Changes

Exactly what decisions will be made by competitive suppliers depends on the circumstances of the market, and on their individual expectations of prices and costs. Nonetheless, quite a bit can be said about the effect on land supply of changes in the relevant variables. For example, the amount of land that is supplied for residential development in any one year depends on the market price of land in that year, and on the expected prices in future years. These expected prices are based, in turn, on such things as anticipated population growth in the area, and on the likely development of basic urban facilities, like roads and public-transit services. If there is a sudden surge in demand today for residential units, then more land will be supplied today, as current prices rise, provided that basic expectations about future prices are unchanged. This supply response to a price rise is typical of the competitive supply relationship in most markets. It may not occur, however, if future land prices are also expected to rise. With this change in expectations towards future prices, the timing of land supply that was originally contemplated could easily continue to be the timing that will maximize the present value of land holdings. The value of land will rise, just as the price of dwelling units will rise, but the rate of land supply will not change. Whether or not the timing remains the same depends on the precise relationship between
the change in current price and the change in future-price expectations.

What happens if the cost of development suddenly goes up? How does this affect the rate of supply? If the price of dwelling units and residential land is expected to rise year-by-year, then higher costs of servicing land, or higher costs of subdividing or building, will generally serve to delay the best time for development. The rate of supply will be reduced. The reason, basically, is that the delay permits the land value to rise, and this increase helps offset the jump in development costs. At the same time, the current price of land will fall - being residual, the higher development cost has left less available to pay for land - but, because of the reduced supply, the price won't fall by enough to offset the increase in cost. In the reverse situation, a lower development cost will enhance supply, and although the price of land will increase, it won't increase to such an extent that the lower cost is fully offset.

Tax Effects

This framework for analyzing supply may be used to evaluate the effect on land price and supply timing of various tax schemes, including a speculative capital-gains tax of the sort that was earlier commented on. Such a tax will normally have the effect of speeding up the rate at which land is supplied for development. More generally, tax effects follow one very simple rule: if the amount of land tax is independent
of the way in which the land is used - independent of the timing of development activity and of the type of development - then a change in the tax will have absolutely no effect on the use of the land or the timing of development. In this sense, such a tax is neutral. Even though it may be imposed on an annual basis, it does not affect the value-maximizing use of the land, but acts simply to alter the present value of the land, just as if there had been a change in a lump-sum tax on the land.

Other taxes, the size of which depends on the type of development, or on the market value of the development, are not neutral in their effect. The standard property tax, for example, is not neutral, because it changes with the value of the property. In general, a tax that goes up with each increase in the value of a piece of property, will serve to delay development, and will probably lead to smaller developments. This effect on timing is not certain, however, and under some circumstances, an increase in the standard property tax can lead to the earlier development of a smaller, less valuable project.

Adjustment in the Use of Existing Stock

In the previous section, reference was made to the potential supply of new residential space from among the land units currently being used for residential purposes in any urban area. We know that conversions from single-family dwellings to apartment buildings have been an important source of dwelling-unit supply in many Canadian cities, as residential
land-use becomes intensified in the process of this redevelopment. We will turn shortly to consider the effect of this re-conversion process on dwelling-unit and land prices in the newly developing suburban areas of a city. For the moment, however, it is worth noting that re-conversion timing, apartment size, and so on, can be analyzed within the value-maximizing framework that we have so far applied to new-land development. Whether or not existing residential land is converted to denser uses (assuming that it is legally possible to intensify the use) will depend on the anticipated costs of re-development and the expected revenue from a new building. If the discounted value of these expected revenues and costs is greater than the value of the land in its present use, there will be a tendency for developers to bid the land away from present users, who will willingly sell at prices above the value of the property to them. Again, an increase in the current selling price of dwelling units that isn't accompanied by expectations of rapid future price increases, will tend to encourage the immediate intensification of existing residential land, and thus add to the current overall supply of accommodation.

6. Demand for Residential Land

Net Migrant vs. Existing Demand

Within any urban area, there are basically two sources of demand for residential dwelling units, from which the demand for land is derived. The first source is from within
the existing population, the second from potential newcomers (net of emigrants) to the area. Although it is obviously not the case that all newcomers locate in newly developed areas and all old-timers remain in already-developed residential areas, we can nonetheless relate the demand for new residential land to net migration into the area. The idea basically is this: if a newcomer locates in an established neighbourhood, then - before considering "doubling up" or changes in the intensity of land use - that person must be replacing a previous resident, who will contribute to demand in newly developed areas (out-migrants have already been accounted for by taking as the measure of newcomers the net and not the gross inflow). Thus the net migrant demand is a reasonable initial measure of the demand for new residential land. This, as will be explained, has to be adjusted to take account of the actions of existing residents who have the dual role of suppliers and demanders.

In considering the demand for residential land, there is no need to make the distinction between price-controllers and price-takers that is so important to the analysis of supply. No individual consumer of serviced land is likely to have sufficient market power to be able to set buying prices. It is reasonable, therefore, to concentrate completely on the reaction of buyers to changes in prices and other conditions, over which they individually have no control.
Effect of Price on Demand

The rate at which net migrants demand residential land is undoubtedly responsive to its price. With other things unchanged, a higher price will reduce the net inflow, both because potential newcomers will be deterred and existing residents will be encouraged to sell and locate in some less expensive area. Many of us in large cities have personally witnessed both of these reactions.

Notice that this is quite different from saying that the balance of net migration will be towards urban areas with the lowest land prices. Whether or not an urban area with some given set of prices for residential land is relatively desirable depends entirely on what relative advantages to residents the area has, or is expected to have. More readily available jobs, a better environment, lower taxes relative to public services, better education facilities, more exciting entertainment and better shopping are among the reasons why people might be willing to pay more for land in one city than another. But, within any given area, we would expect to find that demand for land at any time is responsive to the price of land.

This standard price-demand relationship can break down, however, when other things besides current price are changing. If people's attitudes change, and they come to regard one city as increasingly attractive relative to others, the same amount of land may be currently demanded in that city at higher prices, or more land will be demanded at the original
prices. If a city's rate of population growth is expected to rise, then present residents along with potential migrants may expect residential land prices in the future to rise more rapidly than had earlier been expected, again leading to a jump in current demand.

Other Influences on Demand

Influences on the demand for land come also from events that have no direct relationship to the characteristics of particular land units, or to the prices they are expected to bear in the future. We saw earlier in this chapter how the current price of land would tend to adjust to a level such that a normal return was being earned on the land. Land was viewed as but one of many assets that an individual or company could hold. The price of each asset reflects the level of the asset's expected net earnings, and the risk or uncertainty associated with those earnings. If the level of earnings of some assets goes down, or the uncertainty of the earnings rises, then asset holders will be inclined to demand less of that kind of asset and more of others, so that all asset returns are brought back into balance.

Since land is an important asset, especially in the portfolio of individual households, the demand for land can be strongly and quickly influenced by changes in the earnings on other items in a portfolio. If, in a period of economic uncertainty and rising prices, assets like common shares or bonds become less attractive, there will be a tendency for
portfolio demand to shift towards land. A tendency of this sort would be strengthened by a tax-policy change of the kind that occurred in Canada in 1971, which levied a capital gains tax on the value of many assets, but not on owner-used residential land. The resulting increase in the demand for land raises the price at which people are willing to buy any given amount.

Factors such as these just discussed affect the demand for land by net migrants and the demand by existing residents. Both groups are influenced by the overall desirability of an urban area, and by the availability and price of alternative investment opportunities.

7. The Competitive Market

**Equilibrium Price**

A competitive market is characterized by the absence of market power, by the inability of each individual buyer or seller in the market to influence price. The price emerges from the interaction in the market of all the buyers and sellers, taken together. If price is initially too high, the amount of land offered for sale will exceed the amount demanded, and price will therefore fall. If the initial price is too low, excess demand will push it up to an equilibrium level, where demand and supply are in balance.

That an equilibrium market price will exist is virtually guaranteed by the nature of demand and supply. As current
price goes up, less is demanded and more is supplied (as long as other factors, like expectations of future price, don't change). So, if there is excess demand at first, the rising price that this generates will both cut off some of the demand and induce a larger supply to be offered, both of which serve to bring demand and supply together.

The Importance of Existing Residential Land

For most competitive markets, this typical demand and supply behaviour is uncomplicated by the existence of stocks of the product being sold. In the case of land markets, however, existing stocks may play a critical role in the formation of prices, through the behaviour of existing residents, who, because they already own land, play a dual role as land demanders and potential land suppliers.

In the market for new residential land, a development industry is usually operating, one that provides a supply of new lots. The demand for this new-land arises from net migration into the area. This net migration may be supplemented by sociological changes within the existing residential population, which is the first of two ways in which the net-migrant demand for new land may be altered by existing residents. The most important sociological change in the past decade or two, has been the break-up of larger family units and the corresponding creation of two or more households where only one would previously have existed. As long as this
continues to happen, the same basic population will year-by-year demand more dwelling units, and this demand will reflect back into the new-land market. The demand by net migrants will be supplemented, price will be higher than it would otherwise be, and the rate at which new lots are created will also be higher.

The second inter-relationship between the demand for land by existing residents and the formation of price in the new-land market is less direct. As long as the market for residential units is broad enough to include both existing and new units, that is, as long as there is a high degree of substitutability between new and old locations, then the prices of new land units and old land units must move together.

As the price of existing residential units rises, there is a tendency for existing resident-owners to economise on the use of land, either by selling to a larger land-using household and moving to a smaller land-using residential unit, or by selling to a developer who will intensify the residential use of the land (or, the owner may directly undertake such intensification). In either case, the effect is to free some existing land to meet the net-migrant demand. Put another way, the net-migrant demand on the new-land market is reduced.

If the opposite price movement occurs, with land going down in price, then existing residents will tend to spread out and use land less intensively. This has the effect of creating more demand in the new-land market. In summary, there will be some price for existing residential land units
at which existing residents are just content with their supply of land; there will be no net pressures to intensify use or to spread out. At higher prices, some existing land will be made available to meet the net-migrant demand; and at lower prices, the net-migrant demand in the new-land market will be added to by existing residents.

Putting the Market Together

How does all this affect the price of new residential land units? Suppose we start from a position of equilibrium in the new-land market, where a certain amount of land is being supplied and bought each year at a price that is just adequate to ensure that existing land owners are content with the amount of land that they have. Now suppose that there is a sudden upsurge in the net-migrant demand for land in this area. We would expect new-land prices to rise, and more land to be made available as these prices go up. But if the existing residential land owners can respond quickly to this price rise by releasing quantities of land (by adding dwelling units to existing land) to meet the upsurge in net-migrant demand, then the upward pressure on prices is reduced. If this response from existing land owners is sufficiently large, there may be virtually no movement in the price of new land.

If, in the new-land market, a reduction in supply occurred, either instead of or along with the increase in net-migrant demand, then again a price rise would be expected.
Such a supply reduction might occur because of some new government regulation over subdivision approval or because of unusual delays in servicing land. However, this price rise too would be moderated or even wholly contained by the response of existing resident land owners.

The Stock-adjustment Effect

Because the annual production of new dwelling units in and around Canadian cities is only a small percentage of the stock of dwelling units that already exist in those cities—under 10 per cent certainly, and generally under 5 per cent—some analysts are inclined to argue that this stock-adjustment effect, which stabilizes the price of new land, is very strong. If new dwelling units account for even as much as 10 per cent annually of existing units, and annual net-migrant demand rises at some point by 20 per cent, let us say, then only a 2-per-cent intensification a year of existing residential land will be sufficient to offset the effect of the demand increase. (A 2-per-cent intensification means that where 100 dwelling units before existed, the land use would have to be altered so that 102 units exist at the end of a year.)

The implication of this kind of response from the owners or developers of existing land is quite important. It means that rapid price changes, increases or decreases, in the new-land market cannot be ascribed simply to changes in the conditions of net-migrant demand or new-land supply. In particular, neither rapid increases in population nor government-
induced constraints on land supply will be sufficient to cause rapidly rising land prices.

Once again, it is an empirical question, the answer to which may vary from place-to-place, whether indeed land-use intensities over existing residential land change this rapidly. If there are lags in the land-owner or developer response to price changes - perhaps caused by legal constraints over land-use alterations - then the new-land market could be virtually unaffected in the short run by the use of existing land. As prices rise, the use of existing land might be intensified but only after a few years, and it would not be until then that any price moderation occurred. It is even possible that, because of this lag, the stock-adjustment response will destabilize prices in the new-land market. If the new-land price increase is a temporary phenomenon (caused perhaps by problems of government administration that are quickly overcome), then the land made available through the intensification of existing land uses may serve to reduce the demand for new land just as prices are falling from their temporary high. This will lead to lower prices than would otherwise occur. A continuation of this lagged response might even set up a cyclical movement in the price of new land.

Even if the stock-adjustment effect is to moderate and not to destabilize short-run land prices, demand and supply conditions in the new-land market will dominate in the long
run. The reason for this is quite simple. The short-run price moderation is accomplished by providing some existing residential land for new migrants. This means that each year there is a smaller supply of new residential land being made available than is demanded at the original price. This excess of demand over supply will cause the price of land to rise year-by-year, until it has reached a level such that the supply of new land is just equal to the demand for new land by net migrants. As long as this demand and supply remain unchanged, price will stay constant at this higher level. The stock adjustment has acted simply to smooth the transition from a lower price to a higher price.

Shifts in Demand and Supply

When other things besides the current price of land are changed, then, as discussed above, the basic demand and supply conditions also change. Among the most important of these other things are changes in expectations about future prices, and changing asset prices that lead to an alteration in the portfolio holdings of land. In the penultimate section, the possible influence of these factors on recent land-price increases will be reviewed briefly.

8. Government Intervention in the Market

At the beginning of this paper, the creation of villains and scapegoats to explain Canada's land-price boom of the early seventies was noted. Among the most frequently
fingered of these putative culprits have been governments, especially municipal governments.

Governments are inextricably involved in land-use decisions, and certainly make easy targets for critics. Each municipality has its zoning by-law that defines limitations on the use of each parcel of land, and many have long-term land-use plans that must be adhered to in the process of land development. Numerous regulations and procedures govern applications for subdivision approval, zoning change or site-plan developments. In spite of this, the hegemony of governments over land markets seems to be widely accepted in Canada, and most of the recent criticism has been quite narrowly focussed. In a similar spirit, the remarks here will be confined to these main items of controversy. Servicing delays and planning restrictions will be dealt with in turn.

**Servicing Delays**

Governments stand accused mainly of providing too little servicing for potential residential land, and of surrounding the land-development process with an inordinate amount of red tape. Both of these actions, or inactions, reduce the ability of new-land supply to respond to price increases. This rigidity of supply is, in turn, believed to contribute to the price increase.

In the last section, however, it was argued that short-run restrictions on supply in the face of demand increases might have very little price effect if there is a sufficiently
rapid stock-adjustment response. Since the existence of this response is an empirical matter, it is not possible a priori to say whether the government-induced supply restraint leads to higher prices or not. What can be said, however, is this: that it is illogical to hold both that land-use adjustment over the existing stock of land dominates the land pricing process and that short-run government supply restrictions are importantly responsible for rapid land-price increases.

If we disregard or minimize the influence of stock adjustments on short-run new-land prices, thus permitting ourselves to hold that government supply restraints significantly affect these prices, we are encouraged to ask how long lasting the price effect might be. Basically what the regulations and red tape do is to cause a lag or delay in the supply response. If current land prices rise, developers will be encouraged to increase their applications to the regulatory mill. These will be approved, but only after the standard delay that is built into the process. Once the higher level of approvals starts flowing, supply will loosen up, and some price moderation will occur.

As in the case of lagged stock-adjustment responses, this delay in the approval process could destabilize the path of land prices. If it takes two or three years after initial applications for a higher level of approvals to start emerging, demand pressures by that time may have eased, and the newly approved residential land may contribute to falling land prices.
This is not all that likely, however, since demand shifts tend to be longer lasting than two or three years. The more likely effect of the apparent inability of governments to respond quickly to land-development applications, is to intensify short-run rises in prices (still assuming a mild stock-adjustment response), but to alter very little the long-run price from the level it would otherwise be at.

Land-use Planning

This result depends, however, on the willingness of governments to approve higher levels of land-development applications. The second strand of criticism against the government undercuts this assumption. Governments have been accused of providing too little basic servicing of potential residential land to meet development needs. This is a different matter from regulatory delays. It gets directly to the heart of land-use planning.

It's a common refrain, that the more serviced land we have available, the lower the prices of land and houses will be. So we need more serviced land. However, the price of land is an ambiguous indicator of social well-being. More serviced land and lower prices are fine, in the abstract. But suppose more land is serviced and put in use at the cost of less efficient urban design.

Suppose widespread, ever-sprawling residential areas around an urban centre involve high commuting costs, poor basic servicing, high taxes and the absence of urban amenities.
The lower price of land may seem like a poor exchange for this relatively undesirable set of land-unit characteristics, especially if the same potential population could achieve a higher level of well being at a lower cost through an alternative, more compact urban design. The presence of greater net benefits with such an alternative design would be reflected in part through higher land prices. A higher market price is paid for a more desirable set of land-unit characteristics.

What has this got to do with government planning? Couldn't governments simply provide adequate servicing facilities - the sewers and water mains and roads - and let the private market achieve the most efficient residential land-use configurations? Anyone is free to pay a higher price for more desirable land, and the higher price encourages more intensive use.

To some extent this can and does happen, but overall the market has a great deal of difficulty in choosing the best set of land uses; and it isn't helped by another whole set of municipal land-use restrictions that control and constrain the intensification of land uses. These are really two points that should be taken in turn.

Efficiency or Otherwise of the Market

In developing land and deciding upon its use, the market responds to benefits and costs to society; they are the benefits and costs to the private owner of the property. If
the private perception of benefit and cost differs from the social, the market has no easy way of responding to the broader interest.

Let us take a concrete example. Suppose that some large suburban residential area could take advantage of an efficient public-transit service if the land were developed at a sufficiently high housing density. The private market alone is unable to achieve this necessary density, because from the perception of each individual lot owner, the higher density is less valuable. It only becomes more valuable if all lots are developed more intensely, so that the public-transit service may be obtained.

This socially desirable (as we are assuming) more intensive residential use could be obtained if the private owners acted together, if they colluded. But such collusion is difficult to achieve, and may be considered undesirable on other grounds. This is a reasonable occasion for governments to intervene, to promote higher densities. This they can do either by requiring certain minimum-density development, or simply by permitting high-density development and at the same time committing themselves to the public-transit service.

Intensification of Land Use

Frequently the efficient development of urban areas requires the intensification of residential use in already developed parts of the area. It is completely wrong to think
of urban development, in any city, as occurring only at the periphery of the built-up zone. Cities are continually undergoing re-development throughout their area. Taking commercial and residential development together, in most cities the bulk of building-investment activity takes place on land that has had on it an earlier generation, or several generations, of development.

Municipalities have had, however, a great deal of difficulty in permitting more intensive residential use in existing residential areas. Usually, a zoning change is required, a change that frequently meets with strong local opposition. This is the second of the points, referred to above, that mitigate against more efficient urban design. If governments will not provide main-line servicing to ever-more-distant suburban residential areas, and if at the same time they cannot provide for the more intensive residential use of existing areas, then long-run supply constraints could become an important component of a land-price crisis.

A number of cities are moving towards some resolution of this problem. Rigid notions, earlier held, about the need to separate land uses by keeping residential, retailing, commercial and industrial areas segregated, are beginning to break down. Considerable interest is being shown in the development of mixed-use areas, and in the encouragement of joint commercial and residential buildings. The re-development
of non-residential areas to accommodate residential uses also helps solve in part the problem that has been posed by the intensification of existing residential areas, which frequently conflicts with the desire of residents to maintain the structure of their neighbourhoods. The importance needs to be underlined of these attempts to work towards more efficient urban land uses, in part by intensifying the overall residential use of already urbanized land.

**Agricultural Land**

Along with more efficient land-use patterns within cities, governments have devoted some attention to agricultural-land policies. It's a common perception that first-class agricultural land is disappearing too rapidly under the brick and concrete of expanding residential developments, and that governments should legislate to reduce this destruction of growing land. This issue again cuts to the heart of planning goals and questions of market efficiency. If the market is allocating land uses efficiently, which is generally taken to be equivalent to allocating in the best interests of society, then constraints on the conversion of farm land to residential use must be inefficient. The land is more valuable in residential than in farm use, because society values, through the market, the contribution of the land to dwelling units more highly than it values the contribution of the land to food production. Who are planners to say the market is wrong?
But we know the market may not be allocating in society's best interest. Economists have long understood, for example, that markets respond only imperfectly to expectations of future prices. In the particular case of agricultural-land policy, future prices - of dwelling units relative to food - are all-important. If shortages of food in the future prove to be more severe than shortages of accommodation, then policies to control the conversion of present agricultural land could be well founded, even in the face of today's market-price signals calling for such conversions. In this case, assuming that residential land cannot easily be converted back to farm use, the market is not providing the best signals. But if the government's expectations of future prices are no better founded than the market's, or if the market is otherwise known to be giving good price signals, then constraints on the conversion of farm land may be costly to society. They may keep us from using scarce land in socially the best way.

9. **Private Control in the Market**

To some people, governments have been mainly responsible for rapid land-price increases; but, in the view of many others, private developers have been the culprits. It has been argued cogently and often, that the ownership of potential residential land around many urban areas is concentrated in the hands of a few developers, and that this concentration confers monopolistic market power on those few.
The full development of this thesis and the facts that bear upon it, have been dealt with in several recent studies. Here the conditions necessary for the exercise of market power are simply reviewed, and the implications for residential land prices of such power are commented upon briefly.

Monopolistic Prices

To have control in the market is to be able to set prices, at least within limits. In a competitive market, where no individual control exists, any developer raising prices above the market level will lose his complete market demand. Developers who do have control can raise prices, at the cost of some, but not all, sales.

The way in which monopolists actually exercise their market power will depend on the circumstances of any particular market. Recall that the goal of the monopolist, like the competitor, is to maximize his net worth, which has been taken to correspond by-and-large to maximizing the private value of land. If we envisage development activity around an urban area as a continual process, with the city gradually pushing out over time and with increasingly remote land coming to bear a relationship to the urban area that only closer-in land originally had, then the likely outcome of monopoly power in the land market is the same as the outcome that has been so thoroughly analyzed in other markets. Prices will be raised above their competitive level, and the amount of new land actually developed into residential use each year will be less
than would have occurred in a competitive market. It is this result that condemns the monopolist as the cause of land-price increases. For the monopolist, it is a profitable course of action; for the potential home owner, it is an expensive outcome.

Other market forms may give slightly different results. If instead of a continual process of development around an urban area, one envisaged a situation with a fixed amount of suburban land to be developed, then the issue must be posed in a different way. The question becomes, at what rate will the fixed amount of land be developed, and what will the price of land be during this time of development.

In this alternative situation, the price of land after it is all developed will be the same whether the development industry is competitive or monopolistic, but the rate at which the fixed amount of land is developed may depend on the industry structure. A monopolist might well decide to raise prices early in the process of development, but the cost of doing that is to leave the monopolist initially with more unsold land, which must then be sold at lower prices later on. There is a limit on the extent to which the monopolist is willing to delay sales, simply because a dollar of revenue later on is not worth as much as a dollar today. But it is again very possible that, even with a fixed supply of land to be developed, the monopolist will reduce the rate at which the
land is initially developed to below the rate that would occur in a competitive market, and correspondingly, raise the price. It is certain that the total amount for which all the land is sold will be higher if the development industry is monopolistic than if it is competitive.

It seems almost certain that a monopolistic land-development industry will extract a higher price for land than a competitive industry. What remains at issue, of course, is the likely or actual existence of monopoly power in our urban areas. We have seen that in order for this to occur an individual owner, or group of related owners, must have land that is significantly different from available alternatives, whether those alternatives are within existing residential parts of the city, or elsewhere in the developing suburbs. Land that is at a very early stage of development would seem on the surface to be relatively undifferentiated from other undeveloped land. For this reason, concentrated ownership at one location may not be a reliable indicator of market power.

Measuring Market Power

In searching for some appropriate definition of the market within which market power might be exercised, other problems emerge. In the process of development, land has to pass through many stages, from sub-division, to servicing, to building. If concentration of ownership is to be our indicator of market power, at what stage should this concentration be measured? The simple concentration or lack of concentra-
tion of land ownership may not be a very significant guide to market power, if that power can be exercised at some later stage of the development process, say the stage at which municipal approval is being sought. These are matters that are simply pointed to here, but not pursued.

10. **Rapid Price Escalation**

Public concern over land prices seems to be focused mainly on rapid changes in prices, particularly increases, and not on the level of prices. Although price level and price escalation are obviously related phenomena (starting from the same base, rapidly escalating prices in one area will reach a higher level than prices in another area with less rapid escalation), a concern with price level *per se* calls for an examination of various land-supply restrictions, while a concern with price escalation requires some analysis of short- or long-run changes in those restrictions (relative to changes in demand), along with changes in such things as expectations and discount rates that affect the price of long-lived assets.

The problem of monopoly, recall, is a problem of high prices, not of rapidly rising prices. In competitive markets we saw, too, that without changes in expectations or in the earnings of assets other than land, there were forces that might be expected, to some extent at least, to stabilize prices, to prevent too rapid a change from one level to another. With these forces in operation, we would not expect changes in
demand or in supply to lead to rapid short-run price movements, of the sort that occurred in the mid-seventies. It's possible, of course, that these stabilizing elements are actually very weak, but it would be risky to hang one's whole understanding of rapid price changes on that possibility.

The more powerful forces that seem likely to have influenced price changes in the years from 1972 onwards are those that altered expectations of future price levels and changed the level of return on alternative assets such as common shares, bonds and mortgages. In earlier parts of this essay, the influence that these changes can have on demand and supply, taken separately, were related. Briefly, the effect of expecting a more rapid increase than before in the price of land and dwelling units is to reduce the present rate at which land is being supplied for development and to increase the rate at which it is being demanded. If, in addition, earnings on alternative assets fall or become more uncertain, this adds further to the demand pressure for land.

In the face of increases in new demand, and in stock demand, and decreases in current supply, land prices can respond only by moving rapidly upwards. Any moderating, stock-adjustment influences that might normally exist in the market will have been undercut by the greater demand for land on the part of existing residents, who have also responded to the deterioration of other-asset earnings and rising price expectations. Since the price at which the existing population is willing
to hold existing residential land has risen, the whole structure of prices will immediately rise.

Other forces may of course be at work as well. Along with the rapid price jump engendered by the kind of changes just mentioned, underlying secular trends may be plodding away. More rapid urbanization may be causing net migrant demand slowly to increase; government regulations may be interfering with supply responses. These forces should not be neglected. Over the long run they can have an even more important effect on price than the shorter lived events that lead to rapid price adjustments. But it is the rapid changes nonetheless that are immediately disturbing to us, and disruptive of many of our plans and hopes.

11. Summary and Conclusions

In spite of its length, this paper has been only a survey, an overview, of some of the factors bearing on the price of residential land. One of its main purposes has been to raise issues, matters of controversy, without at the same time taking a final position on their resolution. Indeed, it has been argued that many of the important issues require an empirical, not a conceptual, resolution. How broad is the market within which a set of land developers operate? How concentrated within their market are these developers? These questions bear on the vital issue of monopoly power, and while any empirical study might itself be subject to conflicting
interpretations, no progress at all can be made without some facts.

The empirical work can be helpful, however, only after the issues have been identified conceptually. In this way, the conceptual framework, or frameworks, that have been reviewed here, are a necessary prelude to empirical work. This conceptual framework can also help clear away misconceptions about the land pricing process, point to logical contradictions, and sharpen many otherwise vague ideas or definitions.

Because land is a long-lasting asset, the importance of expectations in the formation of price has been highlighted. Once this relationship between expectations of the future and present prices has been absorbed, much of the rest of the analysis is quite transparent. Higher expected costs, or higher taxes, reduce present prices; expectations of higher future revenues raise prices. These changes in expectations then get mediated through one form of market structure or another, leading to a final determination of price. Because changing laws, taxes or expectations tend to get rapidly capitalized into current property prices, these events can act not only to change the use of land from what it might otherwise have been, but also to redistribute wealth by lowering or raising the value of an important asset in many portfolios. These wealth effects are often unintended consequences of land policy actions.

As villains in the recent land-price drama, both governments and monopolistic land developers have been frequent
targets of criticism. The analysis here avoids the automatic presumption that events of recent years need to be explained only by villainous behaviour. Indeed, this initial survey of the role of governments and possible monopolists leads us to back away from the view that one or other must be culpable. Other more basic forces have been identified as likely contributors to escalating prices.