

An aerial photograph of a city, likely Toronto, showing a dense urban landscape with numerous buildings and streets. The image is overlaid with a semi-transparent red filter. The title 'Property markets & monopoly elements' is written in a large, bold, orange serif font across the top half of the image.

Property markets & monopoly elements

The fixed location of land creates varying degrees of monopoly power in land ownership. In turn, this gives rise to the need for expropriation and justifies certain land use planning policies because of externalities. It also creates value differentials between parcels of land resulting in the need for location adjustments in appraising properties. Finally, the fixed nature of land creates bilateral monopoly markets, a source of considerable difficulty for appraisers.

By David Enns

Introduction

Every time we write an appraisal report, we define market value for our client as being “the most probable price that a property should bring in a *competitive* and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus.”¹ [emphasis added]

These are conditions that economists would deem to be part of a competitive market. In the extreme case, a *perfectly* competitive market is one where there are a large number of buyers and sellers such that none, acting alone, can influence price. Each market participant is too small to affect any change on price and it assumes that there is no price fixing or collusion on the part of sellers. As well, it assumes that the product is identical from one seller to another such that a buyer can find a perfect substitute from any one of a number of alternative sellers. While there are other conditions that are also assumed to exist in such competitive markets, these are the critical ones.

Monopoly power

Monopoly power, on the other hand, comes from there being a lack of competition in a market, i.e., from having a product (or service) that does not have a very good substitute. In the extreme case, when there is only one seller facing many buyers, no close substitute and blocked entry of new firms (additional producers/sellers), we have what is known as a monopoly. Bell Telephone, of course, was a monopoly before the new technology of wireless cell phones and the deregulation of the telephone industry. Monopolies can set their price or their level of output but they cannot do both at the same time.

Fixed location and monopoly power

In property markets, there is often a significant amount of monopoly power on the part of property owners. This is a feature of property markets that is often ignored by professional economists who tend to concentrate on macroeconomics.² However, even land economists have been known to ignore monopoly elements in land markets.³

Most markets are not considered to be monopolized because there are usually a reasonable number of close substitutes. In all property markets, however, any substitute properties are close but are never perfect substitutes. There is a singular important reason for this and that is because the location of all property is fixed in space. Thus, each property is unique, at least in respect to its location relative to all other properties. Although there is said to be slightly over 32 billion acres of land in the world (excluding Antarctica), no acre has the same location as any other.

Further, because of the fixed location of land, no arbitrage can take place in property markets. Arbitrage is the process of buying and selling assets between two markets, separated by space, in order to make a profit from any price differential between markets. Arbitrage reduces price differentials between markets because the process itself raises supply in one market and demand in the other.⁴ It is practiced in commodity, currency and stock markets and is the

reason, for example, why there is only one world price for gold.

This unique fixed location characteristic of land creates at least some element of monopoly power for each and every landowner. In many instances, a variation in location from one property to another has no real significance and any difference in location is trivial. For example, two identical residences located on the same street (both interior lots) would each have a unique position in space, but would probably have no difference in value due to their different locations.

Fixed location and externalities

Before we turn to the issue of monopoly power in property markets, it is noteworthy to mention one other aspect of the fixed location factor of land. Externalities are often significant in property markets because of this fixed location factor. Smoke and noise pollution are two examples of external costs that are imposed on adjacent properties by nearby activities. These are costs that, in most circumstances, do not fall on the activities giving rise to them. If the effects are negative, economists refer to them as negative externalities (if they are good they are positive externalities). These are very common and give justification to land use planning in the form of zoning regulations. Zoning attempts to group together similar land uses that are complementary to one another (they generate positive externalities) and separate obnoxious land uses (that generate negative externalities). The fixed location of land and the close proximity of urban activities dramatically compounds the problem of negative externalities. Contrast one factory polluting one adjacent residence with four polluting factories adjacent to four residences. The fourfold increase in activity (from one to four factories) results in 16 times the amount of pollution as each factory now pollutes, not one, but four residences.

Monopoly power and expropriation

Because of the fixed location of land, monopoly power on the part of certain property owners is quite significant in some situations. For example, it creates the rationale for the expropriation of land by a government for the public good. Alternative sites, due to land being fixed in space, are not acceptable for a new highway that is designated to go through a particular corridor. Should a highway need widening, only those sites beside the existing roadway are needed, no other sites will suffice. Accordingly, because of their monopoly position, property owners could prevent the construction of such public infrastructure by refusing to sell their property. This gives rise to the power of eminent domain on the part of governments. If land was moveable, the required property could simply be purchased elsewhere.

This same element of monopoly power may prevent private redevelopment schemes from moving forward. With checkerboard ownership of land, particularly in central urban areas, one landowner can easily stop land assembly for urban renewal projects from taking place by asking an above-market value for their property and expropriation cannot be used to facilitate private projects, as it can for public projects.

Location, location and location

All of us have heard the expression that what lies behind a property's value is location, location, location, and, indeed, location is much more important for some property types than for others. Commercial properties, of course, rely on their exposure, accessibility and complementary aspects (all attributes of location) for much of their market appeal. This translates into a higher order use (and hence higher land value) for some properties than for others. So, if a property has a superior location than its comparables, appraisers deal with that feature, if it is warranted, by making an adjustment in the appraisal process for location.

In appraising the value of a property, while we recognize the location of a property as an important attribute in many instances, we do not dwell on this difference. Further, we usually assume that the comparable properties have all sold in a reasonably competitive market.

Bilateral monopoly

However, not all property sales occur in such a competitive market. A bilateral market is a market structure that is far removed from a competitive market of many buyers and many sellers.⁵ A bilateral market is a market structure that has only one seller and only one buyer. Two situations are of interest to appraisers in this regard. One deals with water lots and the other deals with what some refer to as non-viable properties, however, both are an example of a bilateral market.

Water lots

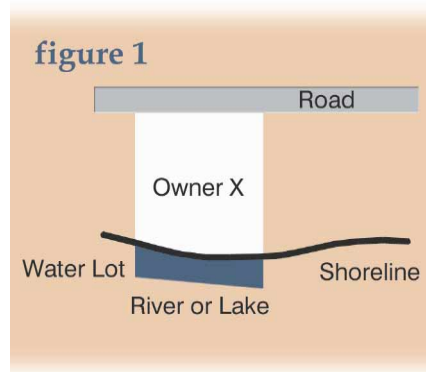
Water lots are defined as "an area of land either contiguous or attached to dry land, or may be entirely separated from dry land; usually covered with water, but not necessarily at low tide. It may be filled or partially filled."⁶ Water lots almost always sell (or get leased) to the adjacent (or upland) property owner. That adjacent landowner, whose property is bounded by a natural body of water, under the common-law riparian doctrine, has the right to use those waters to which they are riparian (relating to a riverbank) for navigating and recreation purposes.⁷

If we are to estimate the market value of a water lot, we will look to the sales of other water lots in order to see if there are some benchmarks that we can utilize. However, these sales occur in a bilateral monopoly market and virtually all water lots are sold in this type of market. As a result, appraising in this market structure is quite difficult.

Imagine a residential water front property (owner X) along the shore of a river or lake as shown in Figure 1, and

a water lot (owner Y) in front of that property. Owner X may wish to purchase the water lot. The water lot may even have been partly filled over time by previous landowners. From the perspective of the seller (usually the crown), there is only one potential purchaser for the subject property and that is the owner of the adjacent property (owner X). From the perspective of the purchaser (owner X), there is only one seller (the crown), since alternative water lots in other locations would not be useable and would not accommodate the needs of the purchaser. Under such circumstances, a seller will press for the highest price possible, while the purchaser will press for the lowest price possible.

This bilateral monopoly has no single predictable outcome as to market price. Here, each property owner has a significant degree of monopoly power. Unlike other property markets, if either owner refuses to sell or buy, this will stop the process and no trade will take place since there are no substitutes for either party. In competitive markets, substitutes exist such that this type of monopoly power is eliminated.



The actual price negotiated in this bilateral monopoly market will depend on both the bargaining ability and bargaining strength of each party. The adjacent property owner may take the attitude that he or she has riparian rights anyway so will offer the crown \$1 for the water lot. The crown may argue that the water lot is worth whatever upland is selling for (on a sq. ft. basis). The property owner may respond to the crown's position by arguing that the addition of the water lot will add to the property's depth but not to its frontage.⁸ Accordingly, if water front property sells on a per front foot basis and not on a unit of depth basis, one side may persuade the other with this

argument and purchase the water lot for a nominal amount. In light of all the haggling, a policy might be decided on by the crown to sell the water lot for perhaps 50% or 100% of upland value. Maybe this particular property owner will buy at this price level, while another owner, if in this same situation, would not.

Although this water lot may eventually sell, it does so under these bilateral monopoly conditions and the outcome is not what appraisers would consider to be 'normal market conditions' as stated in our definition of market value. For this reason (although often ignored by appraisers), the direct comparison approach, without some modification, cannot be used as a predictor of market value for the subject property because almost all of these water lots that we want to use as comparables, sell under these bilateral market conditions.

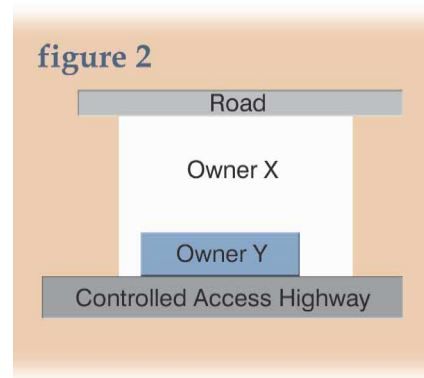
A review of the literature on the valuation of water lots suggests that an uplands approach might be used. With this approach, if upland sells for a certain price per unit of area, a water lot would be worth a percentage of that rate. In one appraisal article, the percentage seems to range from 5% to 100% of upland value depending on the use made of the water lot area (some are used for industrial purposes). In another article, an appraiser suggested that, under the percentage method, a percentage of upland value between 10% and 25% can be used.⁹ This very wide variation (from 5% to 100%) in suggested percentages of upland value, in actual fact, reflects the very real problematic nature of the market structure referred to as a bilateral monopoly and, indeed, it tends to mirror market theory that indicates there is no single predictable market value outcome.

Notwithstanding the above, this upland approach appears to be the current policy of at least one government ministry in Ontario and has been referred to as the utility approach. A serious problem with any upland approach is the lack of market derived data. The sale of upland property is obviously not the sale of a water lot and so it is difficult to refer to upland as a comparable property.

As noted above, market theory indicates that there can only be a range of value estimates in such a market. The low end will be a nominal amount, while the upper end will be set by the market value of X and Y together.

Non-viable properties

For another group of somewhat unique properties, such as water lots, there may also be only one potential buyer. Consider a parcel of land that might be left over from an earlier expropriation for a highway. Ownership may resemble something like the situation shown in Figure 2.¹⁰ In this case, property Y can only sell to owner X as a lot addition, since only X has road access. If land in the area is selling for \$10,000/acre, it might be argued that the parcel owned by Y also has a market value of \$10,000/acre. But does it? If X is the only potential buyer for the property, as with the described water lot, the actual price negotiated in this market will again depend on the bargaining ability and the bargaining strength of each party.



As with the water lot, the maximum of the value range comes from the fact the potential purchaser of the property (who knows the market value of the combined property X + Y) would be rational to offer up to some maximum for the additional land. To pay any more than this maximum would mean that the adjacent owner was paying more than market value for the combined property.

In a competitive market, there is no reason to pay more than the market value of the combined property and, of course the combined property is in a competitive market and not in a bilateral market. Naturally, the adjacent property owner X might well offer much less knowing that there is no other buyer for the property. Indeed, if owner Y were to have an open tender for this property without a reserve bid, this conclusion would be confirmed. In a real life bargaining process, as noted in the case of the water lot, the actual market outcome would depend on the bargaining strength of the two

participants and not on a particular policy. Obviously, if the crown is the owner of Y, the bargaining strength of the crown will be greater than that of most potential purchasers. The crown has a much longer time horizon than most property owners and a greater ability to postpone the sale of a property.

One approach that has been used to deal with this unique market structure is to estimate the value in contribution of the non-viable property to the adjacent property.¹¹

This is done by estimating the market value of property X, then estimating the market value of the two properties (X plus Y) combined. The difference between the two is the value in contribution of Y and, hence, it is argued, this difference is the value of Y. In this scenario, this approach would imply that Parcel Y has a value of \$10,000/acre, or \$10,000 if Y was one acre in size. But this is the maximum value of Y and not *the* value of Y.

As described above, a value in contribution approach will always result in an outcome that will be at the upper end of the value range. However, a true market based outcome would not necessarily be at this upper level. As pointed out, this property's market value could be anywhere between \$1 and \$10,000 for the acre. If owner Y really wanted to sell, and owner X was only moderately interested in Y, the property might sell for very little. Conversely, if owner X really wanted the parcel, and owner Y was somewhat indifferent (the crown), it would sell at the upper end of the value range.

Conclusions

The fixed location factor of land gives rise to a variety of issues in property markets.

It creates an element of monopoly power that could delay or prevent land use change and provides a justification for expropriation for the public good. The fixed location factor magnifies the problems associated with negative externalities and provides a justification for various land use planning policies. It also prevents arbitrage from taking place in property markets and thus gives rise to price differentials for variations in property locations that require location adjustments by real estate appraisers.

Finally, the fixed location factor, cou-

pled with concentrated land ownership, can create a bilateral market. A bilateral property market is a unique property market and requires additional analysis and effort on the part of appraisers. Sometimes, appraisal policies have been developed to deal with this market situation without being explicit about the true nature of a bilateral market. If a client's policy happens to be a 'value in contribution approach' or an 'upland approach' in a bilateral market, and it is used to set a selling price or compensation level, it is important to be clear on two things:

In order not to mislead, appraisers need to point out to anyone relying on the appraisal report 1) that this market is non-competitive (it does not reflect our definition of market value) and 2) that the market outcome can only be estimated as a range of values and not as a single value estimate. ♦

End notes:

1. Practice Notes – lines 6142 to 6147, *The Standards 2002 Edition*, Appraisal Institute of Canada, p 47.
2. Milton and Rose Friedman, *Free to Choose*, Avon, 1979. Even Milton Friedman, winner of the Nobel prize for Economics, in this widely read book, largely ignores the importance of natural monopolies and concentrates on contrived (government created) monopolies.
3. Raleigh Barlowe, *Land Resource Economics*, 4th Edition, Prentice Hall Inc., 1986. In this widely used textbook, Barlowe does not even mention monopoly power in his index, p 553.
4. Through this process, the arbitrageur will add to demand in the low-price market and add to supply in the high-price market and so eliminate the price disparity, except for transaction costs, between the two markets. While arbitrage deals with markets separated by space, speculation – a similar process – deals with markets separated by time.
5. Micheal Parkin and Robin Wade, *Microeconomics: Canada in the Global Environment*, 2nd Edition, Addison-Welsley, 1994, p 419.
6. *The Appraisal Journal*, Vol. 45, No. 1., p 70.
7. Raleigh Barlowe, p 414.
8. A recent appraisal assignment for a client that showed no premium was paid for deeper residential building lots. Eight paired sales (16 sales in

total) in subdivisions across the city showed no difference in selling price for lots that were deeper by about 13% to 60% of lot depth. This conclusion should not be surprising as it reflects the law of diminishing marginal utility. Of course, the findings might be quite different for another type of land use such as industrial property that is area sensitive.

9. M. R. Grover, AACI, Submerged Land, *Appraisal Institute Magazine*, (August 1980): p 11., and S. G. Foster, AACI, The Appraisal Process in the Valuation of Water Lots, *Appraisal Institute Magazine*, (November 1983): p 23.
10. Property Y could be surrounded by more than just one landowner. There might be two or three landowners and this may change the market outcome but only if adjacent owners had some degree of interest in the property and there may be several reasons why they may have no interest in acquiring additional land.
11. This is the approach taken by the Ontario Ministry of Transportation. *Consultant Appraiser's Handbook*, Queen's Printer for Ontario, 1997, p E 1.

David Enns, B. Sc. Agr., M. B. A., AACI is the founder and president of Enns, MacEachern, Pace, Maloney & Associates Inc. a full service real estate appraisal firm servicing Eastern Ontario. He specializes in the appraisal of all types of agricultural properties and special use properties and has been recognized in court as an expert witness. He can be reached on the world wide web @ empm.ca.