Planning

DISTRIBUTION OF GAINS AND LOSSES RESULTING FROM PLANNING LEGISLATION: THE COMPENSATION–BETTERMENT PROBLEM

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School of Agricultural Economics
and Extension Education
In Co-operation With
Center for Resources Development
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University of Guelph

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CHAPTER 1

INTRODUCTION

1.1 Some Problems and Issues in Rural Land Planning

One of the traditional aims of land use planning is to provide open space to improve living conditions in or near urban areas. Currently, a new objective is being mentioned in planning, the safeguarding of future agricultural production. In view of the encroachment of urban uses on prime agricultural lands, the assumed rapid decline of these soils and the current and foreseeable world food shortage, increasing concern is expressed that the agricultural production base be maintained. In actuality, information on the quality of land being transferred from agriculture is scant in Canada. For example, no inventory of land transfers exists in terms of agricultural capability as recorded in the Canada Land Inventory. The only information at hand is the change of improved and unimproved land in agriculture over time as recorded in 5-year intervals by the Census.

The changes in these two categories in Southern Ontario, for example, have been quite dramatic, mainly between 1966 and 1971. Between 1951 and 1966, there was an annual retirement rate of .3 per cent for improved land and 2 per cent for unimproved land, while from 1966 to 1971 the annual rate of improved land retrenchment accelerated sixfold to 1.9 per cent (2.1 per cent for unimproved land). To a certain extent, the pressures on farm land from outside competition have been offset by factors inside agriculture such as adoption of new output-increasing technologies which have made it possible to release marginal lands which are no longer profitable in farming. This land is an important stock of supply to satisfy recreation and nonfarm housing demand. The rapid loss of non-marginal improved land,

particularly during the 1966-1971 period, poses a more serious problem. This loss of improved farm land not only occurred in counties around Metropolitan Toronto and Hamilton where urban pressures are strong, but also in the Ottawa and St. Lawrence Valleys (annual withdrawal rate of 2.8 per cent), on the Pre-Cambrian Shield (4.0 per cent per year) and in the agricultural heartland of Ontario, the Central and Southwest region (1.3 per cent per year). The following table depicts the annual retirement rate as well as the actual acreage involved.

TABLE 1

LOSS OF IMPROVED FARMLAND, SOUTHERN ONTARIO, 1966-1971[1/]

Area	Annual Rate	Acreage
Eastern Ontario	2.8	101,578
"Megalopolis"	2.9	185,752
Shield	4.0	124,747
Central and South-west	1.3	502,184
Southern Ontario	1.9	1,015,261

1/ Compiled from 1966 and 1971 Census of Canada, Agriculture in Ontario.

This is not the place to elaborate on the effects of such land retirement on future food supplies. It appears that not all this land is irreversibly lost to agriculture, but the effects on current and/or future agricultural efficiency may loom large, thus indirectly affecting food supplies.[1/] For our purpose it will suffice to refer to the statistics

1/ For a more elaborate treatment of effects of urban oriented land uses in rural areas on agriculture, see R.S. Rodd and W. van Vuuren, "A New Methodology in Countryside Planning", Canadian Journal of Agricultural Economics, Workshop Proceedings, 1975, pp. 109-140.

showing a rapid decline in improved agricultural lands which evokes public demand and some official action to incorporate the protection of the agricultural production base as one of the objectives of rural land use planning.

Land use planning or changes in plans and policies redistribute rights to use land. The redistribution involves gains to those owners whose land is assigned a more valuable use and losses to those owners whose use of their land is restricted or zoned for less valuable uses than anticipated under earlier conditions. This may have severe consequences for personal income distribution and satisfaction derived from land.

It is generally accepted that good land use planning not only improves the physical and aesthetic environment, but also in combination with other policy measures could be used to safeguard future food supplies. Although the pursuit of these objectives is beneficial to society as a whole, it is not accompanied by a gain to every property owner or land user. Land planning can result in severe conflicts of interest among individuals, and between land owners and users and society at large. This then provokes strong opposition against such planning from those who tend to lose. Although zoning is considered a legitimate use of police power, its long run efficacy depends to a large extent on how property owners who lose in the process are compensated. Owners who tend to lose have a strong incentive to appeal the zoning legislation and ask for zoning variances. Local officials, whether they be elected representatives, civil servants, or appointed members of committees of adjustment, who decide on zoning boundaries and variances, have a tremendous power to grant certain owners huge windfall gains, while they deprive others of such gains or impose severe losses on owners whose land is prevented from development. Zoning is not the only tool in the hands of local officials. In rural areas,

severances play an important role. Since permission is needed to sever a piece of land from a larger property, local officials decide who will gain and whom the gain will be denied. Since the provincial policy stipulating that farms can only be subdivided into 25 or 10-acre parcels was abandoned November 1, 1975[1/], local governments and Committees of Adjustment are assuming more power in establishing local controls on severances, in hearing applications for variances to the severance policies and in granting consent. Since huge sums are involved, there is constant pressure and temptation not to guide development in the interest of the community but to special interest groups or individuals or to ensure that financial losses to owners are minimized. The latter can hardly be called corruption nor is it implied that the occurrence of the former is widespread, but a planning system that does not deal with the resulting gains and losses is apt to encourage corruption and is subject to severe stresses and strains.

Apart from the dangers of corruption and non-optimal planning designs, redistribution of use rights can have severe equity implications. A society which has as one of its aims promoting a just and equitable income distribution, cannot ignore these implications. The aim of government interference in resource use is to achieve a better allocation from the social point of view than would be obtained under purely decentralized decision making. However, this does not imply that the resulting income distribution would also be superior. The issue is whether, in a mixed economy where government assumes a role in allocation of (land) resources, the consequent income distribution of such allocation must be left to the

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1/ Globe and Mail, May 16, 1975.

resulting free market forces (which clearly are influenced by the foregoing government interference) or that the government should also interfere in the resulting income distribution if the latter is not considered socially acceptable. These aspects of the problem are not easy to deal with on scientific grounds; the view one takes depends largely on political opinions and values.

The resulting income distribution can have important implications for the choice of policy tools to be used in attaining the objectives of the plan. To preserve land for continued agricultural production, regulation in the form of agricultural zoning is a preferred tool. Such zoning legislation may imply downzoning from industrial, residential or commercial use with associated depreciation in land values. Moreover, agricultural zoning has always been a holding option. As soon as agricultural land becomes ripe for development, the land is rezoned for the "higher" uses. Agricultural zoning has rarely been intended in North America to preserve agricultural lands permanently, therefore it has never eliminated inflated land values in excess of agricultural use values in cases where development was expected in the future. Thus, even these lands may depreciate in value, if the expected rezoning to a higher use is ruled out.

Zoning legislation resulting in appreciable depreciation of land values may not be upheld in the courts. Such court decisions are dependent upon the prevailing constitutional law protecting the civil rights of individuals from encroachment by the state. In jurisdictions where a Bill of Rights exists, such as in the United States and the Dominion of Canada, and in the provinces of Alberta and Saskatchewan, certain individual rights are guaranteed. Confiscation of property without due compensation is unconstitutional in those jurisdictions. Zoning legislation resulting in

serious depreciation of land values may be considered confiscatory and may not be upheld in the courts.

The situation in Ontario is different. Since Ontario does not possess a Bill of Rights, there is no constitutional guarantee that one's land cannot be taken without due compensation. Canada has a Bill of Rights, but land planning falls under provincial jurisdiction. The Provincial government can legislate anything it wishes provided it does not encroach on the federal jurisdiction and provided also that the legislation clearly gives the power which the government seeks to use. In dealing with zoning or any other form of land use regulation one must be careful to distinguish between power exercised by a municipality or a minister acting under the Planning Act and power exercised by the province. The latter is sovereign within its competence and accordingly cannot be challenged in the courts for its actions. However, the municipalities and the minister when acting as a super-municipality, has no such immunity and must meet certain tests. If power is used which is not granted by the Planning Act or the zoning power is used improperly, then such zoning legislation can be challenged in the courts. In Chapter 5, some of these court decisions will be reviewed. There is no general prohibition against confiscation in Ontario. However, in the case of expropriation by a public body, the right to compensation is explicitly conferred by statute (Ontario Expropriations Act).

As indicated, in jurisdictions outside Ontario, legal institutions may be different. If land planning were under federal jurisdiction, it is questionable whether zoning legislation resulting in serious depreciation of land values would be upheld in the courts. The English courts have recognized that although zoning is a regulatory power, "a measure which is ex facie regulatory may in substance be confiscatory." In the United States

the court has stated: "The general rule at least is, that while property may be regulated to a certain extent, if the regulation goes too far it will be recognized as a taking." The United States has a considerable jurisprudence on this matter. Where land values are destroyed by zoning regulations, the U.S. courts have held invalid such ordinances if they are not accompanied by paying fair compensation.

Although zoning legislation cannot be challenged in the courts of Ontario, unless the zoning power is illegally used (not in accordance with the Planning Act) it is possible to amend the Planning Act. At the time new planning legislation was introduced in June 1973 resulting in the "Act to Provide for Planning and Development"[1/] and the two specific acts dealing with development areas: the Niagara Escarpment[2/] and the Parkway Belt[2/], there was considerable debate whether or not compensation should be paid to those who were injuriously affected by the legislation. Particularly, land owners in the two areas who were thus affected and the Ontario Federation of Agriculture pushed for legislating compensation in cases where land values had dropped owing to the planning legislation. The majority government at that time refused to compensate for lost rights. However, if preservation of prime agricultural land becomes an important objective of provincial land-use policy, and such preservation is accompanied by substantial depreciation in land values, the compensation problem will assume increasing importance. This is particularly so if the political parties hold different views on the matter. Legislating compensation requires insight into the problems associated with indemnity. Such

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1/ Bill 128, 3rd Session, 29th Legislature, Ontario.
2/ Bill 129, 3rd Session, 29th Legislature, Ontario.
3/ Bill 130, 3rd Session, 29th Legislature, Ontario.

knowledge helps to shape the appropriate policy tools. This report deals specifically with the problems associated with compensation and provides an analysis of the effects of various policy tools.

1.2 Purpose and Organization of the Report

The intent of the report is not to aim for a solution of income distribution problems associated with planning legislation. Such objective would be too comprehensive. The problem contains many aspects; the economic, legal, political,and moral questions loom large. It is impossible to put due weight on all these aspects. The intent therefore is more modest. The problem will be mainly approached from an economic point of view. Economic implications are important for any kind of solution. Moreover, they affect and shape other aspects of the problem. There is a mutual interdependence among all these aspects. A solution to the problem therefore can never be imposed from the viewpoint of one aspect or science alone. However, economic analysis and economic implications of proposed solutions are valuable inputs for policy makers. This study therefore aims at contributing to the discussion, mainly from an economic viewpoint, not at providing solutions.

One of the most important aspects of compensation from the economic point of view is assessing the magnitude of compensation payments. As will be indicated, the appropriate payment is not equal to the difference between market values before and after planning announcement. One of the reasons is that market prices before planning announcement are usually overvalued. Another reason is that terminating farming on land which is to be developed involves costs which are not adequately expressed in the agricultural use-value of the land. The report concludes that from an economic point of view there is no perfect operational solution in determining compensation payments; any solution is somewhat arbitrary.

Another question is whether beneficiaries of planning legislation should be taxed, and if so, in what form. This question assumes importance in deciding who should bear the costs of compensation payments. The choice among available policy tools depends in part on the answer to this question. The burden on those who bear the costs of these compensation payments varies according to the policy tool which is used. In order to deal with these questions, it is necessary to gain some insight into the opinions and reasons presented whether or not compensation should be paid to losers and beneficiaries should be taxed. The report deals extensively with all these issues.

Since the ultimate aim is to develop policy tools which can deal effectively with the compensation-betterment problem, a large part of the report is devoted to analysis and appraisal of existing and proposed policy tools. Land values are at the heart of the problem. A proper understanding of the nature of value changes of land shifting from agricultural to urban use or the nature of value changes caused by planning legislation and the function that these prices perform, are essential for understanding the problems at hand and for shaping adequate policy tools in dealing with the compensation-betterment problem. The report devotes several chapters to these subjects.

Chapter two is concerned with identifying the reasons why the value of agricultural land increases when it shifts to urban-oriented uses. The third chapter deals with the nature of these land value increases and their function in the economy. It discusses the various rent concepts and examines which is the most relevant for the problem at hand. Furthermore, it considers whether rent is a cause or effect of urban-oriented use values, since the answer to this question has important

policy implications. The next chapter provides some empirical data on land value increases, shows the magnitude of agricultural use-values and urban land values in rural areas, and furnishes some empirical evidence about the causes of value increases. Although available data are scant, they nevertheless show certain relationships and trends. Chapter five deals with the issues of compensation and betterment as outlined in the previous paragraphs while the last chapter analyzes and appraises policy tools which have been proposed to solve the problem.

CHAPTER 2

URBAN VERSUS AGRICULTURAL LAND VALUES

As mentioned in the introduction, land values can be severely affected by land use planning legislation. To understand the problems, issues and solutions related to gains and losses of such legislation, it is necessary to examine briefly why values of developed land (called urban here) differ from those of "undeveloped" land (chiefly agricultural).

Land for urban development usually sells at a premium compared with land for agricultural use. One of the problems in comparing land values is that land parcels display a wide range of heterogeneity. One such heterogeneous factor is the varying degree of development of different parcels. For the purpose of comparability it is convenient to deduct all opportunity costs of development (including one for the developer's and builder's management and risk bearing) and holding costs from the price the parcel is sold for. The residual then is the value of raw land and can be compared with the agricultural opportunity value.

2.1 Locational Advantages

The fact that urban land values are usually above the price of agricultural land (or previous use of the land) can be attributed to several reasons. Probably the most important one is the locational advantage of certain sites relative to others. It is a well known fact that there is a definite relationship between land values and the distance from value-producing centers of employment and services in cities. Users close to these centers save transportation costs and these savings are captialized into land values. The more a city expands, the higher the savings in travel costs for those users close to the center and consequently the higher

land values of close-in locations become. From a locational point of view going outward from the center, the value of raw land tapers off till theoretically it should be equal to the agricultural opportunity value at the urban-rural fringe where no savings in transportation costs can be obtained.

In actuality, prices at the fringe usually exceed agricultural opportunity values by a large margin. Schmid has pointed out that a distinction must be made between a static and dynamic situation.[1/] In a static situation one would expect that sites at the fringe would yield no rent, since it would offer no travel-saving advantage over any other urban site. However, in a dynamic situation the urban fringe expands constantly. Land which is currently outside the fringe is expected to be within the urban boundary in the future. Therefore, farmers at the rural-urban fringe selling land for urban development expect that it will have some future travel-saving advantage, although at the time of sale this advantage is zero. If farmers sell at existing use value, all future increments in land value due to realized locational advantage will accrue to future owners of the land. It is obvious that current owners (farmers) want to capture either the entire or part of the expected future increase. Their reservation price (the lowest price they are willing to accept) is equal to the present value of the expected stream of benefits derived from their land. Expected future locational advantage will affect present values. It could well be possible that expectations on the part of buyers and sellers are too optimistic and that they will never be realized. Nevertheless, in the meantime land is sold for these high prices. Schmid argues

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1/ A.A. Schmid, Converting Land From Rural to Urban Uses, (Baltimore: The Johns Hopkins Press, 1968), pp. 29-34.

that the reservation price set by sellers could exceed the present value of actual future values and that this price could persist over considerable time.[1/]

2.2 Amenities

Other reasons for a discrepancy between urban and agricultural land values are connected with certain characteristics which are valuable for urban use but whose value for agricultural use is small or zero. Certain sites may have a high amenity value such as landscape features, air quality, social quality of the neighbourhood, etc.), proximity to public parks and good schools. In addition, lands close to public utilities such as main sewer trunks have advantages for urban development. Some of these characteristics are unique and fixed in supply such as unique landscape features. In order to get access to these features one must own or use the land to which they are attached. Others, on the other hand, could be reproduced by public or private investments but are nevertheless limited in supply, such as public parks, superior schools, tennis parks and utility services. Since most of these services are "lumpy", it is impossible or uneconomical to spread them out equally over space in infinitesimal small units and access therefore will differ among occupants over space.

Even if the amount of investments were such that the benefits to the marginal user were equal to the charge levied for the use of such services, there would still be many intramarginal users having easier access to these services who would be willing to pay a higher price (namely cost savings due to locational advantage). These locational advantages are fixed for each site and become capitalized into the site value as people

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1/ Ibid., pp. 39-41.

bid to get access to them. In many instances, however, the benefit of the service to the marginal user is higher than the price charged.[1/] This price is therefore below the market-clearing price and results in excess demand for the service. Often beneficiaries do not pay the full costs by direct charges or user taxes or they are provided free of charge. Whether or not these amenities will be capitalized into land values depends on the available supply of these services. If they were supplied to the point where the benefit to the marginal user (or sum of marginal benefits for public goods) equaled the charge made for the service, there would be no incentive to capitalize these amenities into land values since everyone could get exactly what he wanted at the price charged. Locational advantages attached to these services of course would be capitalized into land values. However, if the benefit to the marginal user exceeded the charge levied there is excess demand for the service. In this instance, there is competition for the limited supply of it resulting in bidding up land prices in order to get access to these scarce partially or fully free provided amenities which are attached to the site.

2.3 Supply Restrictions

Land values can also be affected by supply restrictions other than restricted investments in amenities. Public land policy, for example, in the form of open space zoning legislation may limit land supply near

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1/ From a social point of view, the optimal amount of investment is obtained when the present value of the expected future stream of benefits of the incremental investment unit is equal to the present value of capital outlay and future stream of operating costs of that unit. For public goods like public parks the rule appears in a somewhat modified form. The optimal quantity of investment in this instance is where the sum of the present value of all users' marginal benefits of the incremental investment unit is equal to the present value of capital outlay and operating costs of that unit.

employment and service centers. If such zoning results in building at greater distances from these centers, transportation costs become higher than they would be without such zoning and rents of close-in lots increase. If zoning results in a total freeze of developable land, the existing supply of developed land becomes inelastic and any increase in demand results entirely in price increases.

Governments can influence the supply of land by withholding or limiting necessary social overhead such as main sewer trunks and sewage treatment facilities. Even if governments do not have the intention to limit these services, land values in the short run can rise quickly if the provision of these services does not keep pace with increased demand. Clayton attributes the rapid rise in housing costs in the Toronto area between 1971 and 1975 to this factor.[1/] The Province has decided that sewage treatment facilities should take the form of massive sewage treatment plants and large trunk sewer lines to service very large areas. Such facilities take a long time before they are completed. In the meantime, the amount of serviced land is short in supply.

2.4 Monopoly-like Supply Restrictions

Supply could also be restricted by private actions. In many instances, especially in rapidly developing areas, large tracts of undeveloped land are in the hands of a few large developers. This could easily lead to monopoly-like supply restrictions. Information on land market structure, however, is scant.

1/ F.A. Clayton, "Housing Costs in the Toronto Area: An Economic Analysis", unpublished paper presented to the Association of Professional Engineers of Ontario, East Central Region, Port Carling, September 1975.

2.5 Raw and Developed Land

As indicated, land values of raw (intended for development) and "undeveloped" (chiefly agricultural) land in this section are compared by making all land parcels homogeneous. This was done by deducting all opportunity costs of development and holding cost from the price the parcel is sold for. It is obvious that developed land sells at a higher price than undeveloped land due to the different qualities of the parcel. Part of the difference in price can be attributed to development or improvement cost such as land leveling, sanitary and storm sewers, water main, paving, sidewalks, street lights, etc. In addition, holding costs in the form of interest and land taxes can loom large.

CHAPTER 3

DEVELOPMENT VALUE

3.1 Various Rent Concepts

Before proceeding to issues related to the distribution of gains and losses resulting from planning legislation, the nature of value increases of developed land compared with undeveloped land must be more closely examined. In economics a distinction is made between payments which are necessary in order to make a factor, such as land, available and payments which are unnecessary. The necessary payment is the opportunity value. This is the value the factor can obtain in the next best alternative use. This price must be secured, otherwise the factor will not be available for the particular use under investigation. The unnecessary payment is a pure surplus and is called rent. What necessary and unnecessary payments are, will depend on the situation under investigation. The distinction between surplus value and opportunity value is crucial to the remainder of the report.

There are basically two different rent concepts. The classical or Ricardian concept considers rent as a payment to a factor over and above the minimum necessary (opportunity value) to induce it to do its work. The other concept is based on Pareto's writings. Rent in this concept is considered as any excess payment to a factor over and above the minimum payment necessary to keep the factor in its current occupation (opportunity value). The Ricardian concept covers a wider area of investigation. It is concerned with the question whether or not the service of the factor will be supplied to the economy at all. Pareto's concept is narrower. This refers to whether or not the factor is supplied to a particular industry or firm, depending on the definition of current occupation. The magnitudes of

opportunity value and of rent differ in the two concepts. What is rent from the viewpoint of the entire economy is not necessarily a surplus from the viewpoint of the industry and what is rent for the industry is not a surplus for the firm or individual. Some authors restrict the Paretian concept to the pecuniary rewards of the factor. This conception of economic rent is defined as the excess of a factor's current earnings over its earnings in its next best alternative use.

It is the surplus portion of land values that assumes importance in issues related to the distribution of gains and losses resulting from planning legislation. The Ricardian rent concept has little relevance for our problem. He considered the entire proceeds of land as rent. However, different uses are competing for the same acre. Where this is so, each acre of land has an opportunity or alternative value and this value must be paid in order to make land available for any use. We are not interested in whether or not the factor will be available to the economy in general, but whether or not it will be available for an urban use in particular. Hence, the gains and losses resulting from planning legislation are smaller than Ricardian rent. Therefore the entire Ricardian rent can never be appropriated if it were decided that gains, resulting from planning legislation should be taxed, unless the market is dispensed with. A smooth functioning of the market is important because it still plays a vital role under our system of public land planning.

For the purpose of this study, rent created in the agricultural-urban land conversion process is the relevant one to consider; this is the industry point of view. This rent concept reveals the gains of individuals obtaining planning consent to sell agricultural land for urban use, and the losses of those being denied, owing to planning legislation, the opportunity to sell agricultural land which was expected to be developed under pre-

planning conditions.

3.2 Opportunity Value and Surplus Value of Urban Land

Urban land values as examined in the previous section can be broken down into two components; the necessary and the unnecessary payments, i.e. the opportunity value and the surplus value. A piece of urban land consists in essence of a conglomerate of items such as raw land, improvements, location and amenities. Some of these items have a value in an alternative use, while others have no alternative application and hence their opportunity value is zero. It appears that the portion of urban land values comprised of agricultural opportunity value,[1/] improvement, transaction and holding costs are necessary payments in order to make improved lots available for urban use. All other causes of the discrepancy between urban and rural land values seem to be in the form of a rent payment. Locational advantage, natural amenities, social and man-made amenities provided at a price lower than the benefit to the marginal user, supply restrictions in the form of zoning legislation, semi-monopoly power or major public service control, all elicit a price, but from the aggregate urban users' point of view these payments are unnecessary since outside urban use these items have no value and hence these characteristics could not shift to other uses. However, from the individual urban user's viewpoint all these payments are necessary in order to outbid all other potential rivals. The competition among urban users enables these characteristics attached to land to absorb a surplus.

[1/] Agricultural opportunity value of the land is not necessarily synonomous with agricultural use value as will be explained later in this chapter.

The surplus generated in the conversion from agricultural to urban land is usually called development value. It is defined as the amount the land is expected to be worth if and when it is developed less the cost of development appropriately discounted for the futurity and uncertainty of the development, minus the opportunity value of the land.[1/] The surplus can be appropriated by several participants in the conversion process; farmers, speculators, developers and builders. Moreover the Province or nation could appropriate part or the entire surplus by taxation.

3.3 Nature and Cause of Development Value

There is disagreement on how development values are generated. Two extreme schools of thought exist, one claiming that development value is a price determining force, the other school claiming that it is price determined. In other words, is development value the cause or effect of the ultimate level of urban oriented use values? The answer to this question has important policy implications. For example, if development values are excessively high, the government might want to interfere in an attempt to diminish the surplus by certain policy measures. In order to design the appropriate policy tools, it is necessary to understand what the exact cause of the high development value is. This question also assumes importance for the compensation problem. For example, if development values were created by monopoly-like practices which force the price of urban land up, should those who are denied planning consent be compensated for the loss of these monopoly prices, which bear no relationship to the true social value of the land? Another important policy implication is whether or not the transfer of urban development from prime agricultural

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1/ R. Turvey, "Development Charges and the Compensation - Betterment Problem," Economic Journal, Vol. 63, No. 250, (1953), p. 301.

land to inferior building sites should be subsidised. This might lead to an increase in development value and not to a decrease in housing cost under certain circumstances. Therefore a good understanding of the causes and nature of development value is important.

The surplus emerges from a situation of scarcity. If the items or characteristics which generate rent were able to be produced under constant cost, no rent would be generated. As long as the item is not perfectly elastic in supply, its price would go up if there is an increase in demand and a surplus will be generated.

In evaluating the two schools of thought, it is necessary to make a distinction between a perfect and a monopolistic market. An important characteristic of a perfect market is that the number of buyers and sellers in the market are so large that nobody can influence the price. A perfect market also assumes a homogeneous commodity. For a monopolistic market, market participants can influence price, because the number of buyers and/or sellers is small and the commodity is usually not homogeneous. The urban land market for new development is not perfect, but can approach a perfect market if the market participants are relatively many and the commodity is relatively homogeneous in the eyes of the buyers. On the other hand, situations can exist where a monopolistic market is approached, particularly where developers own large tracts of land and the number of developers is relatively small. There is, however, increasing evidence that market power is exercised on the part of the seller, even where the potential suppliers are relatively many.

Land for urban use is actually a very heterogeneous commodity. It consists of space, location, improvements, and a bundle of possible amenities. Some of these characteristics are fixed in supply while others

could be reproduced. Urban space, for example, is usually quite elastic in supply, since rural land can be converted into urban use. Location with respect to a particular center is fixed in supply. Some amenities, such as unique landscape features, are inelastic in supply, while others can be reproduced. Since each site is unique and consists of a bundle of heterogeneous items, some of which are elastic and some inelastic in supply, it is difficult to aggregate these heterogeneous parcels into a supply curve for the entire urban land market. It might be better to consider each site separately; each site having a completely inelastic supply curve above its opportunity value. However, the demand for such site now will depend on the number and closeness of substitute sites. The magnitude of the cross elasticity of demand measures the degree of substitutability. If a site has peculiar characteristics for which no substitute exists in the eyes of potential buyers, the cross elasticity of demand would be zero.[1/]

3.3.1 Development Value a Result of Urban Oriented Use Values

The school of thought that considers development value to be solely determined by urban oriented use values, places much emphasis on determinants of housing demand. Important factors determining demand are income levels, availability of mortgages and mortgage rates. Maisel[2/] and Gottlieb[3/] have shown in empirical studies the effect of income levels on

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1/ The cross elasticity of demand measures the extent to which various parcels are related to each other. If we consider parcels X and Y each with its own characteristics, the cross elasticity of demand of X with respect to Y is defined as the percentage change in the quantity demanded of X divided by the percentage change in the price of Y. No such measurement exists where a new substitute is introduced. However, new parcels at the fringe are substitutes for close-in parcels.

2/ S.J. Maisel, "Price Movement of Building Sites in the United States - A Comparison Among Metropolitan Areas," Regional Science Association Papers, Vol. 12 (1964), pp. 47-60.

3/ M. Gottlieb, "Influence on Value in Urban Land Markets, U.S.A., 1956-1961", Journal of Regional Science, Vol. 6, No. 1 (1965), pp. 1-16.

housing demand. The higher the level of social and economic activity in a center, the higher the demand for urban lots and the greater the willingness to pay for such lots.

Those writers explaining development value as the result of derived demand for urban lots consider such lots as completely fixed in supply for which no substitutes exist, in which case the level of demand is price determining. This view seems to be taken by Turvey[1/] and Wilcox.[2/] The latter discusses the introduction of a Land Bill by the British Labour Government stipulating that local authorities will buy land for development at current use value (chiefly farm values). According to Wilcox, the government believes that this will bring down the price of houses. However, according to this school of thought, the price of a house or the derived price for housing land is not determined by development value and hence housing prices would not be brought down if local authorities bought developable land at existing use value.

1/ R. Turvey, The Economics of Real Property (London: George Allen and Unwin Ltd., 1957). He states on page 17: "A rise in the rents of office accommodation in a business area, for example, will both raise the outlay on new buildings there and raise the prices for sites for office buildings. This rise in land values is a consequence, not a cause."

2/ D. Wilcox, "A Mess of a Bill - and Why it Won't Bring Down the Price of this House," Evening Standard, March 10, 1975. He states: "Similarly, housing land is expensive because of the price houses will fetch. The conventional wisdom of land economists is that in the long run a builder buying land calculates what he can sell a house for, what it will cost to build, what profits he wants and then the slice of price left determines, broadly, what will be paid for the land. On this analysis, the price of houses at present is mainly determined by availability of mortgages: so house prices push up land prices, not the other way round."

3.3.1a Evaluation

The above view is a short run approach and assumes that neither the buyer nor the seller has any market power. Although urban land is a heterogeneous commodity, the closeness of substitutes affects its price. Where substitutes exist, development value is not uniquely determined by derived demand alone, but also by supply of the factor. Lot prices and house prices are mutually determining in cases where no market power exists. Increasing supplies will tend to decrease lot prices and hence development value. Development value could never be wiped out entirely by increasing supply since additional parcels are never perfect substitutes. Several attributes of the parcel are unique, such as location. In cases where these attributes are so important that no substitutes exist in the purchaser's view, the proposition that development value is determined by demand levels is correct in a perfect market.

The surplus of a given parcel of land can be diminished if those items of the land bundle which can be increased, are expanded and if those new lots with their attributes are to a certain extent substitutes for the parcel under consideration. Supply restrictions would lead to higher housing prices and higher development values. Nationalization of development rights, however, would not necessarily lead to lower housing prices in a perfect market. At the lower price there would be more demand than available supply. The function of land prices is to ration the available supply among the possible buyers. Competition among purchasers will ensure that housing prices will be similar to what they would have been if no nationalisation had taken place.

3.3.2 Development Value a Cause of Urban Oriented Use Values

Diametrically opposed to the previous school of thought is the one

which considers development value as a cause of finished lot prices and ultimately housing prices. According to Wilcox, the current Labour Government in Great Britain seems to hold this opinion.[1/] Schmid also seems to adhere to this view.[2/] He states: "Changes in land values emerges as the most important contribution to the increase in lot prices, and it is not accounted for by changes in farm land opportunity costs.[3/] Another quotation in his book reads: "There is a large and growing residual land value contributing to high lot prices which is not explained by agricultural opportunity costs, lot size, improvement costs, or general inflation."[4/] Growing residual land value obviously refers to development value.

3.3.2a Evaluation

This view is at first sight difficult to comprehend for a perfect market. It is more obvious in a monopoly-like market where suppliers can influence price.

Each buyer has a particular ceiling price and the seller has a reservation price. The ceiling price is the maximum amount a buyer is willing to pay rather than go without the lot, while the reservation price is the minimum price the seller is willing to accept rather than keep the lot. If there is only one potential buyer and his ceiling price exceeds the seller's reservation price, both parties could gain by trade. If there are more buyers, the final price will be between the ceiling prices of the two highest bidders, since the ultimate purchaser has to outbid all other rivals. Both ceiling and reservation prices will equal the present value

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1/ Ibid.

2/ Schmid, op.cit.

3/ Ibid., p. 10.

4/ Ibid., p. 12.

of net income anticipated from the property by the buyer and seller, discounted at an interest rate equal to the yield of alternative investments with similar characteristics.[1/] Total supply of urban lots will likely affect both ceiling and reservation prices, unless the parcel under consideration is unique and has no substitutes.

In a monopoly-like market, sellers can set a reservation price in excess of the opportunity value of the parcel without running the danger that other sellers would undercut this price, thus wiping out demand for that site. In that case, development value is price determining and a contributing force to final lot price in the sense that this latter price can never be lower than the reservation price. Even if there is no seller's monopoly, but the market comprises a relatively large number of sellers, reservation prices can exceed the opportunity value by a large margin. If sellers' expectations of the future net income stream to be derived from their land is overoptimistic, they are likely to set the reservation prices of their land high. Competition among sellers is usually not strong enough to force the price down, since sellers cannot reproduce their property and therefore cannot supply at the same price in the future. Only if many were to undercut the prevailing reservation price, the latter could not be sustained and would be forced down.

Clearly, the buyer must be willing to pay at least the reservation price. As long as this price is below his ceiling price, he will pay it. There is reason to believe that final house buyers are not very price conscious of land price increases. The price of raw land is a relatively small proportion of the final house price. A difference in raw land value of say $1000 per lot makes only a small difference in mortgage payments

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1/ R. Turvey, op.cit., pp. 8-12.

amortised over 25 years, but it increases raw land values per acre by 2.5 to 4 times this amount depending on the number of lots per acre. This exercise of market power is apparently what Schmid had in mind when he referred to the growing residual land value contributing to lot prices.[1/] The characteristics of the current land market, with no recent experience of declining prices and continued annual value appreciation, set a mood of high expectations of future prices. These expectations influence reservation prices and ultimate lot prices. Schmid postulates the hypothesis that this "suggests that land sellers possess some degree of market power and are in a position to charge all that the traffic will bear."[2/]

The conclusion reached from the evaluation of the two schools of thought is that in a perfect market, house prices and lot prices are mutually determining, unless there are no substitutes for the parcel under consideration. In that instance, the lot price and hence development value is uniquely determined by the ultimate urban oriented use value. In an imperfect market, on the other hand, development value can contribute to the final lot price, if the reservation price includes development value. The final lot price can never be lower than the reservation price.

3.3.3 Policy Implication

A policy issue closely related to the above discussion on the determination of development value, which as we saw is largely affected by the structure of the urban land market, is the question whether the cost of urbanisation on lower grade agricultural soils will result in higher lot and house prices. This issue is very timely with the current mood of

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1/ Schmid, op.cit., p. 12 and pp. 39-42.

2/ Ibid, p. 11.

preserving prime agricultural land. In a recent statement by the Minister of Agriculture and Food, mention is made that special programs will be considered to compensate municipalities which shift development from better lands to less favoured soils, for higher servicing costs.[1/]

Obviously, society would gain in agricultural production from such a move and would save the difference in present value of agricultural rents on the high and low quality soils. On the other hand, it would incur additional development costs. Suppose that savings in the present value of agricultural rents brought about by urbanising low quality soils instead of prime agricultural land are lower than the increase in development costs resulting from this action. This would result in higher lot costs, but the additional costs are borne by the government, which subsidizes the higher servicing costs. However, if the demand is sufficiently great, the final lot price to the consumer may not decrease to the full extent of the subsidy, or at all, depending on the market power of the supplier. There is no certainty that the subsidy would be passed on to the consumer in an imperfect market. In a perfect market, however, one expects that competition among sellers will force the lot price down. If the subsidy reduces the net cost of developed land (for any given quantity) to its original level (on the prime land), the full subsidy is passed on to the consumer.

3.4 Measurement of Development Value

Three major problems emerge in measuring development value. The first relates to the identification and estimation of opportunity value. The second relates to the question whether or not non-pecuniary considerations

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1/ A Strategy for Ontario Farmland, A Statement by the Ministry of Agriculture and Food, March 1976, p. 13.

should count in ascertaining opportunity value. The third problem results from disagreement on the measurement of rent. The Ricardian and Pareto rent concepts suggest as measure the area above the supply curve of a factor and below the price line. Mishan has questioned this area as a true measure of economic rent, since it does not adequately measure the welfare change.[1/]

3.4.1 Identification and Estimation of Opportunity Value

3.4.1a Opportunity Value of Raw Urban Land

Most authors[2/], [3/] writing on the subject consider agricultural use value as opportunity value of raw urban land. In actuality, agricultural opportunity value can be considerably higher than the agricultural use value of the land. Since in agriculture labour and capital are closely related to land, it is impossible to treat land separately for the problem at hand. A farmer selling his farm for urban development and forced to retire will include in his reservation price the possible losses he might suffer on capital and on his labour. When he plans to buy another farm he will include in his reservation price the costs of selling, buying, moving and bother, unless he can obtain additional income from his new farm which is not capitalized in the price of that land. In that case the capitalized value of the higher income will offset these "disturbance" costs. These costs can be quite considerable. In the case of buying

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1/ E.J. Mishan, "Rent as a Measure of Welfare Change," American Economic Review, Vol. 49, No. 3 (June 1959), pp. 386-394.

2/ Schmid, op.cit.

3/ H.R. Parker, "The Financial Aspects of Town and Country Planning Legislation," Economic Journal, Vol. 64, No. 253 (1954), pp. 72-86.

another farm there are items such as real estate fees, legal fees, moving expenses, forced sales of inventory and equipment, additional expenses at the new farm such as fencing and wiring. Other important cost items from the standpoint of the farmer are capital gains taxes and the land speculation tax. If a farmer does not recover all these costs, he will not sell. Moreover, there is the unfamiliarity with the new farm. In many instances in the first and/or second year the yield is lower owing to unfamiliarity with soil and climate. All these costs are part of the farmer's opportunity value when he considers to sell and do not constitute part of the development value. Agricultural use value is usually not sufficient payment to make the factor available for urban use.

3.4.1b Opportunity Value of Finished Lots

If the entire conversion process is considered there are additional opportunity costs. Inputs are used for improving, transferring and holding land. Some of these factors are fixed for the firm and could also earn a rent. The problem in determining development value is whether opportunity costs of these inputs should be deducted from the final lot price or should their rent components also be deducted. It is theoretically and conceptually impossible to attribute the residual to its proper source due to the complementarity of the factors. In any case, to attribute the entire residual to land overstates the actual development value.

3.4.2 Non-Pecuniary Effects

Non-pecuniary items should be part of opportunity value. If these items are not compensated for, the land will not be put up for sale for urban development. The extent of the welfare effect depends greatly on non-pecuniary considerations. Examples are, a high preference for farming

over a comparable occupation with similar rewards as in farming and a high preference for a certain location above other locations where similar rewards can be obtained.

3.4.3 Mishan's Measurement of Land Rent

Mishan has rejected both the definition and measure of the Ricardo and Pareto rent concepts.[1/] His objection is that the surplus as indicated by the area above the supply curve and below the price line cannot be appropriated without affecting the supply of the factor, which is suggested by the definition of rent as an unnecessary payment. According to Mishan, rent should be defined as a change in the individual's welfare when the set of prices facing him are altered or the constraints upon him are altered. Moreover Mishan insisted that non-pecuniary considerations be included. He used a new concept, compensating variation, as measure for the welfare change. Compensating variation is the amount of money transfer, paid or received, that will leave the individual factor owner in his initial welfare position following some economic change.

Mishan's analysis has little practical significance in estimating the magnitude of the compensating variation. However, his definition of rent as a change in an individual's welfare position and his notion that non-pecuniary considerations influence welfare levels is important for the purpose of this study. We will see at a later point that welfare changes of land owners who receive planning consent or are denied such consent are not necessarily identical to the difference between the market value for urban use and agricultural use.

[1/] Ibid.

CHAPTER 4

EMPIRICAL INFORMATION ON LAND VALUE APPRECIATION

This chapter provides data on value appreciation in the land conversion process. It also attempts to relate urban land values to certain variables, such as population and income levels. Since we are interested in the magnitude of value appreciation of agricultural land, data on farm land purchases for nonagricultural development and agricultural use values are supplied for several locations in Ontario.

4.1 Data on Land Values and Related Variables

There is a scarcity of data on land value appreciation in the conversion process from agricultural to urban use. The Canadian Housing Statistics provided up till 1974 an annual series of estimated costs of single detached dwellings, broken down in land costs and total costs. Table 2 shows these cost figures and the cost of improved lots as percentage of total housing cost. The table gives only a rough indication of the increase in land cost relative to total cost, since lot size and quality of the lot are not kept constant from year to year. However, the table shows that the improved lot price relative to the cost of a house has been increasing steadily over time, except for the final two years, when a marked decline occurred. The reason for this recent decrease is not clear; high mortgage interest rates have probably decreased demand, leading to a decrease in development value. This relative decline in lot prices is not consistent with other statistics. The table does not reveal whether the price of raw land has also increased over time relative to final housing costs, because improvement costs might have increased faster than construction costs of the house as a consequence of higher quality lots. Moreoever,

TABLE 2

ESTIMATED COST OF SINGLE DETACHED DWELLINGS FINANCED UNDER THE NATIONAL HOUSING ACTS, CANADA, AVERAGE 1952-1974 IN CURRENT DOLLARS

Year	Improved Land Cost	Total Cost	Land as % of total cost
	$	$	%
1952	1,179	11,194	10.5
1953	1,278	11,765	10.9
1954	1,671	12,305	13.6
1955	1,788	12,597	14.2
1956	1,993	13,548	14.7
1957	2,259	14,044	16.1
1958	2,463	14,267	17.3
1959	2,472	14,462	17.1
1960	2,360	14,273	16.5
1961	2,453	14,463	17.0
1962	2,625	14,796	17.7
1963	2,804	15,230	18.4
1964	2,904	16,011	18.1
1965	2,917	16,907	17.3
1966	3,280	18,744	17.5
1967	3,375	19,048	17.7
1968	3,532	19,337	18.3
1969	3,962	21,232	18.7
1970	3,949	20,740	19.0
1971	4,325	21,463	20.2
1972	4,602	22,721	20.3
1973	4,403	24,790	17.8
1974	4,590	28,955	15.9

Source: Compiled and computed from Canadian Housing Statistics, various issues. For 1962 and subsequent years, current values were calculated by multiplying the 1961 values by the indices (1961= 100) provided in this publication.

increasing interest rates have increased carrying charges on land supply. However, it seems unlikely that the increase in the relative price of an improved lot can be totally attributed to higher quality lots, higher servicing costs and higher interest rates. Raw land value must have gone up as well, partly due to increased opportunity value of the land.

A recent study on costs in the land development process throws some more light on the value of raw land in that process.[1/] However, we are not informed about value increases of raw land over time. The study investigated the cost components of serviced lot prices in 1974 and the value increases in finished lots between 1964 and 1974 in ten Canadian cities. Table 3 lists these items and shows that improved lot prices made up 15 to 44 per cent of the price of a new house in 1974. Improved lot prices differed considerably among cities. In 1974 the lowest price was found in Saskatoon and the highest in Toronto. Saskatoon has a public land banking system. Much of the land was acquired in public ownership outside the boundaries of the city well in advance of development and subsequently annexed. The lot prices are artificially fixed and not comparable with market prices. Therefore Saskatoon will be deleted in the remainder of the analysis. Another startling feature in the table is the low lot price in Montreal. This seems to be caused by a large supply of building lots. According to Derkowski, Montreal was the only metropolitan area in his study, which has had, over the entire decade, several year's supply of vacant land.

1/ A. Derkowski, Costs in the Land Development Process, prepared for the Housing and Urban Development Association of Canada Economic Research Committee, 1975.

TABLE 3

IMPROVED LOT AND HOUSING PRICES, PERCENTAGE INCREASE IN LOT VALUES AND LOT VALUE AS A PERCENTAGE OF NEW HOUSE PRICES IN SELECTED CANADIAN METROPOLITAN AREAS, 1964-1974

Metropolitan Area	Improved Lot Price 1964	Improved Lot Price 1974	% Increase	Basic New House Price 1974	Lot price as % of New House Price	
					1964	1974
	$	$	%	$	%	%
Calgary	3,068	9,250	201	30,000	20	31
Edmonton	3,347	13,000	288	38,500	21	34
Halifax	2,988	10,210	242	38,210	20	27
Montreal	4,178	7,855	88	30,455	26	26
Ottawa	4,935	19,000	285	54,500	27	35
Hull	4,847	10,500	117	31,000	34	34
Regina	2,641	6,000	127	30,000	18	20
Saskatoon	2,377	4,230	78	28,000	16	15
Toronto	5,566	23,000	313	65,000	31	35
Vancouver	3,413	22,000	545	50,000	21	44
Winnipeg	3,793	11,500	203	38,000	23	30

Source: Compiled and computed from Derkowski, op.cit.

Table 4 shows the raw land value,[1/] the profit made in the development process, the price of improved lots and raw land prices and profits as percentage of the price of finished lots. Raw land values and these values expressed as a percentage of improved lot prices differ greatly among cities, Halifax having the lowest and Toronto the highest value. This difference is unlikely to be caused solely by differences in the agricultural opportunity value of the land.

4.2 Associations Among Several Variables

An attempt was made to find associations between several variables. As suggested in the previous chapters land value is expected to be related to total population. Total population is assumed to be highly correlated with demand. Moreover the locational component assumes importance with increasing population levels. The higher the population level and the absolute increase in population, the higher the demand and the faster the fringe expands. Another important factor expected to affect demand is income level (social and economic activity in a center). Moreover, it was hypothesized that values are affected by the supply of new land. Derkowski tried to measure supply in a supply index, for which he took the total starts in detached new housing between 1964 and 1974 divided by the population increase in the same decade. Table 5 shows the rankings of several variables in descending order from highest to lowest value, with rank 1 being the highest value. With the help of Spearman's rank correlation coefficient, the association among the postulated relationships were calculated. Saskatoon and Montreal were left out, because the situation

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[2/] Derkowski used as raw land value the price the developer paid for the raw land (without any improvements) two years prior to the sale of finished lots.

TABLE 4

RAW LAND VALUES, PROFITS AND IMPROVED LOT PRICES IN ABSOLUTE DOLLAR VALUES AND EXPRESSED AS PERCENTAGE OF IMPROVED LOT PRICES IN SELECTED CANADIAN METROPOLITAN AREAS, 1974

Metropolitan Area	Raw Land Value	Profit	Improved Lot Price	Raw Land as % of Impr. Lot	Profit as % of Improved Lot Price
	$	$	$	%	%
Calgary	1,364	992	9,250	14.7	10.7
Edmonton	1,810	3,092	13,000	13.9	23.8
Halifax	950	1,775	10,210	9.3	17.4
Montreal	739	731	7,855	9.4	9.3
Ottawa	2,073	4,152	19,000	10.9	21.9
Hull	1,700	1,920	10,500	16.2	18.3
Regina	648	849	6,000	10.8	14.2
Toronto	6,590	3,058	23,000	28.7	13.3
Vancouver	4,500	4,205	22,000	20.5	19.1
Winnipeg	1,818	2,000	11,500	15.8	17.4

Source: Compiled and computed from Derkowski, op.cit.

TABLE 5

RANKINGS OF SEVERAL INDICATORS FROM HIGHEST TO LOWEST VALUE
IN SELECTED CANADIAN METROPOLITAN AREAS

Characteristic	Calgary	Edmonton	Halifax	Hull	Ottawa	Regina	Toronto	Vancouver	Winnipeg
population 1974	6	4	7	8	5	9	1	2	3
absolute increase in population 1964-1974	3	4	9	7	5	8	1	2	6
average annual family income 1974	4	5	6	7	1	9	2	3	8
supply index 1974	5	7	1	2	8	3	9	6	4
raw land values 1974	7	5	8	6	3	9	1	2	4
profits 1974	8	3	7	6	2	9	4	1	5
raw land as % of final lot price 1974	5	6	9	7	3	8	1	2	4
sale price improved lot 1974	8	4	7	6	3	9	1	2	5

Source: Compiled and computed from Derkowski, op.cit.

prevailing in those cities seemed to be so different from the remaining cities, that inclusion would nullify possible associations.

Table 6 shows Spearman's rank correlation between the several variables. Both improved lot prices and raw land values are highly associated with population levels; both coefficients are significant at the .01 level of significance. In addition, association exists between these prices and the absolute increase in population between 1964 and 1974. This suggests that the increase in population levels affect demand. Moreover the locational component assumes importance where population levels are high and seems to be an important contributor to land values. There is also an association between the population level and the profits made in the development process. Profit levels among cities are difficult to compare, since nothing on turnover of lots is indicated. Therefore it is impossible to state whether or not they are excessive and go beyond the payments necessary to draw forth the required entrepreneurial and capital resources. Improved lot prices and raw land values are also positively associated with income levels, as was postulated in the previous chapter. Moreover, improved lot prices as well as raw land values are negatively associated with supply, as hypothesized in the previous chapter. There is also a negative association between the supply index and profits made in the development process, which suggests that developers receive part of development value where supply is tight. Derkowski attributed the rapid increase in cost of residential land development mainly to artificial restrictions on land development. He states: "In most metropolitan areas these costs have risen faster than all the other costs in housing production. However, the key problem in the metropolitan areas with the highest prices has been a chronic condition of scarcity of building lots

TABLE 6

SPEARMAN'S RANK CORRELATIONS BETWEEN INDICATED PAIRS OF VARIABLES FROM TABLE 5

Variables	r_s [1/]
population '74 - sale price improved lot '74	.87*
absolute increase in population '64-'74 - sale price improved lot '74	.70'
population '74 - raw land value '74	.90*
absolute increase in population '64-'74 - raw land value '74	.77'
population '74 - profits '74	.73'
absolute increase in population '64-'74 - profits '74	.40
income '74 - sale price improved lot '74	.72'
income '74 - raw land value /74	.70'
supply index - sale price improved lot '74	-.77'
supply index - raw land value '74	-.78'
supply index - raw land value as % of final lot price '74	-.98*
supply index - profits '74	-.67'

1/ * indicates significant at the .01 level in 1-tail test.

' indicates significant at the .05 level in 1-tail test.

created by various artificial restrictions on land development. This scarcity has tended to drive up new house prices in two ways: by directly increasing the price of lots, and by creating a situation in which the scarce lots were used up for middle- and upper-priced houses, leaving none at the lower end of the scale. It has also contributed to increased concentration in the industry and generally restricted competition."[1/] According to Derkowski, the scarcity has led to greater concentration in the development industry, which is an additional impetus for higher prices, since market power can be exercised.

For our purpose we are mainly interested in raw land values. The above findings indicate that positive associations exist between raw land value and population levels, between raw land value and income levels, and between raw land value and land supply.

Another study indicating large land value increases is Clayton's paper referred to earlier.[2/] He calculated the increase in housing prices and its components in Scarborough (a suburb of Toronto) between 1971 and 1975. The improved lot price increased by $17,000 while it is unlikely that development costs, including costs of servicing, increased by more than $5000 over this period. If we assume 2 .5 lots per acre, then the raw land value per acre rose by about $30,000 over this period. Clayton's conclusion is that land developers likely made very large windfall gains from the rise in house prices. Clayton also attributes the rapid rise in housing prices as well as in land values to an artificial shortage of new supply.

4.3 Raw Land Values for Urban Development and Farm Values

Raw land can change hands several times depending on the number of

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1/ Ibid.,p. 3.

2/ F.A. Clayton, op.cit., pp. 13-14.

speculators in the market. We are not only interested in the price of raw land regardless of who receives it, but also in the price paid to the farmer of land going into urban use. We have some information on land purchases by the government. In several locations in Ontario the government bought land mainly from farmers, for public land banking. Some of these purchases are for the location of new towns and industrial sites, such as the Townsend and the Edwardsburgh sites. Tables 7, 8, 9 and 10 indicate the purchase prices per acre of these properties.

The tables reveal two striking points. Where statistical information is supplied for subsequent years, purchase prices have gone up considerably, particularly in Pickering. The second point is the considerable difference in purchase prices among the sites. Lands in the proximity of Toronto fetch the highest prices, as in Pickering, Milton and Whitby. The Oakville site seems to be an exception, although the time of purchase was prior to the purchase of the other sites near Toronto. This time difference must be considered in comparing prices.

It is interesting to compare these purchase prices with agricultural use values. The Ministry of Revenue supplied data on agricultural use values for 1972 and 1975. These data are not available for other years. If we assume that the price of house and buildings is 50 per cent of the total real estate value (a rule of thumb used by the Ministry of Revenue), then the agricultural use values in the tables must be multiplied by a factor of 2 in order to compare the agricultural real estate value with prices paid for non-agricultural development. In Table 11 these agricultural real estate values (roughly adjusted for the time of purchase[1/])

[1/] The 1972 value is used for agricultural use values prior to 1972. After 1972 a straight line interpolation is used.

TABLE 7

AVERAGE PRICE PER ACRE PAID FOR RAW LAND (LARGE HOLDINGS)
IN PICKERING BY THE MINISTRY OF HOUSING
AND AVERAGE AGRICULTURAL USE VALUES, 1972-1975

Year	Price per Acre	Average Agricultural Use Value per Acre
	$	$
1972	3,810	366
1973	4,770	-
1974	8,227	-
1975	11,890	658

1/ Properties purchased in the years 1972 and 1973 were acquired on a negotiated basis. The plan of expropriation was registered on February 4, 1974, and valuations for the expropriated properties were established for the most part on that date. Properties acquired by negotiation totalled 8505 acres, while 8695 acres were expropriated.

Source: Data provided by the Communications Branch, Ontario Ministry of Housing and Ontario Ministry of Revenue.

TABLE 8

TOTAL ACREAGE PURCHASED AND AVERAGE PURCHASE PRICES PAID PER ACRE OF FARMLAND BY THE MINISTRY OF GOVERNMENT SERVICES, AND AVERAGE AGRICULTURAL USE VALUES AT TOWNSEND TOWNSITE

Year	Acreage	Value-Range	Ave. Price per Acre	Agricultural Use Value per Acre
		$	$	$
1972	-	-	-	255
till May 30, 1974	10,033	1100-3000	1936	-
after May 30, 1974	3,405	2000-4000	2444	-
1975	-	-	-	472

Source: Data provided by the Realty Services Branch, Ontario Ministry of Government Services, and Ontario Ministry of Revenue.

TABLE 9

TOTAL ACREAGE PURCHASED AND AVERAGE PURCHASE PRICE PAID PER ACRE OF FARMLAND BY THE MINISTRY OF GOVERNMENT SERVICES, AND AVERAGE AGRICULTURAL USE VALUES AT EDWARDSBURGH TOWNSITE

Year	Total Acreage	Ave. Price per Acre	Agricultural Use Value per Acre
		$	$
1972	-	-	115
1974-1976	10,748	650	-
1975	-	-	173

Source: Data provided by the Realty Services Branch, Ontario Ministry of Government Services, and Ontario Ministry of Revenue.

TABLE 10

TOTAL ACREAGE PURCHASED AND AVERAGE PURCHASE PRICES PAID PER ACRE OF FARMLAND BY THE MINISTRY OF HOUSING, AND AVERAGE AGRICULTURAL USE VALUE AT SEVERAL LOCATIONS IN ONTARIO, 1968-1974

Location	Acreage	Year of Purchase	Average Price per Acre	Value Range	Average Agricultural Use Value	
					1972	1975
			$	$	$	$
Brantford	979	1970-71	1342	900-2419	241	497
Milton	2332	1973-74	5384	3500-6000	356	643
Oakville	1270	1968-73	1773	1100-4195	356	643
Ottawa	5302	1972-73	1695	705-2569	142	234
Whitby	2365	1973-74	4126	1900-6103	352	634

Source: Data provided by the Land Coordination Branch, Ontario Ministry of Housing and the Ontario Ministry of Revenue.

TABLE 11

GROSS EXCESS VALUE OVER AGRICULTURAL REAL ESTATE VALUE
RECEIVED BY FARMERS SELLING LAND FOR NONAGRICULTURAL USE

Location	Year of Purchase	Average Purchase Price per Acre	Average Agricultural Real Estate Value per Acre	Average Gross Excess Value per Acre	Gross Excess Value as percentage of Agr. Real Estate Value
		$	$	$	%
Brantford	1970-71	1342	482	860	178
Milton	1973-74	5384	1000	4384	438
Oakville	1968-73	1773	744	1029	138
Ottawa	1972-73	1695	316	1379	436
Whitby	1973-74	4126	986	3140	318
Pickering	1972	3810	732	3078	420
	1973	4770	926	3844	415
	1974	8227	1120	7107	635
	1975	11890	1316	10574	803
Townsend[1/]	till May 30/74	1936	800	1136	142
	after May30/74	2444	800	1644	206
Edwardsburgh	1974-1976	650	346	304	88

1/ Since the exact timing of the purchases is unknown, the 1974 average agricultural real estate value is used over the entire purchase period.

are deducted from the purchase price. This provides a rough indication of the excess value over the agricultural real estate value that farmers received, assuming that all the land was bought from farmers.

One must keep in mind that the excess values are gross values. As mentioned in the previous chapter, agricultural use value is not sufficient payment to draw forth enough supply of agricultural land for urban use. Termination costs of farming must be compensated for and these costs must be deducted in order to obtain the net excess value. In this light, it seems that prices for nonagricultural development in Edwardsburgh are rather low. The termination costs differ considerably over the purchase period indicated in the table. Prior to 1972 capital gains taxation was nonexistent and the land speculation tax was introduced in 1974. These taxes can increase termination costs considerably, as will be pointed out in the next chapter. The relatively low excess value over agricultural real estate value in Brantford and Oakville must be interpreted in this light. Table 11 seems to indicate that farmers received high gross excess values, particularly in the proximity of Toronto and that these increased over time.

A recent Globe and Mail article[1/] reported on an expropriation compensation hearing before the Land Compensation Board of Ontario between the Province and a developer, involving 414 acres of land in Pickering. In March 1972, plans were announced for the Pickering Project, while on February 4, 1974 the plan of expropriation was filed. The government wanted to compensate for the 1972 price, at around $9000 per acre, while the developer wanted to be compensated for the 1974 value, amounting to $21,000

1/ The Globe and Mail, October 7, 1975.

per acre. The interesting point for our purpose is that raw land values have increased by a factor 2.3 in a two-year period. These figures differ considerably from average values paid by the Ministry of Housing, which may be due to qualitative differences.

In interviews conducted by this researcher with farmers who had sold for urban development in Halton and Peel counties between 1969 and 1974, prices were mentioned in the range of $1650 to $9200 per acre. Although some farmers received extraordinarily high values for their land, developers and speculators seemed to have done even better according to the comparison of prices paid to farmers and the prices mentioned by Derkowski and Clayton. Admittedly, the information is too scarce to allow firm conclusions from the data. The data do however indicate that raw agricultural land going into urban use in the proximity of metropolitan centers receives high gross excess values. Gross excess values also appear in agricultural land for urban development away from metropolitan centers, ranging from 88 to 206 per cent above the agricultural real estate value. These high values usually spill over to surrounding areas. This has important consequences for the compensation problem. These issues will be examined in the next chapter.

CHAPTER 5

COMPENSATION AND BETTERMENT

In this chapter the distributional aspects of planning legislation will be explored. The basic problem is that public action in the form of planning controls to provide a socially desirable land lay-out, does not distribute its benefits equally over the community. On the contrary, such public action can impose costs on certain members of society so that others may benefit. From an efficiency point of view these income transfers can be ignored and a benefit-cost analysis of several alternative planning strategies does not incorporate these transfers in the computation. If, on the other hand, the aim of planning legislation is to maximize social welfare, it is not clear why such income transfers should be ignored. From a social welfare viewpoint they are not less real than sacrifices in inputs or outputs. Even if economics ignored these "costs", the political and legal systems are apt to put full weight on these items. It must be recognized that public controls seem to impose their own set of externalities; some benefit, others lose, not due to their own decisions, but due to public decisions. These external benefits and costs are both of a personal and regional nature. In general the costs imposed on certain individuals or regions arise because those people are deprived of development opportunities which would otherwise have provided greater economic returns for them. The benefits stem from designating development in certain areas which were not expected to be developed under private decision-making or pre-planning conditions. The question arises whether it is possible to devise public institutions that achieve a more equitable distribution of benefits and costs of public controls.

This chapter will elaborate on the general principles of compensating the losers and taxing the gainers. The general principles on the justification of compensation are outlined and a few Ontario court decisions dealing with government interference in private property rights are reviewed. Then the problems of deciding on the occasion and the magnitude of compensation are examined. There is some evidence that land is currently overvalued and this poses problems for determining the amount of compensation. The term "betterment" is examined in its different meanings and possible ways investigated of how the betterment could be taxed. The gains and losses for active farmers who are affected by planning legislation are usually not equal to the difference in market prices before and after planning announcement. It will be shown that these gains and losses are considerably smaller. Since the compensation-betterment problem is to a large extent an equity problem, the chapter concludes with a survey of different equity views.

5.1 Principles of Compensation

What are the general principles that could justify compensation for interference with the use of private property by the Province or local municipalities? In order to answer this question, property rights must be examined more closely. Property is defined as a "bundle" of rights to control[1/]. The "bundle" consists of individual strands. These strands can be transferred separately from the total "bundle", such as with easements. A development right can be considered as a separate strand of the bundle. A development right is the right that permits the owner

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1/ S.V. Ciriacy-Wantrup, Resource Conservation, Economics and Policies, University of California Division of Agricultural Sciences, 1963, p. 141.

to build upon his land.

Property rights imply duties and rights which are enforced and protected by the Province or the nation. To own a property right does not mean that the owner is entitled to use his property in any way he wants. Legal institutions define these rights. In a dynamic society these institutions are in constant change. In a growing society the interests of individual property owners and society at large are becoming more conflicting. This provokes demand for changes in institutions. A gradual process emerges in which legal institutions are molded towards curtailing individual rights and increasing the rights of the public at large. Particularly in the last decade, individual property rights related to the environment have been curtailed drastically. Ownership is never an absolute right to control, but involves duties and responsibilities to the community. The crucial question is how far can the government interfere in the rights of individual citizens.

Under our legal system based on English common law it is recognized that all property rights are subject to "good neighbourliness" and the law does not provide a claim for compensation unless that right is explicitly conferred by statute such as in the case of expropriation (see Section 13 of the Ontario Expropriation Act, 1974). It is difficult to draw the line between instances where owners should comply with regulations limiting their property rights on the basis of "good neighbourliness" and instances where these regulations go beyond the claim of good neighbourliness where serious hardship or injurious affection is involved. Any limitation of rights usually involves some hardship, but if it is reasonable and necessary in order to protect society of the enjoyment of its right, then those who are negatively affected are obliged to put up with the limitation.

However, if the scope of these restrictions and regulations increase, the point may be reached where hardships become unreasonable and extend beyond the claim of "good neighbourliness". In this instance the infringement upon individual rights becomes so severe that the regulations or ordinances become confiscatory.

Mention was made that individual strands of the bundle of property rights can be separately transferred. It should be noted that there is a difference between transferring and destroying rights. The government could buy a development right (or easement). In that case the owner surrenders the right to develop his land, for which compensation must be paid. These rights could then be used for the public good. In cases where property rights are limited by regulations, these rights are destroyed, because they are in conflict with the public interest. In this case, the owner does not surrender any rights to the government, but remains the full owner. However, part of his previous rights is destroyed. The ownership has not changed, but the rights he owned are curtailed. Although these rights are destroyed, their value is usually not entirely destroyed, but may shift totally or partially to property of other owners or result in welfare increases of those whose rights are not destroyed.

The judgement whether serious hardship is involved seems to depend on the interpretation of reasonableness. If the values of those properties negatively affected by planning legislation would decrease considerably, this might no longer be considered reasonable. In that case, the zoning ordinance has confiscated the profits that could be realized under pre-zoning conditions. The interpretation of reasonableness often depends on whether or not a profit can be made under the allowable use. If zoning precludes all economically viable uses, it is

clearly confiscatory. In the case of preserving prime agricultural land by means of zoning legislation, it seems to be important whether or not viable agriculture can be pursued on this land. Since agricultural zoning in Ontario has never been intended to preserve farmland permanently, we have little or no experience with land value behavior after such zoning legislation.

British Columbia has moved in this direction by establishing Agricultural Land Reserves in 1973. These Reserves are meant for permanent agriculture. Indications are that farm land values have not decreased.[1/] This can probably be attributed to complementary legislation designed to facilitate development of a viable agricultural industry in the Reserves in the form of an income assurance plan, loan guarantees and interest reimbursement. Important permanent open space legislation (however, not aimed at preserving agriculture) in Ontario are the Acts to Provide for Planning and Development of the Parkway Belt and the Niagara Escarpment. In these Acts the Minister has assumed tremendous power. He can make zoning regulations in designated development areas and is exempted from any control by the Planning Act and the Ontario Municipal Board.

5.1.1 Court Decisions

As was indicated in the first chapter, zoning legislation resulting in severe land value depreciation as such, cannot be challenged in the Ontario courts. However, where zoning power is used, this power must comply with the Planning Act. The courts might not uphold downzoning if it was done in order to reduce the cost of expropriating the property for future public purposes such as open space. For example, it is understood

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1/ G.C. Pearson, "Preservation of Agricultural Land: Rationale and Legislation - The B.C. Experience", Canadian Journal of Agricultural Economics, Workshop Proceedings, 1975, pp. 64-73.

that the Provincial government will purchase or expropriate the lands required in the Parkway Belt West for the actual service corridor for electric power lines, telephone lines, water and sewage pipelines, gas pipelines, regional transit, etc., but this may not happen for years and when the government buys or expropriates this will be over an extended period of time. In the meantime all this land has been zoned and much of it has been downzoned to agricultural use,[1/] resulting in depreciated land values. There have been some court cases which suggest that zoning for purposes of diminishing compensation for an intended expropriation is illegal. The court decisions are to some extent unique and do not represent the general law.

The first case is Gibson versus the City of Toronto[2/]. The owner's land was expropriated for street widening (17 feet). Prior to expropriation the city council passed a by-law declaring the street on which the appellant's land fronted to be a "residential" street and prohibiting the creation of any building within 17 feet of the street. This by-law was in force when the expropriating by-law was passed. The owner claimed higher compensation on the basis of formerly having had the right to create commercial buildings on this strip of land. It was claimed that the intention of the rezoning by-law was to take away the potential for commercial development on the strip, because that potential would have increased the amount of compensation which would have had to be paid to

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1/ According to the Report of the Parkway Belt West Interested Groups and Residents Advisory Committee to the Minister of Economics and Intergovernmental Affairs, March 1975, 3000 acres were actually downzoned, while 15,000 acres which had a "higher" designation in existing Official Plans, were zoned as "agricultural" or "open space".

2/ Ontario Law Report, Vol. 28, 1913, pp. 20-31.

the owners when their land was taken under the expropriating by-law. Judge MacLaren ruled: "It would indeed to be a gross abuse of powers conferred upon the city corporation, if it should be able to use such powers to depreciate the value of property which it was about to acquire".

The second case refers to Teubner versus the Minister of Highways[1/]. The owner's land was next to a highway and expropriated under the Highway Improvement Act. Prior to expropriation the owner tried to have it rezoned from agricultural-residential to commercial for the purposes of building a motel, drive-in restaurant and service station. The Planning Board rezoned the property commercial, but the Minister refused to approve. The owner pressed for an amendment that would permit the use of her land for commercial purposes. The Planning Board approved the amendment, but the Minister refused part of it. Judge Roach stated: "The Minister's refusal, however, did not deprive the claimant in expropriation proceedings that followed of her right to be compensated for the land adjoining Highway 7 on the footing that the easterly 700 feet thereof ... was ripe for immediate rezoning from agricultural-residential to commercial and in my opinion the Board was clearly wrong in holding that it did. To hold that it did, would amount to confiscation by the Province of the value attributable thereto which would be outrageous. There is nothing in the Planning Act that could possibly be construed as justifying it". "To withhold a permit or consent that would otherwise be given for the express purpose of containing value would not, in my opinion be dealing fairly".

The Planning Act requires a hearing in cases of rezoning. If zoning power is used in a way which does not comply with the Act, then such zoning power may be ruled illegal. The court case referring to this issue may be important for decisions made by the Minister under the Planning

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1/ Dominion Law Reports, Vol. 50, 1965, pp. 195-209.

and Development Act. As indicated before, the Minister has assumed tremendous power under this act. For example, Section 6 of the Parkway Belt Act gives the Minister the power to make zoning regulations and he may exercise this power without approval of the Municipal Board. The Planning Act gives the Minister all the power which a municipal council has to pass by-laws regulating land use. However, the High Court has held that a council may not exercise such powers without giving the owners an opportunity to be heard. Presumably the issue of a potential decrease in land values will loom large in such hearings. The question can be raised whether this judicial pronouncement should apply equally to the Minister who seeks to replace a municipal council's decision with his own. The following court case which relates to Orangeville Highlands Ltd., versus the Attorney-General of Ontario seems to suggest this.[1/]

Three companies had bought land with the purpose of building a shopping centre. The land was zoned commercial at the time of purchase. Later, the Minister of Housing passed a provincial zoning order to prohibit the use of applicant's lands for the purpose of a shopping centre. The Minister did not give appropriate hearings to the owners of the land and the rezoning decision was nullified. Chief Justice Wells ruled that the power of the Minister of Housing to impose a provincial zoning order freezing land use in a particular area is not a ministerial power but a power of municipal council. It must therefore be exercised judicially upon notice to affected land owners and with an opportunity for a hearing. Accordingly, where land has always been shown on an official plan as commercial and has been zoned accordingly and where no notice was given of the order to the landowners, the order should be quashed and mandamus

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[1/] Ontario Reports, Vol. 8, 1976, pp. 97-103.

issued to compel the issuance of a building permit.

5.2 Problems of Assessing Compensation

Two major problems emerge in assessing compensation for losses caused by changing planning permission. First, to determine the proper amount of compensation and secondly to decide on the occasion of compensation.

5.2.1 Amount of Compensation

In determining the amount of compensation, it is usually advocated that the payments should be equal to the difference between the market value before any restrictions are placed on the property and the market value after restrictions are placed on it.[1/] The market usually has information on the intents of the plan before it is announced, affecting property values before announcement. This problem can cause major disagreement on valuation dates if this method were used. Moreover, there is evidence that market prices are overvalued, to which we will return in a later section. If land prices are overvalued, compensation payments would seem to be excessive if this method were used.

Another method would be to compensate for the difference between the actual purchase price paid originally by the owner of the property and market value after the planning announcement. This would reduce the amount of compensation considerably, particularly in farming areas, since

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1/ See for example (a) Report of the Parkway Belt West Interested Groups and Residents Advisory Committee to the Treasurer of Ontario and Minister of Economics and Intergovernmental Affairs, Toronto, March 1975. (b) W.G. Lesher, Land Use Legislation in the Northeast: New Jersey, Northeast Regional Center for Rural Development, 1975, p. 46.

most farmers acquired their property when the value reflected the agricultural use value. Given a general rise of agricultural use values over time, it would mean that most farmers, except for those who bought in the recent past, would not receive any compensation. With this method of compensation for the difference between purchase price and market value after the planning announcement, the compensation would go mainly to speculators and developers who had bought dear.

A third method is to compensate for welfare losses. The welfare loss is not the difference between the purchase price in the past and its current value, but is equal to the difference between the opportunity value before plan announcement and opportunity value after announcement. In a later section we will explore this further and show that this is not identical to the difference in market values as proposed in the first method.

Another method is to compensate for hardship or injurious affection suffered in agriculture while awaiting urban development. Agricultural production costs in the urban fringe can be high because of various kinds of nuisances imposed by nearby city dwellers or nonfarm residents, by higher property taxes compared with other agricultural areas, by lack of investments to maintain a competitive position due to the short-run planning horizon under pre-planning conditions and by an inferior agricultural infra-structure due to a gradual wipeout of the industry under pre-planning conditions. Farmers are willing to put up with these inconveniences in anticipation of selling dear for future urban development. Other methods of compensation include "in-kind" compensation, such as preferential tax assessment and income assurance assistance. Compensation for hardship and "in-kind" compensation bear little or no

relationship to land value changes.[1/]

5.2.2 Occasion of Compensation

To determine the occasion of compensation is probably as difficult as to decide on the magnitude of the payment. Several cases can be distinguished by which individuals are deprived of expected economic returns; downzoning, introduction of new zoning legislation where none existed previously but where the property had a higher use designation in the Official Plan, and introduction of new zoning legislation for land which was not previously incorporated in any Official Plan, but where the zoning allows a lower use than anticipated. The claim for compensation seems to stand on firmer ground in the first case than in the last case. However, zoning has never been rigid, particularly not for agricultural land. Agricultural zoning has always been considered as a holding zone. If development pressures become strong, the land is usually rezoned to a higher use. Preservation of prime agricultural land is a new objective

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1/ The Ontario Federation of Agriculture has on several occasions advocated a negative capital gains tax as a form of compensation. It is not entirely clear what is meant by this, since to my knowledge no written statement explaining this procedure, has been released. Does it mean that farmers should be able to deduct from their income 50 percent of the difference in market value before and after planning announcement, and if this results in a net loss that they should get a refund equal to the tax rate applying to that amount if it were positive times the loss? Or should farmers be able to deduct 50 percent of their losses in land value from their income over a 3 or 5-year period? Or should they be reimbursed an amount equal to 50 percent of the decrease in land value times the tax rate which would apply if the amount were positive?

Land planning does not fall under federal jurisdiction and therefore it is unlikely that the federal government is willing to foot the bill, since they either lose tax revenues or have to make refunds. Moreover, this form of compensation seems to be highly progressive and there seems to be no justification for a progressive compensation, as a matter of fact it seems rather unjust. It is interesting to note, that the Federation does not seem to hold the opinion that the entire difference in market values must be compensated for. The maximum capital gains tax rate (federal and provincial) is around 30 percent. In actuality, many farmers will fall in a lower bracket. Thus, on the average, the Federation seems to be content with a 15 to 25 percent compensation depending which of the above methods is used.

and zoning such land for permanent agriculture could have severe effects on land values, even in those cases where the land was not included in an Official Plan previously or where it was zoned agricultural. If such lands are close to urban centers and subject to development pressure, speculators and developers exert pressure for zoning variances and these applications were usually granted in the past. Although the basis on which to claim compensation is weaker in this instance, since speculators and developers face the risk of not being granted zoning variances, the claim cannot totally be denied on the basis of past experience and precedents in planning and rezoning practices.

Another matter to consider is whether compensation should be paid when the actual loss is realized, thus at the time of eventual re-sale, or should these payments be extended to all owners at the time of the plan change. Compensation payments at the time of sale would simplify the assessment considerably, since no problems arise over establishing values for "comparable" properties as in the case where all owners were to be compensated.

The occasion of compensation seems to a large extent a legal, moral, and political problem.[1/] It does, however, have economic implications. For example, zoning alone is not able to preserve agriculture if the industry in the area has lost its economic viability. In that case, some kind of current compensation is needed. On the other hand, compensation and its funding have other important allocation dimensions. If it

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1/ The Ontario Provincial Government has rejected payment of compensation for lost development rights. However, they are in favour of "in-kind" compensation for the entire agricultural industry in the form of preferential gift tax and death tax treatment, income stabilization programs, and preferential tax assessment. The Liberal Party seems to be in favour of some kind of compensation other than "in-kind" compensation, according to a statement by its leader Stuart Smith in the 'Globe and Mail' of April 13, 1975.

were legislated that compensation be paid by the Province this would certainly influence the amount and type of planning. Given the current economy drive in government there would be a strong tendency that planning would be pursued along the lines of preserving existing use values. Moreover, compensation payments may have an inflationary pressure on land values elsewhere in the Province, depending in what form and amount they are given. If purchasing power of affected farmers increases drastically, one might expect increased demand for choice properties elsewhere in the Province, and the price of these properties spill over into surrounding areas.

5.3 Compensation and Overvaluation of Land Values

In the previous section it was indicated that market values are often advocated as benchmarks to determine the amount of compensation. However, these values have grave shortcomings. There is increasing evidence that land is overvalued in areas where development is expected. There are two reasons for this. There is uncertainty about the exact location of future development in a particular time interval and there is uncertainty about the rate of city expansion over time.

The Uthwatt Committee in England which reported on compensation and betterment, attributed this overvaluation to the existence of floating value which refers chiefly to the first kind of uncertainty.[1/] Owners in a concentric circle around a city, all zoned agricultural and of equal potential for development and of equal distance from the city center, will claim equally that the next development will "settle" on his land. If the actual rate of development is less than the sum of expectations of all

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1/ Ministry of Works and Planning, Expert Committee on Compensation and Betterment, London, 1942, pp. 14-15.

owners, then floating value exists. In this case expectations of future development are spread over many more acres than are actually required for development.

Suppose a town is surrounded by a concentric area of 10,000 acres on which development could take place. Suppose that only 1000 acres are needed in a particular time interval and that the present value of raw land for urban development in this concentric area is currently $1000 and the agricultural use value $200 per acre. Since none of the owners knows exactly where development will take place, they may attach a probability of, say, .3 that development will take place on their property. Suppose for simplicity's sake that all owners attach the same probability to development of their land; then the present value of each acre in the area is (.3 x 1000) + (.7 x 200) = $440. The owners would not sell at a lower price. In actuality, the true actuarial value per acre is (.1 x 1000) + (.9 x 200) = $280. If developers bought all the land, they would not pay more than $280 per acre.

If this statement is true, land in the area must change hands for at least $440 per acre. It is conceivable that current owners are not willing to sell below $440, but it is not clear why developers would pay a price far in excess over the actuarial value of $280. Clearly, over time most of them would make large losses in the aggregate if they did. The explanation of these overvalued transactions is not easy to comprehend, but the following hypothesis could be postulated.

Land prices are determined by demand and supply entering the market. The supply in any time period is only a small proportion of the total stock of land. For a given demand, the smaller the supply, the higher the price. The supply of a relatively small quantity in the market

would indicate that farmers are not offering their land for sale if they can obtain a value above their agricultural use value or even above the actuarial value of $280 in our example. This is plausible, because the cost of terminating or moving a farm business can be large and could easily exceed $80 per acre. These costs must be covered before a farmer is willing to put his land up for sale.

But farmers will set their reservation prices beyond this level if they indeed believe that the probability of development in a particular time interval is .3. Even if they realize that they have been too over-optimistic in their expectations because they do not all get an offer at that price, they may not be willing to lower their reservation prices if they expect that the urban fringe will extend beyond their property in the future thus giving their property locational advantage. As indicated in an earlier chapter, Schmid postulates the hypothesis that this kind of expectation is also subject to overoptimism. 1/ The more overoptimistic expectations are relative to location and rate of development, the higher reservation prices are likely to be. This process becomes self-feeding. Because little is offered for sale, prices are high, and because prices are high, expectations are overoptimistic.

An additional factor of importance is that development usually takes place on large tracts of land. Sewer, water, and power and other social overhead must be available and these are more economically provided in a single area than on a dispersed basis. In order to acquire large tracts, the land must be bought from many sellers. This increases the market power of some sellers, who may be in a position to "hold out".

1/ Schmid, op.cit., pp. 39-42.

Of course, there must be demand at these high prices, otherwise they cannot be sustained. But the developer is able to pay $1000 per acre if he is certain that development will take place on that acre. The likelihood is great that development will take place where the land is bought for development, particularly in large blocks. The high land value will be used as an argument in applying for rezoning. The point is that if all the land in the concentric circle were offered for sale, it could not command a price in excess of $280 per acre. To use the prevailing market price of the limited acreage offered for sale as the value of all the sites in the concentric circle is not justifiable, unless the expectations with respect to future savings in travel time are correct and properly discounted.

If the hypothesis of overvaluation is accepted, then a change in market values caused by planning legislation has little connection with real welfare changes. The market value before planning announcement applies only to those few properties which were up for sale, but cannot be extended to all properties. This renders the use of market prices inapplicable for determining compensation payments.

5.3.1 Support of the Overvaluation Hypothesis

Whatever the reason for this overvaluation, there is evidence that land having a probability of being developed is overvalued. The first indication of overvaluation, although difficult to prove, is found in the low down-payment and frequent defaulting on mortgages[1/]. There seems to be evidence that a general pattern is for the original vendor

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1/ This information was obtained in interviews with a small sample of farmers who had sold for urban development. No attempt was made to verify these statements, since this would have involved a major research effort.

to both provide financing by taking back a mortgage and sell with a low downpayment. Since downpayments are low, the losses are moderate for the purchaser in case of defaulting. This may explain that buyers are willing to gamble because their possible losses are moderate. If defaults occurred frequently, it would indicate that market prices are too high. The use of such market prices as benchmarks for valuing "comparable" sites obviously is meaningless.

The second indication of overvaluation is found in increasing pressure to use agricultural use value as a base for tax assessment. The Ministry of Revenue in Ontario is constantly experimenting in arriving at such values. The agricultural industry has argued that farmers cannot afford to pay taxes based on market values out of current income. This argument does not stand if the appropriate timing and probability of development were properly expressed in the market price. Farmers owning such land could in most instances pay the taxes by borrowing or by setting up a system of deferred taxation.[1/] If, on the other hand, land is overvalued, farmers cannot afford to pay taxes based on these values. Land which will never be developed, or not for a long time, is subject to high taxes and this might lead to excessive idling of farmland. It is hard to believe that the government would accept the current income argument if it believed that there was no overvaluation. In that case it would lose an important source of local revenue, while it might not retrieve this in the future by other forms of taxation at the time of a possible sale. Farmers in the urban fringe saw their assessment lowered long before the land speculation tax was introduced. The provincial portion

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1/ For an explanation of such a system, see T.F. Hady, "Differential Assessment of Farmland on the Rural-Urban Fringe", American Journal of Agricultural Economics, Vol. 52, No. 1 (February 1970), pp. 25-32.

of the capital gains tax is very small; the maximum rate is 7 per cent of the gain. Increasing pressure to use agricultural use values as a base for tax assessment is not an Ontario phenomenon alone; it is found all over the continent. In most of these places no special taxes on land at the time of sale exist.

The third indication of overvaluation of development value can be found by pointing to the land requirements for development. In the "Strategy for Ontario Farmland"[1/], referred to earlier, it is estimated that Ontario needs an additional 256,000 to 370,000 acres till the year 2000 to accommodate urban growth and expansion of infrastructure such as hydro lines, highways and commercial and industrial development. These requirements are based on a density of 20 persons per acre, which seems rather high. All this development of the entire province could be accommodated on farmland in the counties of York and Halton, two counties adjacent to metropolitan Toronto. The 1971 Census of Agriculture indicates that in Halton, the total acreage in farms was 126,912 and in York 249,377. In actuality not all this land in farms would be needed since there seems to be some vacant nonfarm land which could be used for urban development. The total area in farms in Halton county was 52 per cent of the total county area and in York 57 per cent. Land values in York and Halton possess large development values, since farmers received substantial reductions in their land assessment for taxation. However, not only York and Halton possess high development values, but they exist in other counties as well (Peel, Durham, Simcoe, Ontario and in all areas bordering other towns and cities)[2/]. This would indicate that high prices

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1/ Ministry of Agriculture and Food, op.cit.

2/ W. van Vuuren, "Land Valuation for Tax Assessment and Land Use Planning - The Search for and Use of Appropriate Measures", Canadian Journal of Agricultural Economics, Vol. 23, No. 2, July 1975, pp. 1-14.

of farm land do not represent the true actuarial capitalized value of rent that these lands will earn in the future. Most of this land will never be developed. Even if they would be developed after the year 2000, its actuarial value would barely exceed the current agricultural use value given current high interest rates. Admittedly, there is urban oriented demand such as demand for hobby farms, horse farms, and recreation use also driving up farm values. But overvaluation occurs here as well due to the same reason as hypothesized above. Overvaluation of market prices makes them unreliable as a measure for compensation payments.

5.4 Betterment

Planning not only deprives individuals of development, but it also allows development where it had not been anticipated. Individuals affected in this way will clearly benefit. This phenomenon is known as betterment. The question is often raised whether society should appropriate this betterment. The term betterment is used in several senses. Usually it refers to increases in land value accruing to the land owner brought about by actions and circumstances beyond his control.

5.4.1 Betterment Due to Public Investment

One form of betterment occurs due to improvements such as new highways, irrigation dams and establishment of new parks. These projects are usually funded by public money and their benefits spill over to adjoining sites thus increasing land value. The question is whether beneficiaries should help pay for these improvements. The maximum amount they could pay is the increase in site value occasioned by the improvement. This principle is widely accepted where the benefits are obvious, such as benefits from an irrigation dam. It must be noted, however, that

this kind of betterment can be accompanied by "worsement" elsewhere. The building of a new highway is a good example. Traffic along the old route will diminish and so will some of the site values (for example, the site value of a gas station). The "worsement" may be spread very thinly over a large area. Nevertheless, the question emerges whether those negatively affected by the public investment should be compensated.

5.4.2 Betterment Due to Economic Growth

The second meaning of betterment refers to land value increases caused by growth in population and general growth in welfare. Since the total stock of land is fixed, increases in demand due to population growth and increase in prosperity will lead to higher land prices. Technological advance can offset these forces in the natural resource industry, as Schultz has shown for agriculture.[1/] However, the trend in urban land values is definitely upward over time. These price increases are unearned in the sense that owners receive them without making any sacrifice. Henry George was the great advocate of taxing the entire rent incomes from these properties.[2/] George considered this tax as harmless to the economy since only the unnecessary part of the payment is taxed. However, if the total rent were taxed away, it would do harm to the economy. The economy relies on the market for the allocation of various land uses. If the total rent were appropriated, the land market would cease to perform this allocative function.

1/ T.W. Schultz, "The Declining Economic Importance of Agricultural Land", The Economic Journal, Vol. 61,No. 244, December 1951, pp. 725-741.

2/ H. George, Progress and Poverty, 15th ed., New York: Robert Schalkenbach Foundation, 1929.

Another question is why land should be considered differently from other inputs such as labour. Particularly in the short run, certain skills may be quite inelastic in supply and increased demand would also raise their prices. This increase is also rent, since the benefits are obtained without any additional sacrifice of the supplier. Admittedly, labour pays income tax, but so does the landowner who leases his property or the owner operator who receives a higher income from his property. Landowners escaping income tax are those who make a consumptive use of their property. Only where income taxes are escaped could a special status for land be justified.

Another matter is that increases in land rent may not necessarily accrue to the current owner of the land. Since land is a capital asset, its value is determined partly by the expected future income stream. Where land is sold, this future income stream is capitalized and may be wholly or partly captured by the seller. This sale value is not subject to income taxes and thus the seller escapes them. But this is an argument in favour of capital gains taxation and not in favour of a special tax on annual rent income from land.

Part of the rent increase may be captured by property taxes if re-assessment keeps pace with value increases. But total property taxes are more closely connected with municipal financial needs than with an increase in property values. In any case, a special tax solely based on annual rent caused by increased prosperity, needs more justification.

It should be noted that similarly to the case of betterment owing to public investments, betterment caused by population growth and increasing prosperity can also be accompanied by "worsement". Not all areas gain equally; as a matter of fact, some may lose. Areas exist where population

and prosperity decline, probably due to a variety of reasons. Technological change, labour immobility and asset fixity[1/] loom large as causes of declining prosperity in certain areas. This phenomenon is particularly important in the natural resource industry (marginal farming, forestry and mining areas). Depopulation or lack of population growth and declining prosperity result in depressed land values. Forces such as technological advance result in increased prosperity in one area and lead to decreased prosperity in another. As a consequence, some are enriched while others are impoverished. If society is entitled to the unearned gains, then on the same grounds it can be advocated that society must compensate those who lose through no fault of their own. The very forces which make society as a whole better off (particularly when it appropriates all the gains), lead to impoverishment of certain sectors. The compensation claim seems a logical complement to the appropriation of the gains by society.

5.4.3 Betterment Due to Planning Legislation

The third meaning of betterment refers to land value increases arising from planning legislation. Since planning prohibits development in certain areas and fosters it in others, land values in the former areas are expected to decline if development was anticipated under pre-planning conditions, and land prices are expected to increase in areas where development is allowed but was not anticipated under pre-planning conditions. The increase in land value is the betterment caused by planning legislation. Here again the betterment is accompanied by "worsement" elsewhere. Taxation on this kind of betterment has also been

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[1/] D.E. Hathaway, Government and Agriculture, New York: The MacMillan Company, 1963, pp. 83-130.

advocated as a means of recapturing socially created land values. It has been practised in England several times. It is argued that gains and losses result from planning legislation, which is performed in the public interest. Those making sacrifices for the public good should be compensated and those profiting from the public good should be subject to appropriation by society. If compensation is paid for lost rights, then there is an additional reason for this kind of betterment taxation. It will provide a fund from which to pay the claims for compensation.

5.4.3a Shifting Value

The foundation of the English compensation and betterment system as contained in the Housing and Town Planning Act of 1909 and the Town and Country Planning Act of 1932 was based on the contention that the gains and losses of development value are equal. So, in principle, it would be possible to compensate losers out of a 100 per cent betterment levy, it it were decided that the full gains should be appropriated. In actuality this was not done. The Uthwatt Committee drew attention to this phenomenon of conservation of land values, which they called shifting value. According to the Committee, planning legislation has the effect of shifting land values, not of destroying them. "If development is prohibited on a certain parcel of land, the potential building value is merely shifted to other land and aggregate values are not substantially affected, if at all".[1/] Turvey[2/] and Parker[3/] showed this to

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1/ Ministry of Works and Planning, op.cit., pp. 15-16.

2/ R. Turvey, "Development Charges and the Compensation - Betterment Problem", Economic Journal, Vol. 63, No. 250, (1953), pp. 299-317.

3/ H.R. Parker, op.cit.

be incorrect. If a superior site is prohibited from development, developers might have to look for inferior alternative sites for which they are not willing to pay as much. Location, agricultural opportunity value, specific site characteristics and capability for urban development are not similar on all sites and these forces together with demand determine the development value. Therefore development value will differ among sites and it is not necessarily true that development value lost on one site merely shifts to another site. Moreover, development value depends on the level of economic activity. If development shifts to different areas of the Province, it is likely that the level of economic activity and income differs from where development is prohibited, but was anticipated.

5.4.3b Betterment Tax Not Sufficient to Cover Value Losses Caused by Planning Legislation

The existence of floating value is an additional reason why financial gains resulting from planning legislation do not balance with the decrease in land value of deprived land owners. If gains and losses are equal and if it were decided that the full gain be appropriated and the full loss be compensated, then the gainers could fully compensate the losers. However, due to several reasons such as the fact that development may be lost if development shifts to other areas, the fact that the betterment tax must be less than 100 per cent to avoid a breakdown of the market, and the existence of floating value, we must conclude that compensation payments (difference in market values) would exceed revenues from a potential betterment levy and public funds would be needed to foot the bill.

5.4.3c British Experience

This betterment tax does not necessarily depend upon realization of the betterment, but could be levied after planning permission was granted and the permission utilized by the owner, regardless of a land transfer, as was the case with the British betterment levy between 1967 and 1971. In this instance the land must be assessed before and after planning consent. The experience with the levy in England has not been very successful. First, the valuation problem is difficult, particularly if the charge is levied regardless of realization. But even if the charge were levied after realization, it is difficult to prove that the entire increase in land value is due to planning permission and not to some other factors. Land values are determined by many forces and it is extremely difficult to isolate the effect of each separate force.

In the second place, a tax on increments in value will discourage changes in land use, particularly in the short run if it is expected that the tax is only temporary. This in itself may cause distortions in the economy, but moreover it would affect receipts from the land transfer tax, income tax and capital gains tax. The British Betterment Levy 1967-1971, imposing a 40 per cent tax on the increase in land value attributable to changes in value arising from planning permission, generated revenues 90 per cent below those estimated, and even in its final year when revenues were highest, betterment levy income barely exceeded the cost of foregone land transfer, income and capital gains tax revenue and the administration of the levy.[1/] That revenues from the betterment levy were so much lower than expected, resulted from the facts that the supply

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1/ D.R. Denman, "Lessons from the Land Commission", Three Banks Review, Vol. 89, No. 1 (March 1971), pp. 30-44.

of land on the market fell sharply and that the new permission was not utilized by those who did not sell but received permission. We do not have empirical evidence that this had led to higher land values, but theory suggests this. This phenomenon of supply reduction is contrary to the theory that taxation of rent does not interfere with efficient market allocation. In 1947 the British levied a 100 per cent betterment tax which led to a breakdown of the market, since all incentives to develop land were killed. But apparently, a lower levy (40 per cent in 1967) also seems to have interfered with a smooth market performance as the British experienced between 1967 and 1971.[1/] It is likely that the supply reduction in England was to a great extent a matter of expectations. Many might have expected a repeal of the legislation as soon as the opposition party assumed power. The experience with the 40 per cent levy was short run since it was repealed in 1971. There is no evidence which long run effects might have resulted from the betterment levy.

5.4.4 Problems Associated with Special Land Taxes

There are some inherent problems in imposing taxes specifically on increases in land values. We can distinguish two kinds of such taxes, namely a tax on any value increase regardless of its source but only applying to land and not to other capital items, and a tax on an increase in land value caused by a special event such as a change in planning permission or an increase in public investment. The problem associated with a tax on value appreciation caused by a particular event, is to determine the exact magnitude of the increase caused by the event.

[1/] C.L. Harriss, "Land Value Increment Taxation: Demise of the British Betterment Levy", National Tax Journal, Vol. 25 (1972), pp. 567-572.

Valuation poses cumbersome administrative and assessment problems. A tax which applies only to value appreciation of land but not to that of other capital, runs the danger that capital may shift to less heavily taxed investments. In the long run this could result in a shortage of improved lots.

A capital gains tax avoids both problems. It is universally applied throughout the entire economy on all realized value increases of capital items, thereby avoiding both valuation problems and the shifting of investment funds. However, certain capital gains escape taxation such as those from principal residences and farms retained in the family (direct descendants). On sale or inheritance the tax is waived for these two categories.

5.4.4a Land Speculation Tax

Ontario has levied a special tax on land speculation. It taxes at a 20 per cent rate all gains realized after the date of imposition (April 9, 1974) on the disposition of real estate after deducting amounts for improvements since that date. All net gains realized from a land transfer regardless of its source are taxed. The major purpose of this legislation was to curb speculation and to reduce the escalation of land and housing prices. The market is affected in several ways by the tax. One would expect demand to decrease both in the short and in the long run due to shifting of investment funds to nonland ventures. However, in the short run, supply is expected to increase, because holdings which were previously bought for speculation, are now placed on the market since holding has become less attractive.

Suppose a speculator holding raw land, expects an annual value appreciation of 15 per cent, his holding costs are 8 per cent (6% interest

and 2% taxes which can be deducted from the receipts for tax purposes) and his alternative rate of return is 12 per cent (6 per cent net). Since he expects to make 7 per cent from his land, land investment is the best alternative open to him. If a tax of 20 per cent is imposed he will only make a net annual rate of 5.6 per cent, while his alternative net rate is 6 per cent. He would do better to sell and invest his money in the better alternative. Only if the alternative is a straight income item and his marginal income tax rate is high, he might be better off to hold on to the land. On the average, however, one might expect the disposition of some land. Thus in the short run one might expect price declines and even in the long run the price of raw land might be lower due to decreased demand. On the other hand, the farmer will incorporate the tax in his reservation price. If he is not compensated for the tax, he will not sell. The farmer has an alternative. If he is not made better off, he will continue to farm. Thus the opportunity cost of the land will increase.

It is difficult to predict what the long run effect on prices and availability of developable land will be due to these opposing forces. Where farmers prior to the date of imposition received high development values in excess of their opportunity costs in a perfect market, it is likely that reduced demand will decrease raw land values or that these values will increase at a lower rate over time. On the other hand, if demand has decreased to such an extent that the ceiling prices that developers are willing to pay fall short of the farmers' reservation prices, then one can expect a shortage of developable land. In that case, the shortage will drive up the price of improved lots and the tax is partly or entirely passed on to the consumer. In an imperfect

market, the tax may be passed on to the consumer partly or in its entirety in any case. As a matter of fact the Ontario land speculation tax encourages concentration in the development industry, thus boosting the market power of suppliers, as Smith, discussing the Ontario Land Speculation Tax in a recent article, has shown.[1/] The many unfavourable consequences of the tax, as indicated by Smith, seem to a large extent to be caused by the many exemptions in the act.

5.4.4b Property Tax

A property tax captures land value increases partially, if re-assessment keeps pace with land value increases. However, the assessment covers the entire real estate, the site value as well as the improved portion. If the aim is to tax the betterment proper, the assessment should be divided into site value and value of improved structures. If site values increase over time then this is due to betterment and the property tax in this instance could capture a certain percentage of this value increase annually, provided that assessment reflects the property value accurately over time.

5.4.4c Federal and Provincial Taxes on Betterment

Although Ontario does not have a betterment tax on gains resulting from planning consent, these windfall gains do not escape taxation. A substantial part is captured by federal and provincial income, capital gains and land speculation taxes. The first two taxes have a variable rate, the latter a flat rate. Short term gains in the real estate market are subject to income taxes. The combined maximum federal and provincial

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1/ L.B. Smith, "The Ontario Land Speculation Tax: An Analysis of an Unearned Increment Land Tax", Land Economics, Vol. 52, No. 1 (Feb. 1976),pp.1-12.

tax rate for income and speculation tax is 81 per cent, while the combined capital gains and land speculation tax has a maximum rate of 50.5 per cent. Granted not all transfers are taxed at these maximum rates, yet a substantial part of the gains is captured. The existence of these taxes not only weaken the case for a special levy on selected increments in land value, but would make it undesirable.

5.5 Compensation Payments and Betterment Levies and Their Relationship to Market Prices

Apart from overvaluation mentioned in an earlier section, there is another reason why market prices for agricultural properties cannot be used to ascertain the magnitude of compensation and betterment. Market values do not appropriately reflect opportunity values for affected parties.

The most appropriate measure for compensation and betterment is the welfare change of the property owner. As mentioned in Chapter 3, Mishan calls this "compensating variation". This is defined as the amount of compensation paid or received, that will leave the land owner in his initial welfare position, following the change in planning legislation. It can be shown that the farmer's compensation payment or betterment charge, meant as compensating variation, is not equal to the difference in market value for urban use and agricultural use, even if we assume away overvaluation of market prices. The real opportunity costs of land receiving planning consent and shifting to nonagricultural uses is greater than the agricultural use value. As mentioned in Chapter 3, the termination of a farming operation usually involves costs, either in the form of moving the farm operation to another location, or in the form of changing occupation, or in the form of forced retirement. As

mentioned, these costs must be covered in the sale price of land, otherwise the farmer would not part with his land. Those who are denied planning consent lose welfare, but since termination costs are not part of their opportunity costs, the welfare loss is smaller than the difference between market value for urban use (which compensates for termination costs) and agricultural use value. Two numerical examples may illustrate the case, one involving moving the operation to another location and the other involving forced retirement.

5.5.1 Opportunity Costs Associated with Relocation

Suppose a farmer in the urban fringe received in April 1976 planning consent for his land for urban development, which was not anticipated. The land including the buildingsbut excluding the house was worth $250 per acre on January 1, 1972 (valuation day for capital gains taxation) and $500 per acre on April 9, 1974 (valuation day for Ontario land speculation tax). The farmer owned the farm prior to 1972. Suppose the agricultural use value of the farm in April 1976 is $900 per acre. Is any excess that the farmer receives above the $900 betterment? Suppose the farmer contemplates selling for urban development and buying an identical farm in another location for $900 per acre (agricultural use value). What is the agricultural opportunity value of such land shifting to urban use? In other words, what is the minimum price required to secure such land for urban use?

Costs are incurred with the transfer and moving of the operation. Suppose that real estate fees for selling the farm are 5 per cent; legal fees $8 per acre; land transfer tax and registration fee $5 per acre. Suppose further that moving expenses are $30 per acre and that the farmer has to make forced sales of inventory on which he loses $25 per acre.

He allows $20 per acre for decreased profitability in the first year due to unfamiliarity with the farm in the new area. In addition, there are nonpecuniary costs in the form of a personal welfare loss not related to economic phenomena. For example, moving to another location means sacrificing social and community relationships in the old location. These relationships can be highly valued. Suppose the farmer is indifferent between the two locations if he is compensated for this loss at $75 per acre. Moreover, the farmer considers capital gains and land speculation taxes as costs. Since the land speculation tax allows an exemption of 10 per cent increase in land value annually for farmland, all excess value above $605 per acre will be subject to the tax at a 20 per cent rate. The farmer is able to deduct his moving expenses from his income taxes. The losses realized on forced sales and the decreased profitability in the first year are reflected in lower income taxes. The real estate fees are deductable from the capital gains and land speculation taxes.

Considering this information, the question can be asked what price per acre the farmer must receive in order to be indifferent between the old and new location assuming identical income streams from the two farms. In that case he has not gained any welfare and consequently there is no betterment. Since the capital gains and income tax rates are variable, an iterative process using different rates is needed for the calculation in order to determine the ultimate relevant tax bracket for the farmer. Suppose that the capital gains tax rate is 20 per cent and the marginal income tax rate is 40 per cent, what sale price would provide neither a welfare gain nor a welfare loss? Let Y be that sale price per acre, then Y can be solved in the following equation:

$$Y - .20(Y - 250 - .05Y) - .20(Y - 605-0.05Y) - .05Y - 8 - 5$$
$$- (.60 \times 30) - (.60 \times 25) - (.60 \times 20) - 75 = 900$$
$$.57\ Y = 862$$
$$Y = 1512$$

At a 30 per cent capital gains tax rate and a 60 per cent marginal income tax rate, the sale price which would provide neither a welfare gain nor a welfare loss is:

$$Y - .30(Y - 250 - .05Y) - .20(Y - 605 - .05Y) - .05Y - 8 - 5$$
$$- (.40 \times 30) - (.40 \times 25) - (.40 \times 20) - 75 = 900$$
$$.475\ Y = 822$$
$$Y = 1730.50$$

These numerical examples show that if the relevant capital gains and marginal income tax rates for the farmer are respectively 20 and 40 per cent, he must receive $612 per acre in excess of the agricultural use value in order to be as well off in the new location compared with the old location. If he falls in the 30 and 60 per cent tax brackets, the excess must be $830.50 per acre. These excess payments are part of the true opportunity costs for urban development. The farmer would not sell at a lower price; if he did he would become worse off than he was before. Thus the land would not shift to urban use at a price lower than the opportunity value. This is the true sacrifice for the farmer. Suppose he falls in the 20 per cent tax bracket and his land is sold for $2000 per acre. In that case betterment is 2000 - 1512 = 488 and not 1100 dollars per acre. Likewise, the welfare loss for lost rights is not identical to the difference between the two market values. Suppose that in a similar situation where development was expected, down zoning takes place. If

the land was worth $2000 per acre before down zoning took place and $900 in agricultural use after down zoning, then compensation payments for lost development rights should not be $1100, but $488 per acre (2000 - 1512), since the farmer does not incur the costs associated with terminating, transferring and moving the farm.

5.5.2 Opportunity Costs Associated with Forced Retirement

Forced retirement is also associated with higher costs which must be paid in order to make the land available for urban use. Suppose a 55 year old farmer is planning to retire at age 65. His land is zoned for residential use and he is contemplating to sell his farm. What minimum price must he receive in order to be as well off as he would be if he continued farming, retired at age 65 and sold his farm for agricultural use to his son? Suppose the agricultural use value of his land is currently $900 per acre and he expects that if his land was not zoned residential, the present value of his land 10 years hence will also be $900. Suppose that his labour and non-labour income is $125 per acre per year and that he is not able to get off-farm employment. The value of his machinery and livestock is currently $300 per acre and he expects that the salvage value 10 years hence will be $225 per acre. Suppose that the farmer has neither a preference nor aversion for retirement till he is 65. If he stays in farming his marginal income tax rate is 10 per cent higher. What price should he receive for his land if he sold in order to make him as well off as he would be if he continued farming and sold at age 65 for agricultural use, assuming a discount rate of 8 per cent?

Suppose he was offered agricultural use value, then he would receive $900 for the land and $300 for the machinery and livestock. If

he continued farming and the land remained in agriculture after his retirement, he expects to receive the capitalized value of \$125 (labour and non-labour income) minus the additional tax annually for 10 years amounting to $\frac{125 - 12.50}{.08}\left[1 - \frac{1}{1.08^{10}}\right] = 755$ and the capitalized value of his machinery and livestock amounting to $\frac{225}{1.08^{10}} = 104$. Thus if he sells at age 65, the current value (present value) of his land, net labour and non-labour income, and machinery and livestock would be \$1759. Thus he would be better off continuing farming than selling his farm for agricultural use value. He would receive \$559 per acre more in that instance. In order to compute at what selling price he would be equally well off, additional costs must be considered such as capital gains and land speculation tax and real estate fees. (These taxes are waived and the cost avoided if the farm remains in the family). Making the same assumptions as in the previous example about these cost items, values at valuation dates and assuming a 20 per cent capital gains tax rate, the selling price Y would be:

$$Y - .20(Y - 250 - .05Y) - .20(Y - 605 - .05Y) - .05Y = 900 + 559$$

$$.57\,Y = 1288$$

$$Y = 2260$$

The farmer would not sell below \$2260 per acre, in spite of the fact that the agricultural use value of his land is only \$900. Therefore the \$2260 is the farmer's true agricultural opportunity value for land shifting to urban use. If he sold for less he would be worse off compared with retaining his current operation. The difference between \$2260 and 900 is not betterment, but an opportunity cost. Likewise those farmers who do not receive planning consent and possess an identical farm with a similar

value, cost, income and age structure do not lose 2260 - 900= $1360 per acre. Therefore, there is no reason that they should be compensated by $1360 per acre while in actuality they have not suffered any welfare loss. Only if the urban value prior to down zoning is above $2260 per acre, would farmers make a loss, for which compensation could be paid.

Although these examples are hypothetical, the figures are not unrealistic. Admittedly they depend to a large extent on the particular situation of each individual case. No claim is made that the hypothetical examples reveal some sort of average. But these examples show some significant points.

First, agricultural use value of the land is not the appropriate cost that matters for farmers. The real opportunity value from the farmer's point of view is often far in excess of this amount. If only agricultural use value were paid, not enough land would enter the market; only those properties which are up for sale for agricultural use could be obtained.

Secondly, development value appropriated by the farmer is considerably smaller than the difference between the two market values, which has important consequences for compensation payments and betterment charges. The new British proposals where land must be transferred at existing use value therefore seems unjust to farmers if no consideration is given to opportunity costs associated with terminating farming.

Thirdly, capital gains and land speculation taxes increase opportunity costs. Farmers' reservation prices could be affected, since these can never be lower than the opportunity value. However, these higher opportunity values would not necessarily lead to higher land values. If the equilibrium price of land is above the reservation price,

it would not have any effect on the price of land. On the other hand, if the price is equal to the reservation price then these taxes can have a price increasing effect.

5.5.3 Exact Measure of Welfare Change

The above analysis has shown that market values are inadequate to determine compensation and betterment claims. In addition, the existence of floating value makes market prices unreliable as measures for these claims. From an economic point of view, real welfare changes are the accurate measures. Welfare losses and welfare gains are by definition associated with individuals. There is no objective aggregate measure of these values, as is the case with registered prices; they must be ascertained case by case. Even a fixed compensation payment set by the government would not ensure that everybody is fully compensated for his welfare loss. The compensation payment must at least be equal to the minimum amount that the farmer is willing to accept in order to forego the option to sell for urban development.

Suppose that this sum set by the government is less than the minimum amount he is willing to accept, then he suffers a welfare loss. If he were free to act he could avoid this loss by refusing compensation and selling for urban development. In this latter case he runs the risk that he might not be able to sell for the price he had expected. He will include this risk factor in the minimum price he is willing to accept for compensation. However this option is not open to him, since the planning legislation forbids him to sell for urban use. Thus, the creation of a market in compensation claims where the appropriate compensation payment would be determined, is impossible.

The alternative is to assess compensation claims on an individual basis. If many individuals are involved, this would be a very costly procedure, apart from valuation difficulties such as for non-pecuniary items. The conclusion seems to be that the exact measure of welfare change cannot be obtained. If it were decided that compensation must be paid, a compromise figure is probably the best we can come up with.

As mentioned previously, compensation could also be based on hardship. Farming land in the urban fringe, expected to be developed, is associated with higher costs compared with areas with long run stability. In this case the welfare loss is of a different nature and does not necessarily bear any relationship to market values before and after planning announcement. The farmer is constrained in his business due to imperfect planning or a complete lack of planning. His welfare position could have been higher if he and others had known with certainty that society wants the area to remain in agriculture. The compensation payment in this instance must at least be equal to the minimum amount the farmer is willing to accept in order to make him as well off as he would have been if there had been no uncertainty about the future use of the area.

Again, these welfare losses are of an individual nature. It would be difficult to come up with precise estimates of such losses. How does one determine what a farmer might have done ten years ago if the environment in which he operated had been different? These payments cannot be determined on the basis of fair bargaining for reasons similar to those in the previous case. The government can set the conditions; the farmer does not have any alternative to accepting the compensation offer, in spite of the fact that it may not cover his welfare loss. A compromise figure is all one can come up with. This does not mean that

no indication of the magnitude of hardship can be obtained. One could compare earnings and retirement costs in the fringe area with those in purely agricultural areas possessing similar soil, climate and economic characteristics.

5.6 Different Views on Equity

The opinion whether or not compensation should be paid and betterment levied, depends to a large extent on one's views relative to equity. As mentioned previously, this problem has important political, moral and philosophical aspects, and these in turn to a large extent determine economic schools of thought.[1/] Basically, the following four combinations are possible:

1) no compensation - tax betterment

2) pay compensation - tax betterment

3) no compensation - no betterment tax

4) pay compensation - no betterment tax

5.6.1 Pay No Compensation and Tax Betterment

This view is closely connected with Ricardian rent theory, which considers rent as a residual payment which is exogenously determined. Rent is determined by output values and these are beyond the control of producers. Henry George carried the Ricardian theory further to urban land.[2/] These rents are determined by population growth and increased wealth, again factors beyond the control of individual land owners. Thus all development value is socially determined and society is entitled to these proceeds, not the individual land owner. Therefore if development

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1/ G. Myrdal, The Political Element in the Development of Economic Theory, (London: Routledge and Kegan Paul Ltd., 1953).

2/ H. George, op.cit.

value is created by planning legislation, society is entitled to it and development value should be taxed away. If, on the other hand, development value is lost under planning legislation, there is no need to compensate affected owners since they were not entitled to these gains in the first place. This view assumes that society is the legitimate owner of development rights.

The state could nationalize all development rights. In this instance they may compensate for existing rights at the date of enacting legislation. After this date all newly created development value belongs to the state and the need for compensation no longer exists.[1/] This view claims that the most equitable way to deal with the compensation and betterment problem is to vest all development rights in the Province.

This solution eliminates the problem of acquiring a sum of money to compensate affected owners after the day of enacting legislation. The problem of securing a sufficient fund to compensate for existing rights at the date of legislation, still exists. If rights are not nationalized, but the receipts of these rights are completely appropriated by the Province, the problem of compensation does not exist. This view is inconsistent with the treatment of gains from other production factors, unless these gains are considered as being earned when gains from land are not. Gains earned by nonland capital are not subject to a special tax. This view is also inconsistent with the functioning of the market. A 100 per cent tax will lead to a break-down of the market since all incentives to supply agricultural land for urban use are suppressed. This is also the case after nationalization of development rights. The consequence

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1/ This is one of the views developed by the Special Committee on Farm Income in, The Challenge of Abundance, the Report of the Special Committee on Farm Income in Ontario, 1969, p. 66.

of this view is to abandon the market and rely on some other institution to perform the tasks of the market.

5.6.2 Pay Compensation and Tax Betterment

This view considers free market conditions equitable. Any interference in these conditions leads to a disturbance of equity. This does not necessarily imply that the income distribution resulting from the free market is considered optimal, but interference usually means limitation of rights or shifting values due to limiting rights elsewhere. This interference in rights is considered inequitable, particularly when it involves curtailment of rights of a specific group. Equity existing under pre-planning conditions must therefore be restored. Planning modifies the market, resulting in gains and losses. The measures leading to these gains and losses are taken in the public interest. Therefore society must compensate those owners who lose and tax those owners who benefit from society's measures.

Another argument in support of this view is that compensation payments and betterment taxes are necessary in order to prevent corruption in the planning process. Local officials determine via the plan who will gain and who will lose. These officials are therefore subject to tremendous temptation. Compensation payments and betterment taxes will reduce these stresses and strains of the planning system. Corruption is closely connected with equity in the sense that society considers the outcome of corrupt practices as inequitable.

If the betterment is fully taxed, then an additional case can be made for compensation. The payment of compensation may be considered necessary in order to prevent a breakdown of the market. Developers may not be willing to buy land at a price in excess of agricultural use value

if there is a great deal of risk involved that their property will depreciate in value by administrative measures. If these possible losses cannot be offset by large gains elsewhere, because they would be fully taxed, the developers may shift their capital into other ventures and the market will no longer perform its functions properly, resulting in a lack of developable land. This assumes that developers perform a useful and necessary function in the development process.

If pre-planning equity must be restored on the basis of market prices, then this solution runs into the problems we encountered above, namely how to determine the amount of compensation in view of existence of floating value and the difficulty in determining the appropriate opportunity costs. This view is not entirely consistent with current economic thinking on government interference in other markets. For example, governments interfere in agricultural markets. Minimum wages are set in the labour market. Those who benefit are clearly not deprived of their gains and those who lose are not compensated for their loss. These measures are initiated with the sole purpose to make these benefits available for certain categories in society. On the other hand, government interference in the land market is usually not aimed at redistributing income, but at designing a socially preferable land lay-out. Income redistribution is a by-product of planning legislation. Therefore, one might consider the interference in the land market as not being similar to interference in other markets.

5.6.3 Pay No Compensation and No Betterment Tax

This opinion can be based on two different viewpoints: (a) The first view states that the government interferes in many markets either by restrictive or protective legislation or by participating in the

market as a buyer or seller in order to influence price. Although this interference affects welfare positions, nobody can claim compensation and the beneficiaries are not deprived of their gains. There is no reason why the land market should form an exception to this rule. Since the government acts in the interest of society, one could consider this view as a form of complying with standards of "good neighbourliness". Those positively affected pay income and/or capital gains taxes. In this case, beneficiaries pay part of the betterment, not via a special tax on betterment caused by planning legislation, but by a general tax. Thus land is treated similarly to any other production factor.

(b) The second view focuses on the function of ownership and asks whether private ownership is necessary in the development process. Private ownership is closely associated with the market. If private ownership is not necessary to secure efficiency in the development process, then presumably the free market could be dispensed with. A public agency could secure the land and could develop it or have it developed by private developers by putting the development of raw land up for tender. The public agency could secure land at existing use value.[1/] A slightly revised version is that public authorities pay existing use value plus a certain amount covering termination costs. Thus instead of paying

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1/ The new British Land Bill (1975) proposes this procedure. Development rights are already vested in the state in England. Since the market is likely to fail under these circumstances, land must be expropriated. The expropriation law is also proposed to be amended in order to facilitate expropriation procedures.

agricultural use value, they pay agricultural opportunity value of the land.[1/] It is obvious that in both instances the problem of compensation and betterment is eliminated, and hence there is no need to pay compensation or tax betterment.

These solutions have the great advantage that no public money is needed for compensation. The first view is also consistent with treatment of other factors in the economy. The disadvantage of the first solution is that it may exert increasing pressure on land values, since developers may try to offset their losses on land on which development is denied with charging higher prices for land which receives planning consent. This, however, would depend on the amount of land owned by the developer, their location, and his market power. If such lands are in the hands of only a few companies, then this inflationary pressure may exist. In a market with many developers, this would be more difficult.

5.6.4 Pay Compensation and No Betterment Tax

This view states that the market and private ownership are indispensible to secure that the land is put to its best use under the plan. The private developer and speculator fulfills useful functions such as communicating demand signals, assembling and rationing land, holding land so that there is always a ready stock available for development and bearing risk in the land development process. Therefore development

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1/ This procedure is followed by public agencies in the larger Dutch cities. It seems that a reasonable compensation for termination costs is paid, given the fact that expropriations are the exception. Ultimate housing prices may not be cheaper compared with a situation under free market performance, but all development value is now automatically seized by society since the public agency owns the land to be developed and acquires it at its opportunity value.

value is not an "unearned" increment but payment for real sacrifices. As a consequence, land owners are entitled to these payments and not society at large. It is wrong to tax development value (anyway by a special tax such as the Ontario Land Speculation Tax, presumably not by a general tax where all capital is subject to the same tax) and if development values are wiped out by planning legislation, these should be compensated for.

It cannot be denied that developers and speculators fulfill important functions, although their services may lead to excessively high land values. To a certain extent they provide services similar to those of speculators in other commodities. These speculators are entitled to their profits and no special tax is levied on their profits. This view is economically consistent, unless the rewards of land speculators are so exorbitantly high that a special treatment can be claimed. To state that all increments in land value above agricultural opportunity costs are necessary payments for the services of the developer in order to draw forth their supply, does not sound convincing.

Even if it were admitted that developers are entitled to development value, should the same treatment be extended to farmers? Do they fulfill a useful and necessary function in the conversion process? Their claim to development value can more properly be related to hardship. As indicated previously, agricultural production in the urban fringe can be expensive compared with agricultural areas possessing long run stability. Farmers are willing to put up with these inconveniences, nuisances and decreased efficiency in their operation in exchange for expected future development value. If government denies farmers these future price increases, then this may result in premature abandonment of farming in

the urban fringe and hence to excessive idling of land. Government policies are aimed at keeping farming in the urban fringe as long as possible with such policy tools as providing preferential assessment treatment for property taxes. The objective is apparently not to jeopardize food supply in the short run and probably also to prevent aesthetic spoilage of the fringe. These social objectives seem to indicate that farmers perform a socially useful function in the fringe for which they should be rewarded. The rewards of the nonland factors alone are apparently not sufficient to encourage farm production in the fringe. Hence, farmers are entitled to development value and if this value is wiped out by planning legislation, they should be compensated for it. The problem with this solution is that the magnitude of development value is not necessarily correlated with the costs incurred by hardship. The problem is how to determine the magnitude of the hardship. Compensating on the basis of market values seems irrelevant.

One could object that risk bearing is an important function in the conversion process performed by speculators, developers and farmers, if official land use plans exist. However, planners and governments change plans and these changes are subject to uncertainty. These changes involve down zoning to a lower use than designated in the official plan. Moreover, there are areas without any plan.

5.6.5 Summary

The equity considerations seem to depend on the following views with respect to:

1. The Market. Is the market (whether or not molded by administrative and political forces) an indispensable institution to allocate land between competing uses and users or could other institutions be relied

upon to perform these functions? If the market is considered a necessary institution, the equity solution must not impair market performance.

2. Ownership. Closely related to the market view is the opinion one holds relative to the function of private versus public ownership in the conversion process,and in land generally.

3. Causes and Measurement of Rent. Is the difference between market value for development and existing use value a pure rent or is part of or the entire difference an opportunity cost?

4. Function of Rent. Does rent fulfill an indispensable function in the economy or not? If it does not, it can presumably be appropriated by society without doing harm to the economy even if the losers are not compensated. If it does, the question arises whether partial appropriation has any effect on achieving optimal land use and efficient development.

5. Consistency in treatment with rent components of other production factors. Is land an exceptional case which needs special treatment or should it be treated in the same way as other production factors?

6. Income distribution effects. Does betterment widen income differentials and lead to a more unequal income distribution? Social equity requires a different solution of the compensation-betterment problem depending on whether or not the existing situation leads to widening income gaps and on whether or not such increasing differences are socially acceptable.

7. Corruption. Is there a potential danger for corruption in the planning process which affects equity? If so, are compensation payments and betterment charges a necessary condition to prevent corruption?

CHAPTER 6

APPRAISAL OF POLICY TOOLS

In the previous chapters, problems related to high development values and the distribution of gains and losses resulting from planning legislation were discussed. Policies aiming at correcting an undesired redistribution of income resulting from planning legislation must use existing or newly-created tools to achieve that objective.

These tools can be classified as direct or indirect. The former aim directly at the distribution of gains and losses resulting from planning legislation, while the latter aim at other objectives, but indirectly affect the distribution of income related to changes in planning legislation. The indirect tools can in turn be divided into two groups, a) those aiming at reducing development value, and b) those aiming at improving economic conditions in industries which are permitted in "down-zoned areas".

6.1 Direct Policy Tools

Policy tools in this category include conservation easements, nationalization of development rights, transferable development rights, and transfer payments to local municipalities.

6.1.1 Conservation Easements

Property was defined as a "bundle" of rights to control. The bundle can be split up and public agencies could buy certain critical rights, such as the right to develop the land. Such transfer of a separate right is called an easement. Conservation easements are aimed at preserving open space and could be used to preserve prime agricultural land. Owners of land could sell the right to undertake nonagricultural

development to the government and are thus compensated for a decrease in land value caused by the fact that the land can no longer be developed. If the aim is permanent preservation of prime agricultural land, then these rights must be bought in perpetuity. Otherwise the right could be bought for a specified period of time.

Two separate cases can be distinguished. These rights can be bought when the occasion arises, such as in an area which was under urban pressure but got a permanent agricultural designation in the Official Plan. The other case is the purchase of these rights throughout the entire Province. In this latter case, the government buys up all development rights. The intent in the first case is to compensate owners for loss of development value due to planning legislation, while the intent in the latter case is to ensure that all future development value accrues to the Province. Once all development rights are vested in the Province, the problem of compensation and betterment no longer exists. The first case can be called a "continuing solution" while the latter case is a "once-for-all solution" to the compensation-betterment problem.

There is a number of problems associated with conservation easements. For the conservation of large blocks of prime agricultural land, it is necesary that everybody in the area relinquishes his rights. Voluntary sales may not suffice to acquire the rights of large blocks of land. If all rights cannot be acquired voluntarily, one must fall back on zoning with or without compensation or these rights must be expropriated.

The second problem is to assess the value of development rights. Ciriacy-Wantrup[1/] mentions several factors which might be included in the

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1/ S.V. Ciriacy-Wantrup, "The "New" Competition for Land and Some Implications for Public Policy", Natural Resources Journal, Vol. 4, No. 2, (October 1964), pp. 252-267.

evaluation of development rights, such as the distance to existing urban centers in combination with market transactions as benchmarks; basic factors such as climate, soil type and groundwater supply; and legal, political and administrative safeguards. As mentioned in the previous chapter, there is evidence that land is overvalued around urban centers, even far into the countryside from these centers. To use these overvalued prices as benchmarks for appraising development rights would seem to provide excessive compensation for owners whose land will be preserved for permanent agriculture. Moreover, prices for land shifting to urban oriented uses compensate the farmer for termination costs (including capital gains and land speculation taxes). However, for the preservation of agricultural land, these termination costs are not incurred and therefore there is no reason why they should be compensated for.

As indicated in the previous chapter, farmers in areas under strong urban pressure may suffer hardships. In cases where hardship was incurred in the past, it should be taken into account in appraising easements, but these hardships do not necessarily correspond to current market prices. Although conservation easements are a legal tool to deal with the compensation problem, the evaluation problem discussed in the previous chapter is still unresolved. Even if the compensation problem were satisfactorily resolved, there is still a huge financial problem. The purchase of these easements requires large public funds, which taxpayers might not be prepared to provide.

6.1.2 Nationalization of Development Rights

This implies that all development rights are vested in the Province by means of enabling legislation.[1/] Such a program does not rely on

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[1/] This was one of the tools recommended by the Special Committee on Farm Income in Ontario in their report, The Challenge of Abundance, 1969, p.66.

voluntary sale. Compensation is paid only for the development value that exists on the enacting date. The purpose is not primarily to give compensation for lost rights, but to ensure that all increases in future development value are automatically appropriated by the Province. Such rights must also be bought in perpetuity. Where development pressures are nonexistent or weak and where no nonagricultural development is expected in the next twenty or thirty years, the value of such rights is close to zero. Nevertheless, appraising poses the same problems as mentioned in the previous case.

There are some additional problems associated with this policy tool. Land in areas which will be developed in the future must be secured for that purpose. A developer must buy agricultural land from a farmer for the agricultural use value and development rights from the public authority. However, farmers will not part with their land if they are only paid agricultural use value. This value is usually insufficient payment for terminating farms. Thus, the market breaks down and one must rely on other institutions, such as expropriation, to secure land for development.

The courts would probably require compensation for termination costs. The Act specifies that compensation shall be based upon (a) the market value of the land, (b) the damages attributable to disturbance, (c) damages for injurious affection, and (d) any special difficulties in relocation.[1/] If agricultural use values have gone up over time, the seller must pay capital gains taxes and possibly land speculation taxes. One wonders whether the courts would consider this as injurious affection. Farmers whose land is expropriated are obviously worse off, if their land

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1/ The Ontario Expropriations Act (July 1974), art. 13, p. 10.

has gone up in value, compared with farmers who continue the operation and thus escape these taxes. Expropriation would be an extremely costly and cumbersome procedure to acquire land for nonagricultural purposes and would probably delay development considerably.

Even in cases where a high value was paid for development rights in the past, this value cannot be considered as compensation for termination costs where ownership has changed. This is particularly important where development takes place say 20 to 30 years after the government bought the rights. In this instance, a new generation is farming. If their land is needed for development, they incur termination costs for which they did not get any compensation in the past. This problem could be overcome if developers buy the land for a price in excess of the agricultural use value and the public authority sells development rights at a lower value. But it is unlikely that a free market will resolve this problem. If land values go up too much, the purpose of the policy tool is nullified. As in the case of conservation easements, this program requires large public funding.

Although the major objective of this tool is to ensure that all future development value accrues to the state, it has advantages for efficiency in the agricultural industry as well. Farmers would no longer have to pay highly inflated prices for land in rural-urban fringes. The land would change hands at existing use value, since the development rights are no longer owned by the seller and hence are not incorporated in the transfer. Inflated prices for land which are likely to remain in farming are a threat to the agricultural industry.[1/]

[1/] R.S. Rodd and W. van Vuuren, op.cit.

6.1.3 Transferable Development Rights

This is a new technique of land use regulation which has been proposed in several parts of the U.S.A., such as New Jersey, Maryland and Sonoma County in California. The technique is designed to preserve open space, meanwhile dealing with the large gains and losses which can accompany the attainment of that objective. Although Maryland has enabling legislation for the transfer of development rights, no municipality has adopted it yet. This technique has not been practiced anywhere, except in the tiny community of St. George in Vermont.

The transferable development right (TDR) concept works basically as follows.[1/] A municipality must identify the area to be preserved. Once this area is designated, its residential, commercial or industrial development capacity or potential under current zoning or in the current Official Plan must be calculated and converted into development rights. These rights must be distributed among the property owners in the preserved area. The idea is to issue as many rights as nonagricultural development units are eliminated from the preserved area. For example, one right might be issued for each eliminated dwelling. For industrial and commercial development a conversion ratio is needed to attain the number of rights. Development rights can be issued on the basis of acreage owned or on the basis of the value of the particular tract in relation to the value of all land in the area. The municipality must also designate an area on which higher density development will be permitted compared with current zoning or current designation in the

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1/ B.B. Chavooshian, T. Norman and G.H. Nieswand, "Transfer of Development Rights, A New Concept in Land Use Management" (Rutgers - The State University of New Jersey, New Jersey).

Official Plan. The total permitted increase in density in this area will depend on the number of outstanding development rights issued as a result of the designation of the preserved district. A builder who wants to build at the higher density must purchase development rights equal in number to the increased density and at a price arrived at in a market. The total development units planned in a municipality does not change, but there is a change in the siting and the density at which development takes place. Owners in the preserved area can sell their development rights, which are needed to build at a higher density in the permitted or transfer area. Those owners whose land is downzoned for permanent open space or permanent agriculture, are compensated by the value of their development rights determined in the market.

Continued marketability of development rights must be ensured by adequate "incentive zoning" in the developable districts. If a builder chose not to build at the new permitted higher density, he would create a surplus of development rights equal to the number he could have used and for which there is no longer a market. In this event the municipality would be required to rezone in order to prevent a break down of the market. The rezoning must be done in such a manner that a market for all outstanding development rights is maintained.

This land use control technique has the great advantage that no public funds are needed to compensate losers. However, there seem to be some inherent problems associated with this technique which might detract from its success.

First, on what basis are development rights issued in the preserved area? It is most likely that development value will vary over the entire preserved area. Therefore to issue these rights on the basis of

acreage does not seem fair. To issue them on the basis of current land value of the particular tract relative to the total land value of the area assumes that current land values are highly correlated with development values. This is not necessarily so. Certain parcels could have a high land value due to their potential in agricultural use, such as land where special crops are raised (tobacco, fruits, etc.) or due to large investments. Moreover, issuing rights on the basis of current market values assumes that these values can be obtained by comparing actual market transactions with "comparable" properties. But what "comparable" properties are, is difficult to define. Consequently, these rights must necessarily be issued on a somewhat arbitrary basis.

Secondly, in order for these rights to have value, development value in the transfer area under the denser use must be higher than this value under the previously permitted use. Development value can be higher due to two reasons: a) people are willing to pay a higher price per acre for the denser use, and b) the cost of development per acre is lower due to economies of scale. The first reason may not always be applicable. Some people may be prepared to pay more per acre for the less dense use if they value low density use more highly than high density use. Economies of scale are probably prevalent. However, the magnitude of these cost savings and the higher price that people are willing to pay for the denser use may not be such that developers could pay a price for these rights which compensate owners in the preserved area for their lost rights.

Thirdly, the development cost on land in the transfer area might be higher than in the preserved area and consequently development value in the transfer area will be lower. This points up a likelihood that

farmers in the preserved area cannot be fully compensated for their loss by selling their rights. This is the same problem of shifting value as encountered in the previous chapter. This problem must be clearly distinguished from that of floating value. There is probably overvaluation of land prices in the preserved area. Obviously, a TDR program can never compensate for overvaluation. But the problem at hand concerns the likelihood that farmers will not be compensated for the loss in the true actuarial value of their land. If this is the case, it will reduce the incentive of owners in the preserved area to support a T.D.R. program.

Fourthly, it is not clear how such a program would work in a large area. The studies in the U.S. all refer to single municipalities. The preservation of prime agricultural land transcends municipal boundaries and the Ontario government has a much greater jurisdication in this regard than the states in the U.S. For example, it is likely that in Ontario certain areas not containing prime agricultural land which were zoned agricultural, will under this system be rezoned to a higher use. Developers must pay a price for this land sufficiently high to encourage farmers to abandon their land. The higher the price paid for raw land, the less money will be available to buy rights.

There is no certainty that farmers in the preserved areas can be fully compensated for their lost rights if municipal boundaries are transcended. In addition to differences in development costs between the preserved and the transfer area, differences in economic and social activity between the two areas may also prevent the full shifting of development value. Suppose that the transfer areas are new town sites away from metropolitan areas and the preserved areas are adjacent to metropolitan centers. The level of economic and social activity in the

new town sites is likely to be lower than in metropolitan areas. There is evidence that this is so. As indicated in a previous chapter, farmers around metropolitan centers receive considerably higher excess values above their agricultural use value than farmers at the new town sites when they sell land for urban development. This is a strong indication that development value around the former areas are higher than around the latter areas. The loss of development value would be reflected in the price of development rights.

These rights might have a very low value in the market depending on the reservation prices for land set by farmers in the transfer area, the development costs in that area and the price the consumer is willing to pay for a lot. Low market values for these rights which are not considered fair compensation undermine faith in the market as an institution to deal with the compensation problem.

Fifthly, it is not clear that a fair price for these rights results in the market, regardless of the previous problems mentioned. The market outcome determines who bears the ultimate burden of preservation. There is no guarantee that such market for rights is well-organized and well-informed with many buyers and sellers none of which can affect the price. In a situation of only a few developers, an oligopolistic situation may emerge. If developers exert a great deal of market power, they could appropriate a large part of the gain. In that case farmers may not be compensated for the loss in actuarial value of their land in the preserved area and they bear the burden of preservation. Field and Conrad have shown in a recent article that the organization of such a market is crucial to the outcome.[1/] Minor variations in the

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1/ B.C. Field and J.M. Conrad, "Economic Issues in Programs of Transferable Development Rights, " Land Economics, Vol. 51, No. 4 (November,1975), pp. 331-340.

institutions and transfer rules governing these programs can result in significant differences in their efficiency as well as in the distribution of the costs and benefits. It seems that a public authority must assume important roles, such as determining the conversion ratio (the number of rights needed to erect one development unit) in such a market. This requires knowledge of demand and cost functions of the development industry and the supply function of holders of these rights. The public authority most likely lacks this information. The complications of the establishment of a market for development rights are not yet sufficiently investigated.

It is expected that enabling legislation in New Jersey will be passed soon. There is great interest expressed in this technique by many municipalities in that state. Currently they are in a process of making "trial runs". Once this planning tool is introduced, we can get more practical experience and learn from its shortcomings. However, even if the program worked satisfactorily in the U.S.A., it would probably have to be modified considerably to suit Ontario conditions.

6.1.4 Compensation Payments to Local Governments

The compensation-betterment problem not only relates to individuals, but also to local governments. Municipal finances may be affected by planning legislation. The preservation of open space may preclude municipalities from increasing their assessment base. It may be questioned whether the total assessment base is a relevant variable in this instance. It might be better to consider the effect of increasing levels of development on the assessment base per capita. It is not entirely clear either whether taxes per capita decline and service levels increase if development in a municipality expands. This seems to

depend on many factors, such as whether economies of scale can be realized and the kind of development that is promoted. For example, it is questionable that the rapid intrusion of nonfarm residential housing in the rural countryside in large parts of Southern Ontario in the last decades has improved municipal finances.

In another research study being carried out by this writer, preliminary findings are that an increase in population in rural municipalities is highly correlated with a decrease in the total average assessment base per capita and that such decrease leads to lower taxes per capita. A lower average assessment base per capita is an indication of a decreasing wealth level per capita in the municipality, and hence of a lower capacity to pay taxes and provide services. If the assessment base per capita is kept constant, then no effect of an increase in population on taxes per capita is noticed. The preliminary results of this research do not support the hypothesis that municipal finances in rural areas deteriorate if development is prohibited or that these finances are improved if development and population growth takes place.

Although transfer payments from the Province to the municipality are already important, they are not usually provided on the basis of denied development. However, some of these transfers are in lieu of foregone taxes, for example when provincial parks are created. Before this policy tool is used on a larger scale to compensate for possible negative effects on municipal finances resulting from planning legislation, it is necessary to gain a better insight into the factors determining these finances.

6.2 Indirect Policy Tools

The primary aim of these tools is not to solve income distribution

problems resulting from planning legislation. However, indirectly they influence incomes of those who are affected by such legislation. The indirect tools can be divided into two major groups: (a) those aiming at reducing development value, and (b) those aiming at improving economic conditions in industries which are permitted in "down-zoned areas".

The reduction in development value would decrease potential gains and losses from planning legislation. A reduction in possible losses alleviates pressure on the government to pay compensation for lost rights. Policy tools which improve the economic conditions of permitted uses in down-zoned areas, are sometimes referred to as "in-kind" compensation. This kind of compensation lessens the urgency to compensate fully for a reduction in market values resulting from a change in planning permission.

6.2.1 Policy Tools Reducing Development Value

Three major sets of tools can be used which might reduce development value, namely land speculation taxes, measures to increase the supply of developable land, and pricing of public services.

6.2.1a Land Speculation Taxes

In the previous chapter the general principles of a land speculation tax were discussed in relation to taxation of betterment. The conclusion was that the short run effects may differ from those in the long run. In the short run one might expect price declines of land due to decreased demand and increased supply, unless the tax is considered not to be permanent. The long run effects are more difficult to predict. One might expect decreased demand resulting in lower prices. On the other hand, farmers will include this tax in their reservation

prices. If demand decreases to such an extent that the maximum price developers are willing to pay falls short of farmers' reservation prices, one might expect a shortage of developable land. Such shortage in turn might drive up land values. In an imperfect market it is difficult to predict what will happen; the tax may be passed on to the consumer partly or entirely.

6.2.1b Policy Tools Affecting the Supply of Developable Land

As was indicated in previous chapters, supply of land for development affects land values. In chapter 4, a negative association was found between supply and the price of raw land. One cause of restricted supply of new house lots in many cities is provided by planning regulations. The approval process takes time, which in the short run may limit supply. In cases where the planning process puts limitations on the amount and location of land and the conditions under which it can be developed, a scarcity might be artificially created. Derkowski[1/] and Clayton[2/] both see these artificial scarcities as causing high land values. The solution obviously cannot be to do away with planning. The planning process, however, must be made as efficient as possible. On the other hand, it must be recognized that an improved lay-out of the different land uses cannot always be obtained without paying a price for it.

In addition to facilitating the planning process, two additional policy tools can be used to increase the supply of land for urban development and decrease its development value. The first tool is the

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1/ A. Derkowski, op.cit.

2/ F.A. Clayton, op.cit.

siting of new towns. This does not necessarily increase total supply of developable land in the Province, but it merely shifts development away from areas with heavy pressures. As shown in chapter 4, raw land values around large metropolitan areas are considerably higher than in areas with lower population levels. The level of economic and social activity and the locational factor are both important influences. The radius to the center of a city (the employment and service center) is considerably smaller for new towns than for expansions to existing cities and hence transportation costs are appreciably lower. Siting of new towns relieves the strong pressures on land values around existing metropolitan areas.

The second tool used in increasing urban land supply is public land banking. The objective of public land banking is to restrain the rapid rise in the price of land, mainly by means of reducing speculation and increasing market supply. Carr and Smith explored in a recent article whether or not public land banking leads to reduced land values.[1/] They conclude that in a competitive market public land banks could lower prices if land banking reduces the equilibrium level of speculative holdings or the reservation price of speculators. But this may not happen unless the reduction in speculative holdings exceeds the size of the land bank. Probably of more importance is the effect of public land banking on oligopolistic structure of the speculative market, since public land banking increases competition and forces reservation prices of speculators down. However, the introduction of a public land bank necessitates the purchase of a large initial inventory, driving raw land values up. Moreover, the land bank must replenish its inventory constantly.

1/ J. Carr and L.B. Smith, "Public Land Banking and the Price of Land", Land Economics, Vol. 51, No. 4 (November 1975), pp. 316-330.

A third tool is the timing and distribution of public services. In many instances, developers can only build where water and sewage services are available. If these services are not available or do not keep pace with increasing demand for them, then a scarcity of developable land is created.

6.2.1c Pricing of Public Services

As mentioned in chapter 2, the benefits of man-made amenities and investments are capitalized into land values if beneficiaries do not pay the full costs of these services either by direct charges or user taxes. If the benefit to the marginal user exceeds the charge levied, there is excess demand for the service and competition for the limited supply will result in bidding up land prices. An appropriate pricing system for these services will preclude the capitalization of unpaid-for benefits into land values. Benefits derived from locational advantages of such services would still be capitalised into land values, unless a system of discriminate pricing, based on location, were to be designed.

6.2.1d Conclusion

The above policy tools all aim at a reduction in development value, but it is not clear how effective they are in attaining this objective. To a certain extent their efficacy depends on the market structure. In cases where these tools are effective, one might expect a general decrease in land value, not only at the particular sites transferred for urban use, but in a wider area around these sites. It will influence future expected prices and might dampen overoptimistic expectations about future land value increases in general. A lowering of development value thus reduces the potential gains and losses which might

result from changing planning conditions.

6.2.2 Policy Tools Providing Compensation In Kind

The objective of policies to provide compensation in kind is to raise the profitability of those uses in down-zoned areas which are permitted. The objective of preserving prime agricultural land cannot be attained solely by zoning legislation if the economic conditions are not favourable for agriculture. Certain policy tools deal specifically with improving economic opportunities in agriculture. Areas which are down-zoned to agricultural use or permanently frozen for agricultural use will benefit from these policies. Most forms of "in-kind" compensation deal with the entire agricultural industry, regardless of location. Farmers not subject to losses due to planning legislation gain equally from the policies. The tools used in attaining this policy objective are price and income stabilization programs and certain tax reliefs.

6.2.2a Income Stabilization Programs

It is not intended to discuss income stabilization programs in this study. However, the introduction of these programs concurrently with planning legislation to preserve prime agricultural land may prevent large price declines of these soils and thus eliminate the need for compensation.[1/] A wide variety of stabilization programs exist. Lately, attention has been focused on stability of net farm income. In many provinces income assurance programs have been set up.[2/] The characteristic of any price support program or income assurance program is that over the long-run the average returns from farming are higher than they would have

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1/ This has been the experience in British Columbia. See G.G. Pearson, op.cit.

2/ For example, in Ontario the Beef Cow-Calf Income Assurance Program was established in 1975.

been without these programs, unless these programs severely decrease efficiency from what it would have been without the programs. The difference between the higher income resulting from the program and the income which would have resulted from non-intervention is usually paid by governments[1/] or, in cases where the level of supply is reduced by quotas, by the consumer. These higher incomes are derived from several production factors. One expects that those production factors with the most inelastic supply will show the highest price increases.

In the short run, land, operator labour and certain forms of fixed capital are all inelastic in supply. In the long run, land is expected to display the greatest inelasticity of supply. Therefore, one expects that in those enterprises where land is a crucial input in the production process, most of the benefits of such programs will be capitalized into land values. This is contrary to the intent of the program, because it would provide no benefit to new entrants. Although land value increases may reduce or eliminate the necessity for compensation, which from the government's point of view may be a short-run fringe benefit of the program, the prime purpose, however is not to increase land values in down-zoned areas, but incomes. Land value increases lead to higher production costs in the long run and therefore to lower incomes. Even if land values in down-zoned areas do not go down compared with the pre-planning situation,[2/] land values in other areas not affected by planning

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1/ In British Columbia the cost of the income assurance program to the government in the form of premiums is equivalent to 5-6 per cent of farm cash receipts covered. See G.G. Pearson, "The Impact of Farm Income Assurance and Other Formula Pricing Upon Agricultural Stability," Canadian Journal of Agricultural Economics, Workshop Proceedings, 1976, pp. 53-58.

2/ Ibid.

legislation are expected to go up due to the introduction of income assurance programs. Although land values in down-zoned areas may not be affected in an absolute sense, they may still be affected relative to other areas. The magnitude of land value increases will obviously depend on the level of support.

6.2.2b Tax Relief

At the time the Ontario government introduced the Acts to Provide for Planning and Development of the Parkway Belt and the Niagara Escarpment, they also introduced legislation giving farmers preferential treatment for gift taxes and succession duties. One of the arguments used by the government against paying compensation for lost rights in the new open space legislation was that the preferential treatment on gift taxes and succession duties would boost agricultural profitability in the down-zoned areas. However, this legislation applies uniformly over the entire province, therefore the intent was not to increase profitability in down-zoned areas but to improve the economic performance of agriculture in general.

The Act on Gift Taxes provides for a tax waiver on a once-in-a-lifetime gift of $50,000 worth of farm assets. This provision is extremely preferential for the farming industry; no other individual or industry is granted such treatment.

The Act on Succession Duties provides for a cancellation of these duties on farm property that passes to members of the family of the deceased ordinarily resident in Canada where the land continues to be farmed by the family. The duty is cancelled in equal amounts over the twenty-five years following the death of the deceased,but if farming ceases to be carried on by the family on the farm property, the remaining

duty that has not been cancelled as of that date will become payable.

Not only the total value of the estate is affected by these two acts, but also the duty rate. Since the value of the farm as well as a $50,000 tax-free gift in farm assets can be deducted from the aggregate value of the estate, a lower rate is paid on the remaining taxable estate value.

The capital gains tax is waived on sale or inheritance of a farm if it is retained in the family (direct descendants). If sometime in the future the farm is sold outside the family (for farming or other purposes) capital gains taxes are paid on the total appreciation accrued following valuation day or purchase date if this falls after valuation day (January 1, 1972).

The impact of these preferential treatments is that in the long run the equity position of farmers will be higher than it would be without such treatment. Since possession of land is a condition of eligibility for the treatment, one might expect that this will increase the demand for land. Those already belonging to the preferential group become more reluctant to sell to others than direct descendants, resulting in a reduced market supply of land. A brisk demand and laggard supply may result in high land values.

6.2.2c Conclusion

Policy tools providing "in-kind" compensation have reduced political demands from farmers to compensate for land value losses due to changing planning laws. Politically these tools have been very expedient. Demand for these programs emanate from the entire agricultural industry. These programs therefore satisfy two objectives, they increase economic viability in agriculture and thus satisfy

political demands of an important sector in society and they eliminate the need to compensate for lost rights resulting from downzoning where land values remain more or less at their earlier level. The equity problem among farmers is still unresolved. Farmers who lost rights may not be any worse off in this instance, but they lose relative to farmers not subject to these losses. There is a strong likelihood that in the long run these policies result in a general increase in agricultural land values and hence in increasing agricultural production costs, instead of an increase in agricultural incomes.

6.3 Conclusion

The distribution of use rights and consequently the distribution of income can be severely affected by planning legislation. Such redistribution poses several problems to society such as creating a socially undesirable income distribution and producing a potential climate for corruption.

These problems may be reduced by taxing betterment and paying compensation for losses arising from such legislation. Whether or not taxation and compensation should be used simultaneously, the extent of such use and the extent of the taxes and compensation payments are largely matters of opinion about equity. Compensation and taxation are not easy to administer. There are many problems associated with these policy objectives, such as determining the amount of compensation, the occasion of compensation and the maximum taxing capacity in order to prevent a breakdown of the market.

The use of market values before and after planning announcement as benchmarks for the determination of compensation payments was rejected in this report. Market values are usually surrounded by a halo of

objectivity and, by implication, fairness. Courts usually consider market values also as being objectively determined. However, this study has shown that land prices are not necessarily determined in a market where no individual can influence the price. In addition, current prices seem to be highly affected by overoptimistic expectations. These expectations set a mood for establishing high reservation prices. The greater the extent to which reservation prices exceed agricultural opportunity values the more agricultural land is withheld from the urban land market. The short supply results in high land values. Where the expectations underlying the determination of reservation prices are not realistic, the resulting market price of the small quantity entering the market bears little relationship to the present value of all the land which has a probability of being developed some time in the future. It is not justifiable to use these market prices as benchmarks to evaluate properties which have not entered a market. To compensate on the basis of market prices from a few isolated sales would result in excessive payments and would seem to be unfair to those who must foot the bill.

Fair compensation in economic terms is considered to be equivalent to the real welfare loss, called "compensating variation". This compensation payment is not necessarily related to market prices. Even if market prices were not overvalued, they still cannot be used to evaluate welfare changes. Market prices for agricultural land shifting to urban use include compensation for termination costs of farming, but these are not incurred by those who remain in farming in down-zoned areas. Thus farmers who gain by selling for urban development if they are permitted to do so, gain less than the difference between the price of raw urban land and agricultural use value and farmers who are

prevented from selling lose less than this difference.

The real welfare change must be assessed in a different manner. Welfare changes and hence the compensating variation differ among individuals. There is no reliable way to establish the amount of such compensation. It cannot be determined by bargaining, since fair bargaining assumes that there must be an alternative to accepting an offer. If this alternative is not available, fair bargaining is impossible and the true magnitude of the compensation variation cannot be established. If the legislation or the courts provide for compensation, the compensation should be the minimum sum the farmer is willing to accept in order to allow his land to be down-zoned to permanent agriculture. If the offer is lower than this minimum sum, the farmer has no recourse under the planning legislation, except through the courts.

Similar reasoning to that above, concerning the estimation of compensating variation, is also applicable to assessing the maximum amount of betterment taxation. However, this is further complicated by the possibility of market breakdown resulting from excessive betterment taxation.

All of the policy tools which have been proposed to deal directly with the compensation-betterment problem, inherently contain the problems posed above. Conservation easements, nationalization of development rights and transferable development rights pose major problems in appraising these rights. This chapter has also outlined other problems which make it difficult to use these tools effectively.

Major emphasis should be placed on the development of tools which reduce development value, particularly in those instances where these high values do not play a socially efficient role. Tools for

"in-kind" compensation have the disadvantage that they tend to increase land values in the long run rather than providing higher incomes and improving economic conditions in areas preserved for permanent agriculture. If the benefits are capitalized into land values, the long-run effect is an increase in production cost, particularly for new entrants, and the objective of the program is thus not achieved.

The compensation-betterment problem is a complicated one. The complexities involved have been outlined in detail and the conclusion is that no operationally satisfactory economic solution to the problem exists. Any solution must be based on some kind of arbitrariness from the economic point of view. This does not imply that no acceptable political, moral or legal solution exists. However, any proposed compensation-betterment scheme must be looked at with concern for the implications and repercussions that it has on all economic and other social concerns.

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