A Review of the Taxation of Property: Local Government Rates in Victoria[1]

David Johnson*

The paper reviews the taxation of property in Victoria and in particular the method of raising revenue for local government from rural landowners. A major contradiction between the apparent philosophical basis and its application is identified. A modification to the existing method of calculation is suggested based on the use value of rural land. The advantages and disadvantages of the use value modification are discussed and compared to the system of property taxes presently used. The use method system implies a changed incidence of tax on the three categories of taxpayer; farm, residential and commercial. The split between these categories for aggregations of local governments under the proposed situation and in the present situation is compared.

1. Introduction

Whilst the Australian tax-transfer system as a whole has been the subject of great public interest and study by economists, one area of taxation, the system of property taxation known as local government rating, has been relatively neglected[2]. Paradoxically, local government rates and associated matters have been much studied by social scientists other than economists through state appointed inquiries[3]. Unfortunately while the inquiries have dealt with local government revenue raising in a general sense they have not been particularly concerned with the methods used to calculate the tax paid by ratepayers.

The main objective of this article is to review the methods of taxing property by local governments in Victoria, particularly concerning farm land. Under current legislation individual local governments choose between raising tax on the basis of the rental value of the property and raising tax on the basis of the capital value of the property. However for local governments choosing to tax on the basis of rent the situation is more confusing because some classes of taxpayer, namely farmers and homeowners, are, *de facto*, taxed on the basis of capital.

In this article a modification is suggested to the rent-based system of local government taxation which ensures that farmland is taxed on its rental value rather than its capital value. The modification implies a changed incidence of tax on the three classes of (local government) taxpayer; farm, residential and commercial.

The base chosen for local government taxation may unduly favour particular classes of taxpayer. An alternative is suggested in which rating is based partly on rent and partly on capital. The relative burden on each class for aggregations of local governments under this system and in the present situation is compared.

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* Senior Research Fellow, Institute of Applied Economic and Social Research, University of Melbourne.

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[2] Head (1990), in an overview of tax reform in Australia discusses issues of concern but makes no mention of property taxation. The much publicised National Tax Summit of 1984 contained very little discussion of property taxation. Groenewegen (1985) summarises discussion at the summit. Property taxation is briefly discussed in a standard Australian undergraduate text on public policy, Groenewegen (1990). The current system of rating in Australia is more fully described in Neutze (1977).

[3] See for instance Haratsis (1979), Voumard (1972), Morris (1986) in Victoria and most recently in New South Wales, Oakes (1990).

In the remainder of this introductory section the theory of taxation is briefly outlined, sources of taxation in Australia are described and the basis for raising local government rates in Victoria are outlined and problems with it are discussed.

Section 2 of the paper describes the present method for determining rates on the basis of rent, and a modification which uses annual data sources to monitor farm financial performance. The financial information is used to estimate the rent appropriate for farm land, overcoming one of the main problems with the present system, the arbitrary calculation of rent. It is applied in section 3 to estimate rent appropriate to Victorian farms.

In Section 4 the implications of using the new measure of farm rent, for the different classes of taxpayer, are drawn. A method for striking rates is suggested in which the balance between taxing of income and capital is made plain. In the final section some concluding comments are made.

1.1 A Brief Theory of Taxation

Standard economic texts on public finance (Groenewegen 1990 and Musgrave and Musgrave 1989) state that taxes were developed, historically, on the basis of two principles, the 'benefit principle' and the 'capacity to pay principle'. The benefit principle states that an equitable tax is one under which each taxpayer contributes in line with the benefits which he or she receives from the services provided from the tax. Under the second principle, the raising of the tax is viewed independently of the services it provides. A given total revenue is needed and each taxpayer is asked to contribute in line with his or her ability to pay.

Two sorts of benefits are available from the services provided by councils. One sort of benefit is the (unobserved) increases in property values which incur when infrastructure is provided by the council. The second sort is income-enhancing or cost-saving benefits, and in this instance, where the tax can be related to an observable benefit, so-called user-pays concepts may be an appropriate way of describing the justification of the tax[4].

Capacity to pay is almost always assumed to be capacity to pay out of current income. While increases in wealth through capital appreciation raise the ability to borrow and may eventually be liquidated in sales of assets, in many contexts including farming neither of these attributes can reasonably be regarded as increasing current capacity to pay.[5] Systems which depend on the rental value of the property may be regarded as systems based on capacity to pay since the rent is determined by the profitability of the enterprise.

Groenewegen (1990) states that modern economic policy generally has regard for three broader criteria of taxation: equity, efficiency and simplicity; which embody the two more traditional approaches described above. There are two aspects to equity, horizontal equity and vertical equity. Horizontal equity implies equal treatment for people with equal capacities to pay and vertical equity implies that those with different capacities to pay taxes should be treated differently.

[4] The distinction between the two classes of benefit are discussed by Oakes (1989). Under the first interpretation, a tax on the unimproved value of land is seen to capture for the community, some of the unearned increment in the value of land which is derived from public investment and from developments distinct from the individual owner's actions, ie the increased value of surrounding land. A difficulty is that prices (values) are determined by a host of factors and may vary markedly over time. Moreover the major impact on enhanced land values may derive from State or Federal rather than Local Government actions. The second interpretation is based on the proposition that those who benefit from the use/consumption of goods and services should meet the cost involved in providing those goods and services.

[5] Although in some particular instances imputed income from capital appreciation may be a quite appropriate method of estimating capacity to pay. Here, I have in mind the situation of urban fringe farms which are converted to urban uses. Allan Tunstall and an unknown referee drew my attention to this point.

The efficiency aspect refers to setting tax structures which are neutral with respect to consumer and business decisions. Almost all taxes interfere with the optimal decisions of consumers and businesses but some interfere more than others. For instance proportional taxes are likely to interfere less with decision making than regressive or progressive taxes[6]. However one should be wary about making quick judgements about the effect of taxes. Economists often deduce and classify the effect of a particular tax on the outcomes for, or responses of, the taxpayer. However the results of this procedure are not necessarily valid when account is taken of the wider effects of the tax. The wider effects, or general equilibrium effects, may be such that when they are known, conclusions about a tax are reversed[7]. Consequently the conclusions that may be drawn about the effects of a tax on efficiency are often quite complicated and may not be easily inferred.

The final criterion is that the tax system should be as simple as possible - to minimise administrative costs for both the collection agency (the tax department) and for taxpayers. A complementary requirement is that the tax should be designed to limit evasion.

An interpretation of the modern concept suggests that consideration for equity incorporates the ability-to-pay principle and that efficiency concerns are likely to require that those who benefit from a service should pay for it. However the modern principles cast a wider net; consideration for equity may suggest use of negative taxes for instance and concern for efficiency goes beyond 'user pays' to considerations of resource allocation. Whatever classification is used to guide taxation policy there is likely to be conflict between the component principles and all tax systems will involve compromise.

The analysis described above assumes that property rates should properly be regarded as taxes rather than charges. There is no definitive distinction between taxes and charges but in general charges are paid when the services provided can be confidently attributed to an individual taxpayer, whereas taxes pay for services which cannot be allocated to a particular taxpayer. In the case of many services provided by local government councils the services cannot even be assigned to residents of the council with assurance. For instance in rural Victorian councils much of the expenditure is for infrastructure (road and bridge) repair and maintenance which may be used by all Australians (of course council residents will also use facilities in other councils but it is not necessarily true that the respective burdens are equitably shared[8]). It seems reasonable to regard the payments of property owners for the services provided by local councils as taxes rather than charges[9].

1.2 Taxation in Australia

The amount of taxes paid by a particular taxpayer is the product of a tax rate and a tax base. For instance in the case of personal income tax the rate is the average rate of tax and the base is the taxable income of the taxpayer. In Australia taxes include those applied to income (personal income tax and corporate tax), to expenditure (sales taxes), to wage and salary payments (payroll tax) and to capital (local government rates).

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[6] Regressive taxes are those in which the rate of tax declines as the size of the base on which the tax is levied increases. Progressive taxes are those in which the rate increases as the size of the base increases.

[7] Piggott (1989) provides some examples where partial and general equilibrium measurements of the effects of changes to taxation have opposite outcomes.

[8] In 1991/92 Victorian LGAs on average, spent 15 per cent of total expenditure on roads and bridges, whereas rural shires spent 44 per cent of their total budget on roads and bridges. For details see Liew and Johnson (1992, tables 20 and 29).

[9] This view is supported by the Industries Assistance Commission (IAC 1989, p.7).

Currently these four main sorts of taxation yield respectively 55.6 per cent, 17.4 per cent, 5.3 per cent and 5.7 per cent of total tax income of all levels of government in Australia[10]. The proposal by the current Opposition party to widen the system of consumption taxation by the introduction of a new goods and services tax, and the accompanying reduction in income tax, highlights current interest in the mixture of tax used to derive the means for public expenditure. Both consumption and income taxes tax current money flows (indeed an accounting identity states that in aggregate, income is the sum of consumption and saving). Property-based tax, however, such as the system of local government rating, is concerned with a stock. This raises the issue of whether the considerations of equity described above, mostly concerned with current flows, can also be validly applied to a stock.

One way of tackling this problem is to convert the stock into a flow, most readily done by attributing an imputed income to the stock. The predominant method of rating among non-metropolitan councils in Victoria achieves this imputation by attributing rent to the improved capital value of rateable property. The method of imputation is a key concern of this article.

There are three levels of government in Australia and each level has resort to particular tax instruments. The Commonwealth government collects tax by levying personal income, companies, transactions and commodities. The state government collects tax levied on employment, commodities, transactions and property and the local government collects tax from levies on property (rates). Since the sources of income within each level of government do not match expenditure there are also major flows between levels. In particular the Commonwealth government, while collecting 80 per cent of total tax spends only half of this. The remainder is distributed to the states and to local government (via the states).

The fact that the federal government spends only a small part of the tax it collects and that the other two levels of government collect only a part of what they need to fund their activities has long been a bone of contention. From an efficiency point of view it would be preferable for each level of government to fund its own activities from its own devices. However consideration of this question, while of some interest, is beyond the scope of this article and in any case the reimbursement of a specific share of Commonwealth revenue to local government has recently been rejected by the Commonwealth[11]. In the short and medium term it seems likely that the status quo will remain. Consequently in this article it is assumed that the task of local government is to extract that part of their expenditure provided by local government rates from existing sources having regard to criteria of equity, efficiency and simplicity.

1.3 Local Government Rates in Victoria

In Victoria an average of 45 per cent of local government revenue is obtained from a tax on property owners known as rates. Until 1992 the basis of rating in Victoria was described in the Local Government Act of 1958 (see Government of Victoria 1958) and subsequent amendments. Under this legislation local councils had the option of levying rates on the basis of the Net Annual Value (NAV), or on the Unimproved Capital Value (UCV or site value). Almost all non-metropolitan councils in Victoria chose to strike rates on the basis of

[10] From ABS (September quarter 1992), catalogue 5206.0, table 29.

[11] See Howard (1985).

NAV[12]. For these councils the tax is calculated by applying a local government rate to an estimate of the annual rent (defined in the 1958 Act as 'fair gross rental less necessary costs and statutory outgoings') that the property could command[13]. For farms and residential property the legislation states that the NAV is taken to be 5 per cent of the Capital Improved Value (CIV) of the property (generally the most recent market value of the land including fixed structures) assessed by approved valuers and monitored by the Victorian Valuer-General's department[14]. In the case of the third type of rateable property, commercial property, the Valuer-General assesses the actual rental value of the property. The local government rate is chosen by each local government at whatever level is required to raise sufficient funds to meet the councils budget.

In 1989 the Victorian Government passed new legislation, the Local Government Act of 1989, (see Government of Victoria 1989) which gave local councils the option of levying rates under the same terms and conditions as described above or transferring to a new system. Like the old CIV system, rates in the new system (which I shall call the ICV system) are based on improved capital value but unlike the CIV system councils have much greater freedom to strike differential rates.

Since the total amount of funds raised from rates is independent of the mixture of property types (ie it is primarily governed by the sum needed to meet the functions of the council) changes to the rating system imply changes to the relative burden of ratepayers, both within each of the three categories and between categories. An argument which is in favour of reducing the burden on one class of taxpayer is also an argument in favour of increasing the burden on other taxpayers. Similarly consideration of the equity position of one class of taxpayers must consider the equity of other classes.

1.4 Discussion

Under the new legislation, councils opting to stay with the NAV system are still required to calculate rates for farms and residents based on an estimate of 5 per cent of capital improved value while rent for other property is determined by valuations by the Office of the Valuer-General. Consequently while rates for commercial property other than farms may fluctuate with the earning capacity of the enterprise, rates for farms (and residences) will fluctuate only with the capital value of the land. Should the rate of return and consequently rentals, on all types of property, fall, then farmers will be disadvantaged since they will continue to pay rates based on unchanged land valuations, while commercial property owners will have their rates reduced to match the falls in rental values.

This problem does not occur for councils opting for the ICV system since under that system all types of property will be assessed on property valuations. This solution, however, raises its own problem. Since rating is based on capital or wealth, all classes of taxpayer who are 'capital rich but income poor' will be disadvantaged.

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[12] Using information from Office of the Valuer-General (199) 92 per cent of rural LGAs used this method to rate farm property in 1989-90. The remaining 8 per cent use a method which uses site value instead of improved capital value to rate property. Rural LGAs are broadly defined as those in which the majority of residents do not live in an urban centre. Non-rural LGAs were almost evenly divided between those using site value (48 per cent) and those using NAV.

[13] The precise definition of NAV and other terms used in this paper is given in the relevant Act of the Victorian Parliament - see Government of Victoria (1958).

[14] I have been unable to find out why rental value is not directly estimated by the Valuer-General. Presumably it is because there is not sufficient information to do so, either because the market is too thin or because farms are too heterogenous or for other reasons. This point is elaborated in section 2.2.1.

While the 5 per cent is fixed for all farms the only means of varying the assessment occurs through changing the market value of the land. There is no recognition of the differing productivity of farms nor of the differing level of use of the services offered by councils. A farm on the outskirts of a major provincial city will have a much higher market value than a similar sized (and similarly productive) farm a long way from any urban development. The rating method ensures that the farm located close to the city will pay a much higher property tax than the farm far from the city yet both will have same current capacity to pay. In terms of current income the horizontal equity principle is violated. On the other hand a much larger farm with much higher total production far from the provincial centre may have the same market value and therefore pay the same rates as the farm on the outskirts yet will have a higher capacity to pay and may use the services of the council to a greater extent[15]. In this second example vertical equity is violated.

Given the unchanging nature of the rate used to calculate the NAV the current method is, in reality, a tax on the market value of the land. This system may be defended on the grounds that most of the benefits of the services provided by councils do accrue to property owners. In addition to the immediate benefits of service delivery additional benefits are obtained through enhancement of property values. For instance the provision of better roads provides an immediate benefit to property owners using those roads but also provides an additional indirect benefit since the better roads increase the market value of the land for which the roads provide access. A tax system in which the costs are met by the users is likely to be more efficient than one in which there is no such relationship.

In summary, under the new legislation LGAs have the option of taxing all their constituents on the same basis using a tax on capital (the ICV system), or maintaining the present NAV system which purportedly taxes on the basis of income, but in reality, taxes commercial taxpayers on the basis of income but residential and farm taxpayers on the basis of capital. The system does, however, score well in terms of simplicity, and there are very limited opportunities for evasion (as indeed is the case with all of the property-based tax systems).

Several alternative methods of rating farms have been suggested. A recent report to the New South Wales government has recommended that New South Wales farmers have their NAV calculated at less than 5 per cent (see Oakes 1989). Jones (1990) suggests that the property tax on farms should be related to the use of the land rather than its market value. This alternative is known as a use value system and to some extent has been implemented in Queensland (see Queensland Valuer-General 1990). Queensland property valuations may take into account the purpose to which land is put. Enabling legislation was designed to ensure that farm property on the outskirts of large urban and tourist areas could be retained in farm use where otherwise the high cost of rates might impel farmers to seek alternative uses for the land[16].

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[15] Allan Tunstall has pointed out that while the two properties may have the same capacity to pay out of their current income the property close to the city could reasonably expect to achieve higher capital gains. There may be some point at which urban fringe farms are deemed to be in the business of land speculation rather than in the business of farming. This is a definitional or zoning problem. In general my example is appropriate.

[16] In the valuation of land, Section 11(1)(vii) of the Queensland Valuation of Land Act allows for the disregard of the enhancement of value of farm land caused by the subdivisional potential of the land. The intent of this section is explained in a booklet (Queensland Valuer General 1987). The booklet states "with the ever increasing urban sprawl, lands conveniently situation to cane growing, small crops, orchard and other agricultural usage, were in danger of having those usages lost through the incidence of higher valuations because of the potential of those lands for industrial, subdivisional or other purposes, and consequently heavy rating. By the provision of concessional valuations to genuine farmers, the land has remained in primary production use".

Adoption of the Queensland legislation would have the same effect as calculating rents on the basis of use value, but the Queensland legislation is only relevant to the situation where land values are artificially raised by subdivisional potential. The method to be suggested in this article is more general.

A broader implementation of the use value system applying to all residents, not just farmers, has also been suggested. In this situation property owners are rated on services which provide benefits to property and individuals are rated on services benefitting individuals. However the pattern of benefits of council services among classes of resident is unknown. A change in the base is also likely to have quite profound effects and will not necessarily be politically acceptable. In the meantime the current property base is likely to remain the key source of LGA rate revenue.

2. The Calculation of Rent (NAV)

2.1 The Current Method of Estimating Rent

Rate revenue for the ith local government area (LGA) is the sum of revenue obtained from farm, non-farm residential (residential) and non-farm non-residential (commercial) sources.

In most rural LGAs the amount paid in rates by a typical property is calculated by multiplying a property rate struck by the LGA (which shall be called the LGA rate) by the 'rent at which the property might reasonably be expected to let from year to year after deducting the probable annual average costs of insurance and other expenses necessary to maintain the property' (Government of Victoria 1958). The rent or NAV is determined from valuations conducted by registered valuers and monitored by the Victorian Valuer-General.

If there are J properties in LGA i, of which j is a typical property, then in algebraic notation LGA rate revenue is given by;

(1) $\text{LGA rev}_i = \sum_{j(\text{LGA rate}i)} \text{x } (\text{NAV}_{ij})$, for j = 1,...J properties.

For commercial property the NAV is estimated directly from the rental potential of the property. For farm and residential property the NAV is set at 5 per cent of the Capital Improved Value (CIV) of the property. The CIV is the current market value of the land and fixed structures. The 5 per cent is supposedly the rate required to produce a reasonable estimate of the rent. To distinguish this rate from the LGA rate shown in equation 1 above it is called the CIV rate, ie for farms and residences,

(2) $\text{NAV}_{ij} = (\text{CIV rate}/100) \text{ x } \text{CIV}_{ij}$

and,

(3) CIV rate = 5.

Each year, each LGA sets a general LGA rate and a farm LGA rate. The general rate is applied to residences and commercial establishments and the farm rate to farms. Local governments have long had the power to strike a different rate for farms than for other property. By this means it would seem possible to redress any imbalance between farmers and other property owners from the method of estimating rent. In practice, however, farm rates vary little from general rates and the variation certainly does not match the variation in capacity to pay. While the power may be available, the local political climate ensures that the two rates do not much differ[17].

[17] For instance in 1990/91 among all Victorian councils the average rate for commercial/industrial property was 5 per cent higher than for farm property (see MAV 1992, table 7). Among rural-based councils rates for commercial/industrial property were about 20 per cent higher than those for farms.

2.2 A Modification of the Present System for Calculating Farm Rent

The major problem with the current system is the arbitrary method used to calculate NAV from improved capital value. As will be shown in the remainder of the article the estimate of rent of 5 per cent of the capital improved value is much too high in comparison to recent farm performance. A more realistic value is estimated from surveys of recent farm financial returns.

Evidence suggests that the rate is not too high for residential property. Yates (1992) suggests that 5 per cent is a reasonable rental value for residential property and some estimates have been made which suggest that residences have earned rents of up to 8 per cent in recent years. Yates quotes an EPAC source which has measured net after tax rates of return of 5-6 per cent.

The Australian Bureau of Agriculture and Resource Economics (ABARE) undertakes surveys each year of all major farm industries and calculates various measures of farm profitability (see ABARE 1990). This information is used to calculate a capacity to pay for each industry (expressed as a rate of return to farm capital for each major farm type ie sheep and wool, wheat and other crops, dairy).

The Australian Bureau of Statistics (ABS) undertakes an annual census of all Victorian farms each year. Information is collected which is used to describe the size and nature of agricultural enterprises. The data are available by LGA on magnetic tape (ABS, 1990) and abbreviated data are published in printed form (ABS 1988a,b,c and d).

Using the information from the ABS and ABARE the capacity of each enterprise to pay may be calculated within each LGA for Victoria as a whole, and the total capacity to pay of all farm enterprises in each LGA and for all Victorian farms may also be calculated.

The capacity to pay may then be used to make an estimate of the rent which might be obtained for farms in each LGA. This rent is directly related to the use value of the land and offers an alternative method to the present system which uses the fixed 5 per cent of the CIV of the land and fixed structures.

2.2.1 Using return to capital and management as a proxy for rent

There is no well established, readily observable market for the rent of many farm properties in Victoria. In many areas there is very little land rented, and, often where land is rented, it is rented either on a temporary basis, or the land so rented is not typical of farm land generally- frequently paddocks will be rented which do not include the full infrastructure normally present on a farm (buildings, yards, tracks, subdivisional fencing etc). In the farm context there is also much greater variability in financial performance due to exogenous influences like changes in overseas-determined commodity prices, or changes in annual productivity due to weather.

In the absence of a reasonable market determined estimate of rent various proxies may be considered. One possible alternative is to use the rent paid for the use of the same amount of capital in some other form of business. For instance 5 per cent of the CIV might be regarded as a reasonable long run estimate of rent for residential land. Historically it may even be the case that farmland achieved rates of return of around this level[18]. However, as shown below, this solution grossly overestimates the true rent which might be obtained from farm land in recent times.

[18] While detailed estimates of farm profitability are sketchy from earlier times when the method of calculating NAV was first promulgated, available evidence suggests that farm profitability has trended down over the long term (see for instance Gruen 1990 and Ockwell 1990).

The alternative used here is based principally on the capacity of the farm to pay.

From the renters point of view, rent is one of many costs which have to be more than covered (to allow for some margin of profit) by gross returns (sales plus changes in inventories). That is, after meeting all other costs, farmers should have enough left over to meet rental costs and to generate some profits. If the estimate of 5 per cent used by the LGAs in Victoria is appropriate then after deducting all other costs farmers would have more than enough to pay 5 per cent on the CIV. If the actual rates of return are less than 5 per cent than this percentage of CIV is likely to be more than they would pay to some landlord for the use of farmland.

The rate of return to the land and fixed improvements provides a yardstick to judge the appropriateness of the 5 per cent estimate.

In conventional farm accounting the return to capital and management is calculated as the residual after deducting labour (paid and imputed owner-operator and family labour) and cash costs including depreciation and payments for materials and services, from gross sales plus net changes in inventories. The return to land, fixed improvements and management is then found by deducting the return to other forms of capital (plant and machinery, working capital and stock).

In practice it is not possible to distinguish the returns to the different forms of capital but it is reasonable to assume that the same percentage returns apply to all forms of capital including that embodied in the land and fixed improvements. Thus the rate of return to capital and management is a reasonable estimate of the rate of return to land and fixed improvements and management.[19]

The return to management is the extra value of the farm owners management of the farm resources. There is no market determined equivalent of the return to management from farm businesses which we might use to estimate the return to management. Whilst there are certainly managers running businesses of comparable capital, farms also undoubtedly offer lifestyle benefits not offered by other businesses. It has often been stated that farmers make considerable financial sacrifices in order to continue their chosen occupation. It is assumed that they trade a valued lifestyle for a zero return to their management. Under this assumption (and any assumption of a positive return to management) the rate of return to land and fixed improvements is an estimate of the maximum that farmers are prepared to pay for rent (expressed as a percentage of CIV).[20]

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[19] Allan Tunstall has pointed out that some of the costs, primarily the labour of the farmer and his family, are imputed at market prices. Farmers may well be prepared to accept lower than market rates for their labour in order to earn higher rates of return on their capital.

[20] This proposition is demonstrated as follows:

For farmers who own their farm,

RCM = (I/(CIV + OC))

where RCM is return to capital and management, I is income net of all costs, CIV is farm capital employed in land and fixed structures and OC is other capital (principally plant, livestock and working capital). A second group of farmers rent the farmland and fixed improvements. They expect to earn the same return on their capital as the farmers who own their land and fixed improvements.

For the renting farmers,

(I-Rent)/OC = RCM = ((I/CIV + OC))

NAV is rent as a proportion of CIV, ie

NAV = Rent/CIV.

Substituting for NAV and transposing,

NAV = I/(CIV + OC) = RCM

So the rent expressed as a percentage of capital that renting farmers are willing to pay is the same as the rate earned by owning farmers.

The return to land and improvements is estimated from the returns to capital and management of nine types of farms reported from surveys. Two assumptions have been made (that the returns to all forms of capital are the same and that the return to management is zero) which allow the interpretation of the return to land and improvements as the capacity of farmers to pay rent.

2.2.2 A best estimate of 'fair farm rent'[21]

The 1958 local government legislation uses a concept of 'fair rental' in which necessary costs are deducted from gross rental. Here, a best estimate of fair farm rent for each LGA is made by deducting necessary costs from the return to land and improvements for all farm activities in each of the 210 LGAs in Victoria. For LGA i,

$$(4) \quad FFR_i = RLI_i - NC_i$$

where FFR_i is fair farm rent, RLI_i is the return to land and improvements and NC_i are necessary costs. The returns to land and improvements in each LGA are estimated using the returns of the 9 standard farms estimated by ABARE and an estimate of the farm composition of each of the LGAs from ABS sources. Thus, where k is a typical farm activity,

$$(5) \quad RLI_i = \sum_k RLI_k.S_{ik}$$

where RLI_k is the return to land and improvements of farm product k and S_{ik} is the share of farm product k in LGA i. The shares of farm type in each LGA are determined from the share of gross sales of farm products in each LGA. Using this information the shares are calculated,

$$(6) \quad S_{ik} = \text{farm sales}_{ik}/(\sum_k \text{farm sales}_{ik})$$

where farm sales_{ik} is the sales of farm product k in LGA i.

Necessary costs are the costs needed to maintain the improved capital value of the property of each LGA. Costs associated with the pursuit of a particular enterprises are not necessary costs. In the context of farm land; rates, repairs and maintenance on land and buildings, fencing, water points and drains, insurance relating to land and improvements, and seed and fertiliser required for maintenance of pastures are included. This information is available from the ABARE surveys.

The necessary costs for LGA i are calculated as the weighted sum of the necessary costs of the standard farm types operated in LGA i. The weights for the standard farms are the shares of farm products in the gross sales of LGA i as shown in equation 6. That is,

$$(7) \quad NC_i = \sum_k NC_k.S_{ik}.$$

2.2.3 Data sources for estimating 'fair farm rent'

ABARE (1990) publishes estimates of returns to capital and management (adjusted for full equity) for eight standard farm types relevant to farm enterprises in Victoria. The farm types are defined as farms in the following industries: (i) Wheat and other crops, Victoria; (ii) Sheep industry, Victoria; (iii) Beef industry, Victoria; (iv) Dairy industry, Victoria; (v) Horticultural industry, grapes (Sunraysia); (vi) Horticultural industry, canning fruit (Goulburn Valley); (vii) Citrus industry, and the (viii) Tobacco industry.

[21] A referee has pointed out that the word 'fair' is evaluative. However the word 'fair' is used in the legislation. I use fair in the sense of 'reasonable' and its use does not imply a judgement about the current system of determining farm rates. To confirm this I have placed the term in quotation marks in all headings and the first time it is used in the text. To avoid unnecessary clutter the quotation markets are dropped in all remaining references in the body of the text.

Most other types of land-based farm industry are aggregated into a ninth category which has a return to capital and management equal to the weighted sum of the eight farm types for which there is survey information. The return to capital and management is return adjusted to full equity; that is, amounts paid for rent and interest have been added back so that this return represents the full return produced by the resources employed in the farm business.

ABS (1990c) reports the quantities of almost all farm commodities produced in each LGA and for Victoria as a whole in 1988/89. ABS (1990b) shows the gross value of farm commodities for Victoria as a whole. Unit values for almost all farm commodities are calculated by dividing the total gross value of Victorian production of each commodity by the total quantity of that commodity produced in Victoria. Assuming that the unit values don't vary across LGAs the Victoria wide unit values are applied to the quantity estimated for each commodity in each LGA to determine the gross value by LGA in 1988/89.

ABS (1990c) does not show the level of milk produced by LGA nor the number of livestock sold either for slaughter or as live animals. To obtain an estimate of milk production the number of milking cows (which is available on an LGA basis) is used as a proxy for the quantity of milk produced. The gross value of milk produced in Victoria is used with the number of Victorian milking cows to estimate the gross value produced per milking cow. The product of this unit value and the number of milking cows in each LGA is the value of dairy production by LGA. Similarly, to estimate the value of sheep and cattle sales by LGA the opening number of sheep and cattle from ABS (1990c) is used as a proxy for the value of sheep and cattle sales.

2.3 Calculation of LGA Farm Revenue

The estimate of fair farm rent given by equation 4 is used to calculate the farm revenue for each LGA. Recall that the fair farm rent is an estimate of NAV so the revenue from farms in each LGA may be calculated using equation 1. Thus, for the J farms in LGA i where j is a typical farm,

$$(8) \quad FR_i = \sum_j \text{LGA rate}_i \times FFR_{ij}$$

where FR_i is the LGA revenue from a typical farm in LGA i. Fair farm rent is expressed as a percentage of the CIV to obtain an estimate of the fair CIV rate,

$$(9) \quad (\text{fair CIV rate})_i = FFR_i/CIV_i$$

where CIV_i is the CIV for the ith LGA. The fair CIV rate for the ith LGA may be compared with the 5 per cent used in present calculations of farm rate revenue.

If the fair CIV rate is less than 5 per cent and the LGA rate is constant, less farm revenue will be raised than under the present system. The same revenue could be raised either by retaining the existing relativity between the farm rate, the residential rate and the commercial rate and increasing all rates in proportion, or retaining the same contribution from farms by raising the farm rate while holding the other two rates constant.

3. Results

Table 1 shows rates of return to capital and management for eight types of Victorian farm

for years between 1977/78 and 1989/90[22]. Rates of return for the most important farm types are shown for all years and for others for from 4 to 7 years. The rates of return have been estimated from surveys conducted by ABARE.

The table shows the average rate of return over the entire period, for which there are data, in the second last row and the average, for the last five years of data, in the last row. The average rates of return for the last five years are used in the calculations of farm rent.

Two of the farm types have negative rates of return, Beef and Grapes (Sunraysia). However three of the most important Victorian farm industries had the highest average rates of return. Over the last five years for which data are presented, Wheat, Sheep and Wool and Dairy had rates of return of 3.2, 3.5 and 3.6 per cent.

The long term rates of return for the four main types indicate the variability of farm returns over time and also indicate that in general the last five years have been relatively good for farm industries in comparison to the whole period. The variability implies that it is likely to be necessary to update the estimate of farm rents reasonably frequently.

In Table 2 business rent is calculated for the eight farm types[23] for which data are presented and for a residual farm type representing all

[22] Since this study was undertaken ABARE has published information for many of the farm types for years since 1989/90. Returns in these years are likely to be lower than those reported here.

[23] Barley, oats, triticale, wheat and other grains are produced from the wheat and other crops farm type; sheep, lambs, live sheep and wool are produced from sheep and wool farms; cattle and calves are produced by beef farms; milk is produced from dairy farms; dried vine grapes, table grapes and wine grapes are produced from grape farms; apricots, peaches, pears, apples, plums and cherries are produced on deciduous fruit farms; oranges, lemons, mandarins, almonds are produced on citrus fruit farms; tobacco is produced on tobacco farms and all other land-based farm products are produced on the residual farm type.

Table 1: Rates of Return for Victorian Farm Types, 1977/78 to 1989/90

Year	Wheat & other crops (1)	Sheep & wool (2)	Beef (3)	Dairy (4)	Grapes (5)	Decid. fruit (6)	Citrus Fruit (7)	Tobacco (8)
1977/78	-2.93	0.66	-1.75					
1978/79	4.13	1.74	2.77	1.82				
1979/80	7.17	4.54	5.42	2.85				
1980/81	7.66	2.74	1.27	3.01				
1981/82	8.50	0.39	0.88	0.80				
1982/83	-7.93	-0.37	-4.15	-0.37	-5.4	-8.8	-5.4	
1983/84	2.78	1.24	-0.48	2.25	-10.9	-7.3	-8.0	
1984/85	-1.03	1.17	-0.24	-0.32	-1.4	-2.8	2.0	2.6
1985/86	-0.34	1.89	-0.07	1.93	0.4	4.3	-0.9	3.2
1986/87	5.38	3.61	-0.97	3.05	-2.1	0.1	-2.7	-1.9
1987/88	4.56	5.87	-1.88	3.34	3.0	1.9	-0.5	1.8
1988/89	4.31	4.42	-0.84	6.83	-0.9		2.9	
1989/90	1.96	1.71	-1.10	2.91				
All years	2.63	2.28	-0.09	2.34	-2.16	-2.1	-1.58	1.43
Last 5 yrs	3.17	3.50	-0.97	3.61	-0.17	0.88	0.13	1.43

other Victorian farms. The gross value of production and the rate of return in 1988/89 for the eight farm types for which there are data and the ninth (residual) farm type are shown in columns 2 and 3. The estimate for the residual farm type is made by taking the average rate of return of the eight known farm types weighted by the importance of each farm type in land-based Victorian farm gross value.

In 1988/89 the gross value of the output of the eight types of farm for which there are data accounted for about 77 per cent of the farm output in Victoria. However some farm products, principally eggs, poultry meat, pigmeat and nursery products are mainly produced from factory farms in which land forms a very small part of the capital base. The eight types make up 91 per cent of the output of the land-based Victorian farms. The long-term average rate of return for all farm types over all years and weighted by the size of industry in 1988/89 is 2.43 per cent.

Necessary costs as a percentage of the total capital for the first four farm types, sheep and wool, beef cattle, wheat and other grains and dairying are obtained from survey data and are shown in rows 1 to 4. The necessary costs for the farm types shown in rows 5 to 10 are the weighted sum of the known necessary costs for the farm types shown in rows 1 to 4.

In column 5, farm rent is estimated, by deducting necessary costs from the rate of return. Part of the capital of the farm is the capital invested in the farm residence. In the NAV method the CIV rate is the same for farms as for residences, but in this paper an argument is made for a different CIV rate for farms. In order to maintain comparability between residences in towns and cities and residences on farms it is necessary to treat the farm capital as composed of a business and a residence and rate them separately. In column 6 the capital value of the four main farm types and a residual capital value for all other farm types (calculated in the same manner as necessary

Table 2: Rent Estimated on Farm Capital with Value of Residence Deducted

Farm type (1)		GVP 1988/89 (2)	Rate of Return (3)	Necessary costs (4)	Farm rent[a] (5)	Farm capital[b] (6)	Value of residence (7)	Business rent (8)
Wheat & other crops	(1)	514.1	3.17	0.89	2.28	509578	48040	2.52
Sheep & wool	(2)	1392.6	3.5	1.07	2.43	548970	48040	2.66
Beef	(3)	625.3	-0.97	0.78	-1.75	439243	48040	-1.96
Dairy	(4)	904.1	3.61	1	2.61	428840	48040	2.94
Grapes	(5)	163.8	-0.17	0.93	-1.10	491500	48040	-1.22
Deciduous fruits	(6)	159.5	0.88	0.93	-0.05	491500	48040	-0.05
Citrus & other fruit	(7)	52.9	0.13	0.93	-0.80	491500	48040	-0.88
Tobacco	(8)	23.7	1.43	0.93	0.50	491500	48040	0.56
Subtotal	(9)	3836.1						
Other	(10)	376.4	2.43	0.93	1.50	491500	48040	1.66

[a] Average CIV for properties of this farm type in rural LGAs in 1986/87.
[b] Average CIV for residences in rural LGAs in 1986/87.

costs), is shown and an estimate is made of the capital invested in the farm residence.

The total farm capital in column 6 and the average value of the farm residence in column 7 are shown for 1986/87. The valuations have been obtained from the 1989/90 Report of the Valuer-General[24]. After deducting the estimated value of farm residences the rent applicable to farms as a business is recalculated and reported in column 8.

The average rent for the capital employed in the farm business is 1.7 per cent for Victoria as a whole. The rent among three of the main farm types (wheat and other crops, sheep and wool and dairying) was between 2.5 and 3 per cent but for beef cattle farms it was -2 per cent.

Using the estimate of the rent for the farm as a business for each of the nine farm types shown in Table 2 the rents applicable to each of the Victorian LGAs and for Victorian statistical divisions and class of LGA are calculated.

The flavour of the results is shown by Table 3. It has the same structure as more detailed tables showing results for each LGA. The rent for each farm type is shown in the first row. In columns 1 to 9 and rows 2 to 13 the gross value of production for the statistical divisions of Victoria and in rows 14 to 16 the gross value of production of the 3 types of LGAs, metropolitan, provincial and rural is shown. The final column of the table depicts the rent for each statistical division or class of LGA. These are calculated by summing the rents for each farm type weighted by their share of gross production.

The variation across farm types is evident from the results for statistical divisions. The lowest rent for a statistical division occurs in the North Eastern district. Beef cattle production is the most important farm activity in this district and it has a negative rent. The highest rent is found in the Wimmera where two high-rent farm types, wheat and other crops and sheep and wool, predominate. The average rent for farms as a business for all of Victoria is 1.62 per cent shown in the final row of the table.

4. Discussion

4.1 A 'Fair CIV Rate' for Victoria

In this section the derivation of a 'fair CIV rate' for all rural property in Victoria is considered. Equation 4 indicates that the method, and indeed the data, allow calculation of fair rent for each LGA. However estimating a fair rent is only the first part of the process of calculating a fair CIV rate. In this context it does not seem sensible to claim to estimate rates for individual LGAs; such a course would involve tradeoffs between classes of farm and the data may not be sufficiently robust to sustain such a calculation. The prior and more important concern is tradeoffs between farm and non-farm property, for which the data are believed to be sufficiently robust. In any case given the requirement that the taxing system be simple it would be unlikely that an LGA-based rent would be adopted by Government. The remaining discussion is concerned with calculation of a single fair rent and hence a single fair CIV rate for all Victorian farms.

There are four alternative methods which LGAs may used to calculate rates, the UCV system, the current NAV system, an improved NAV system, and the ICV system. The UCV

[24] It is not important which year is chosen to calculate this adjustment since the relativity between the value of the farm as a whole and the value of the residence is fairly constant. The Valuer-General is believed to provide a more reliable source of capital values than ABARE.

Table 3: Summary of Estimated Rent and Gross Value of Production for Farm Businesses by Statistical District and LGA Type

		Wheat & Oth (1)	Sheep Wool (2)	Beef cattle (3)	Dairy (4)	Grapes (5)	Canned fruit (6)	Citrus fruit (7)	Tobacco (8)	Other (9)	Av'ge rent (10)
Rent	(1)	2.52	2.66	-1.96	2.94	% -1.22	-0.05	-0.88	0.56	1.66	
Statistical division :						Gross value of production, $mill					%
Melbourne	(2)	1.4	25.6	37.6	25.9	0.3	30.4	7.1	0	111.8	1.05
Barwon	(3)	9.0	71.0	27.8	64.9	0.16	0.1	0.2	0	17.7	1.97
South Western	(4)	10.2	390.7	127.7	188.9	0.2	0.4	0	0	16.6	1.9
Central Highlands	(5)	14.8	189.7	22.2	5.4	1.2	5.8	0.1	0	39.6	2.07
Wimmera	(6)	219.1	232.9	10.5	1.2	0.7	0.1	0	0	52.3	2.4
Northern Mallee	(7)	181.2	73.59	16.2	20.9	154.1	1.4	38.2	0	32.8	0.99
Loddon-Campaspe	(8)	47.1	166.1	41.5	84.0	0.34	3.6	0.2	0	30.9	2.08
Goulbourn	(9)	25.1	133.0	85.3	189.7	2.9	105.6	6.3	0	22.9	1.46
North Eastern	(10)	6.0	27.1	86.2	37.5	4.11	6.1	0.5	23.7	6.1	0.23
East Gippsland	(11)	0.3	45.3	48.1	47.3	0	0.1	0	0	6.4	1.2
Central Gippsland	(12)	0.3	35.2	107.7	221	0	2.8	0.08	0	39.0	1.47
East Central	(13)	0	2.3	14.5	17.0	0	3.1	0.2	0	0.5	0.75
Class of LGA[a]:											
Metro'n	(14)	2.0	28.8	38.4	26.5	0.3	35.2	7.1	0	116.2	1.06
Provincial	(15)	3.0	41.8	22.7	32.7	2.3	4.0	0.3	0	21.4	1.58
Rural	(16)	509.4	1321.9	564.1	844.5	161.3	120.3	45.6	23.7	238.9	1.66
Total	(17)	514.4	1392.5	625.2	903.7	163.8	159.5	53.0	23.7	376.5	1.62

[a] Rural LGAs have significant rate revenue from farms, metropolitan LGAs are non-rural LGAs in Melbourne

system has not been used by non-metropolitan councils in the past so discussion will concentrate on the NAV systems and the new, ICV system.

The current NAV system is discounted on grounds of inconsistency - effectively some ratepayers are rated on their capacity to pay (commercial ratepayers), and others on capital value (farmers). Under a NAV rating system in which farm rent was calculated as in section 3 above, *all* business property would be rated according to the profitability of the enterprise. Assuming that 5 per cent reflected a reasonable rate of return to residential property the entire rating system would be consistent and be based on either actual capacity to pay or to imputed capacity to pay, in the case of residences. The new alternative, the ICV system, is also consistent, but now *all* rates would be based on improved capital value.

Whether local government rating should be based on capital or income is a political judgement and perhaps, should rightly be left to individual councils to decide. However the choice, as presented, is a fairly harsh one.

The evidence provided by the ABARE surveys and the ABS census of farm types by LGA suggest that the maximum farmers are likely to pay for renting land and improvements is about 2.4 per cent of current market value. After deducting necessary costs and adjusting for the residential component of farm capital, the rent which might be used for rating, given by equation 9, is 1.6 per cent. The rate currently used for Victorian farmland is 5 per cent. Applying the new CIV rate with an unchanged LGA rate would result in an average fall in LGA income from farms of 70 per cent.

An alternative to the harsh choice is to attempt to incorporate a rating system which is based on both income and capital. Such a system would invariably involve a subjective judgement concerning the weighting given to the income based and capital based rate.

The first task in designing a mixed rating system is to define the two parts in common terms. As has been noted, fixing the CIV rate at the same level for all types of taxpayer is equivalent to adopting an ICV system. Under the current NAV system the CIV rate is fixed at 5 per cent for farms and residences but not for commercial property. The actual rate of return earned by commercial businesses in Victoria is unknown however it may be estimated from some published information. Dixon, Johnson and Borland (1986) estimated real rates of return on selected assets and portfolios over the 10 year period to 1984. They found that superannuation funds averaged 6.5 per cent, 5-year debentures of private finance companies averaged 3.5 per cent, the all-ordinaries sharemarket index averaged 7.6 per cent and Commonwealth government 2-year bonds averaged 1.2 per cent. It seems reasonable to assume that commercial business as a whole will earn a 5 per cent rate of return and that this will be incorporated into their rents. The ICV system may be approximated by a CIV rate of 5 per cent applying to all taxable property. The amended NAV system involves a CIV rate of 1.6 per cent for farms, 5 per cent for residences and rent as determined by the Valuer-General for commercial property.

There is no information concerning how to weight the two parts of the rating system to arrive at a reasonable estimate of the value that should be used for farms. In the absence of such information a simple average is suggested. This would result in a CIV rate of 3.3 per cent.[25]

[25] A referee has criticised this choice because it is *ad hoc*. It is *ad hoc*, but so too is the decision to use an entirely capital-based system or an entirely income-based system.

4.2 Effect of the Lower CIV Rate on the Composition of LGA Revenue

The proposed new system might be implemented by using the new CIV rate for Victoria as a whole in place of the 5 per cent currently used for the business portion of farm CIV (retaining 5 per cent for the residential portion). In this section the effect of this alternative is considered assuming that councils do not respond by raising the farm LGA rate.

Table 4 shows the effect of imposing a CIV rate of 3.5 per cent on rating of rural property in Victoria. The 3.5 per cent corresponds to a CIV rate of 3.3 per cent on the business part of a typical farm (on average 90 per cent of total capital) and a CIV rate of 5 per cent on the residential part (on average 10 per cent of total capital).

Table 4: Effect of Imposing 3.5 per cent CIV Rate on Revenue from Rural Property

			I	II	III	IV	V	
Revenue from Rural LGAs		%	0-20 (1)	20-40 (2)	40-60 (3)	60-80 (4)	>80 (5)	All LGAs (6)
Number of LGAs	(1)		70	18	22	27	19	156
Current rate revenue from								
Rural	(2)	%	2.04	33.76	48.35	72.32	88.79	11.59
Residential	(3)	%	62.40	54.85	42.86	22.32	8.62	57.76
Commercial	(4)	%	35.56	11.39	8.79	5.36	2.59	30.64
All sources	(5)	$m	8.83	2.37	1.82	1.12	1.16	4.83
Effect of imposing 3.5 per cent CIV rate								
New rate revenue from								
Rural	(6)	%	1.43	23.63	33.85	50.63	62.16	8.12
Residential	(7)	%	62.79	63.24	54.89	39.82	29.11	60.03
Commercial	(8)	%	35.78	13.13	11.26	9.56	8.73	31.85
All sources	(9)	$m	8.83	2.37	1.82	1.12	1.16	4.83
Change as share of total revenue								
Rural	(10)	% pts	-0.61	-10.13	-14.51	-21.7	-26.64	-3.48
Residential	(11)	% pts	0.39	8.39	12.04	17.5	20.49	2.27
Commercial	(12)	% pts	0.22	1.74	2.47	4.2	6.15	1.21
Change as share of original								
Rural	(13)	%	-30	-30	-30	-30	-30	-30
Residential	(14)	%	0.62	15.29	28.09	78.39	237.69	3.93
Commercial	(15)	%	0.62	15.29	28.09	78.39	237.69	3.93

The Table is divided into three parts. In the top third (rows 1 to 5) the current composition of revenue from rural, residential and commercial sources is shown. The composition of revenue using the new CIV rate to estimate revenue from rural property, with the deficiency made up by the other two revenue sources (in their relative proportions), is depicted in the middle third (rows 6 to 9). In the bottom third (rows 10 to 15) the impact of the new system on the three sources of revenue is shown.

The share of rates paid as residential, non-residential and rural is shown for five groups of LGA determined by the importance of rural land as a source of total rates. The five groups (shown in columns 1 to 5) are group I - those in which rural rates make up less than 20 per cent of total rate revenue, group II - those in which rural rates make up 20 to 40 per cent, group III - 40 to 60 per cent, group IV - 60 to 80 per cent and those in which rural rates make up more than 80 per cent of rate revenue are in group V. The final column shows the situation for all LGAs.

The information for defining the five groups of Table 4 has been derived from a survey undertaken by the Municipal Association of Victoria (see MAV 1990) for 1989/90. Responses to the question concerning the source of rate revenue was received from 156 of the 211 LGAs. Of the 156, there are 70 LGAs or 45 per cent in group I, 12 per cent in group II, 14 per cent in group III, 17 per cent in group IV and the remaining 12 per cent in group V. The first row of Table 4 show this information. In the second to fourth rows the shares of revenue received from rural, residential and commercial rates are shown. The average value of total revenue from rates for the LGAs in the respective group is shown in row 5. For instance among LGAs in group I (those with less than 20 per cent of revenue from rural property) residential rates made up 62 per cent of the total rate revenue of $8.8m.

The middle block is organised in the same way as the top block. The Table shows that using a CIV rate of 3.5 per cent the proportion of rural revenue in group I LGAs dropped from 2.04 per cent to 1.43 per cent (row 6, column 1).

The bottom block contains the change in shares of average LGA revenue for each of the three revenue sources (rows 10 to 12) and the change in each revenue source as a percentage of the revenue received from that source under the present situation (rows 13 to 15). For instance the use of the new CIV rate means a fall in rate revenue from rural property of 0.61 percentage points (row 10) which represents a 30 per cent (row 15) reduction in rates paid by rural property owners in LGAs belonging to the first group.

The final column of the Table shows that rural property currently contributes 11.6 per cent of revenue for LGAs as a whole[26] (row 2). Using the new rating system and assuming no change in the LGA farm or general rates, this would drop to 8.12 per cent (row 6), so that the deficiency of 3.48 per cent (row 10) would have to be made up by the other two sources of LGA rate revenue (roughly one third from commercial ratepayers and two thirds from residential ratepayers). The saving for rural ratepayers would represent 30 per cent of the amount currently paid and impose an extra burden of 3.93 per cent on the other two categories of ratepayer.

However the situation for LGAs as a whole presents a rather misleading view. If LGAs were required to continue to meet their expenses out of revenue drawn from their own ratepayers, the burden of meeting shortfalls

[26] It is interesting to compare this figure to the contribution of farms to state product - about 3.4 per cent in 1986 (see ABS 1988e).

from rural property owners would not be evenly spread across all Victorian residential and commercial ratepayers. The results in columns 1 to 5 present a more telling view of the likely situation. These show that the new CIV rate would have an insignificant effect on the extra revenue required from other sources among the 45 per cent of LGAs in the first group (those in which rural property makes up less than 20 per cent of rate revenue and which include most of the metropolitan LGAs and some of the larger provincial LGAs). The residential and commercial ratepayers would need to contribute only an extra 0.62 per cent of their current contribution (rows 14 and 15). However the impact on non-rural ratepayers in groups IV and V would be devastating. Rates for non-rural ratepayers in group IV would have to increase by 78 per cent and for non-rural ratepayers in group V by a massive 238 per cent.

4.3 Evaluating Change in Terms of the Modern Principle of Taxation

How does the new rating system compare to the old in terms of equity, efficiency and simplicity - the modern principles of taxation discussed in section 1.1? The answer to this question will depend on how the ultimate burden on the various classes of ratepayer changes. The situation depicted in section 4.2 above represents an extreme in which the new rating system is applied and there is no response in terms of changed LGA farm and general rates. This is unlikely. A more probable situation would be one where in addition to the lower base for rating farms, LGA farm rates are adjusted upward and some council costs are pruned. There would be some easing of the burden on farm ratepayers and increases for other ratepayers.

Currently available evidence suggests effective rentals attributed to farms are overestimated while those attributed to residences are underestimated. Consequently from the point of view of equity, rates paid by farmers are too high and rates paid by residences and commercial property owners too low. Provided farmers are not overcompensated a change to reduce the share of total rate bill paid by farmers and to increase the share paid by non-farmers will improve equity.

A judgement about the effect of the proposed change on efficiency requires an assessment of the efficiency in the current situation. The most efficient tax system is one where benefits are matched to costs thereby inducing minimum distortion. Unfortunately the relative benefits to different classes of ratepayers from council services is unknown. Certainly many benefits may be related to property values, but others (welfare oriented services) are not associated with property. There is also likely to be a different pattern in different types of councils (urban vs rural for instance). Until there is empirical evidence establishing the pattern of benefits it is not possible to predict the effect of the change on efficiency.

Finally the change does not involve any change in the method of collecting the tax. Consequently under the new method rating would remain simple to administer and police.

4.4 The Currency of LGA Valuations

One claim that has been made concerning the present method of determining rural rates concerns the age of the LGA valuations. The argument is made that because LGA valuations are on average three years old[27] and be-

[27] The average age of LGA valuations is determined from information published in the *Report by the Valuer-General on Property and Rating*. Using the classifications of MAV (1990), in 1989/90 the average age of metropolitan LGA valuations was 2 years, of provincial towns and cities 3 years and of rural LGAs 3.3 years.

cause valuations are invariably revised upwards[28] the rent calculated from the valuations would be lower than if the valuations were more current. However all LGA valuations are made at the same time so the use of out-of-date valuations does not discriminate between the three types of property (rural, residential and commercial) within the LGA.

In the calculation of rents using the ABARE and ABS data, up-to-date valuations are used. The timing of the calculations is not important since the result of the calculations is a percentage which may be applied to any recent year. Up until 1988/89 capital employed on farms included in the ABARE surveys was valued by the Commonwealth Bank. The most recent survey uses values assessed by the farmers themselves. The rents are calculated using internally consistent data and the valuations are based on the same principles as are used for LGA valuations. Consequently the timing of the LGA valuations does not compromise any of the arguments made here concerning the appropriateness of the rating methodology or the calculations of an alternative rent.

5. Concluding Comments

5.1 Summary of Findings

In this paper the method by which rural property is rated in Victoria has been reviewed. The study has show that the present method is not in accord with the principles upon which it is supposedly based. Consistent application of the principles would however, result in a massive fall in the relative burden on farm ratepayers and a devastating increase for some non-farm ratepayers. An alternative rating system is examined in which an arbitrary weighting is used to employ taxes derived from both income and capital bases. Even this change implies some large shifts in burden between types of ratepayers in Victoria.

Application of the new CIV rate with unchanged LGA farm rate would either drastically reduce the income to many rural councils or impose an extra financial burden on non-rural ratepayers.

The more likely alternative is that rural councils with very high shares of rate revenue obtained from farm property would simply raise the LGA farm rate to raise nearly the same amount of revenue, in the process altering the relativity between the farm rate and the general rate. These LGAs are also likely to reduce services (and therefore costs) to some extent to limit the increase in the LGA farm rate.

Since revenue from farms is such a small part of their total rate revenue, metropolitan councils would be able to introduce the new CIV rate and extract the deficit from non-rural ratepayers with relatively small extra demands on non-rural ratepayers.

The greatest problems with the introduction of the new rate are likely to occur among councils which depend on both rural and nonrural rates. For these LGAs, in the short term, the most likely solution is an increase in the LGA farm rate to partly compensate for the fall in the CIV rate. The impost on non-rural ratepayers would be diminished. LGAs in this category are also likely to reduce services and therefore costs. In the longer term there might well be some redistribution of the relative burden with farm revenue making a smaller contribution to total LGA rate revenue.

5.2 Further Work

The discussion above has suggested a form of rating which combines rates derived from sys-

[28] This was always the case in the changes between each of the years from 1975 to 1988 in NAV for three aggregations of Victorian LGA reported in Victorian Grants Commission (1990).

tems in which both income and capital are used as the base. In the absence of other information the weighting of the income-base and capital-base components is arbitrary. While any weighting is just as defensible as any other, including the two possibilities currently in use, further guidance concerning the best weighting is desirable. In section 1.4 it was pointed out that a key argument in favour of a system based on capital was that the benefits provided by LGA services could be strongly related to capital. If it could be shown that capital is a strong proxy for benefits then the ICV system would be greatly strengthened.

An important area of future work entails investigation of the way the benefits of council services are spread among taxpayers, among other LGA residents and among non-residents. In such work the possibilities of use-related rates by connecting local government expenditure to revenue source would be investigated. The investigation would suggest the best method of taxation for local government. Expenditure might be classified into that related to business activity and that related to personal activity. Revenue for expenses related to business activity might be levied on the basis of business income and property value (as is proposed in this paper) whereas revenue for expenses related to personal activity might be levied through a poll tax or a local income tax (an income tax is likely to be less regressive than a poll tax). Individual farmers would pay some proportion of their rates in respect of their farm business activity and some proportion in respect of their personal activities.

Instead of three classes of taxpayer under this situation there would be four classes with an additional class for individuals. Property-related tax would continue to be levied on farms, residences and commercial establishments perhaps in the way described in this paper but an additional person-related tax would be levied on individuals[29]. The effect on the burden of the current three existing classes of ratepayer cannot be predicted. It would depend on the proportions of persons associated with the three classes of property. If for instance farmers tended to have larger households than non-farmers then farmers would have to meet a greater proportionate share of the tax burden for personal activity.

[29] The present system follows this pattern to some extent. About half of council revenue is obtained from transfers from the State and Commonwealth governments and therefore represents taxes obtained by the average of all State and Commonwealth sources (60 per cent from personal and corporate income tax and 40 per cent from commodity and transactions taxes).

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