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PAST TRENDS IN RURAL LAND VALUES
SOME IMPLICATIONS FOR THE PROPOSED
CAPITAL GAINS TAX

Bob Farquharson, Brian Moir and Peter Urban

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* Research on this project was supported by grants from the Wool Research Trust Fund and the Australian Meat Research Committee.

1. INTRODUCTION

In the BAE submission to the Economic Planning Advisory Council on the implications of taxation reform for the rural sector (BAE 1985a), it was pointed out that it was inappropriate to use past movements in rural land values to assess the actual impact of introduction of a capital gains tax on asset values in the rural sector. Nevertheless, historical asset values are of considerable use in assessing the broad design features of a proposed capital gains tax.

In September, the Government announced its decision to introduce a capital gains tax. The tax, which is to apply only to assets purchased after September 19 1985, differs in many important ways from that proposed in the Draft White Paper (Treasury 1985a). Many of the changes resulted from the scrutiny the proposal received during the course of the taxation summit. In this paper, the historical trends in real and nominal rural land values from BAE surveys of the Australian Agricultural and Grazing Industries are examined and the implications for the proposed capital gains tax assessed.

2. THE PROPOSED CAPITAL GAINS TAX

The Government proposes to introduce a capital gains tax along the lines of the draft White Paper proposal but modified in several substantial respects to take account of community concerns. The main design features of the capital gains tax are that it will:

- . apply only to real gains made on assets acquired after midnight [19 September]; and
- . apply upon realisation of assets;
- . apply to gains calculated by indexing the asset cost base. This means that an asset which increases in value at no more than the rate of inflation bears no capital gains tax, while assets whose value increases at greater than the rate of inflation are only taxed on that part of the gain which is in excess of the inflation rate; ...
- . be levied at ordinary rates of personal and company income tax;
- . allow realised nominal losses to be offset against capital gains realised in the current year or be carried forward and offset against gains in subsequent years but, except for specified items, not allow a deduction for losses on personal-use items. Losses on those specified personal-use items which are allowable would be deductible only against realised gains on other specified personal-use items;

- . treat disposal of assets by gift as realisation, with the recipient being taken to receive the gift at its fair market value;
- . not treat the death of the asset-holder as giving rise to a deemed realisation of his or her assets. Capital gains tax will not be levied following the death of a taxpayer unless his or her assets are actually realised by the administrator of the deceased estate or disposed of by a beneficiary of the estate. In the case of assets acquired by the deceased on or before 19 September, the administrator or the beneficiary will be taken to have received the asset at fair market value. In the case of assets acquired by the deceased after 19 September, a rollover will apply - that is, as a general rule, the administrator or the beneficiary will be taken to have acquired the asset at a value equal to the deceased's asset cost base at the time of death.
- . exempt gains on a taxpayer's principal residence and reasonable curtilage;
- . exempt gains with respect to superannuation and the proceeds of life insurance policies, gains on the disposal of motor vehicles and gains on other personal-use assets (such as furniture) whose disposal value in the year is below \$5000;
- . allow rollovers (i.e. deferral of capital gains tax liability) in cases of compensation for compulsory acquisition of assets and stolen or destroyed property, provided replacement assets are acquired within a stipulated period, and for asset ownership changes associated with certain types of business re-organisation;
- . permit income losses (except those subject to quarantining provisions) to be offset against realised capital gains, either in the year in which the loss occurs or to be carried forward (unindexed and subject to the usual seven year limitation) for offset against future realised capital gains. Negative gearing losses and primary production losses subject to quarantining provisions (which are not subject to the seven year limitation on carry forward) will be allowed as an offset against any realised capital gain from relevant rental or farm properties;
- . an existing provision taxing certain gains as ordinary income, section 25A, is to be abolished in respect of assets acquired after midnight tonight [19 September]; and
- . bodies currently exempt from tax on their income are to be exempt from tax on their capital gains.

In general, any capital expenditures associated with the purchase, improvement or disposal of an asset subject to capital gains tax may be included in the cost base of that asset. More specifically, the following types of expenditure may be included in the asset cost base:

- . expenditure on capital assets such as plant and equipment and associated capital improvements which attract income tax deductions together with balancing adjustments at the time of sale;

- . expenditure on income-producing buildings and other capital expenditures such as soil conservation and water conservation, which attract income tax deductions but no balancing adjustment on sale. (The implications of such expenditures on the allowance of capital losses in respect of the associated composite asset are yet to be resolved.);
- . capital expenditure which attracts no income tax deductions (for example, the clearing of land for primary production purposes); [and]
- . valuation costs and costs of acquisition and disposal such as legal costs, stamp duty and agent's commission, to the extent that these are not deductible for income tax purposes; ...' (Treasury 1985b)

3. SOME ASPECTS OF THE PROPOSED POLICY

The implications of movements in historical land values for the proposed capital gains tax will be discussed further in subsequent sections of this article. In this section, an explanation of taxation rates and of the treatment of nominal and real losses under the Government's proposed capital gains taxation policy is presented. A discussion of the taxation treatment of livestock, plant and machinery is also included.

Under the proposed arrangements, capital gains that are realised by the sale of eligible assets will be adjusted to account for the effects of changes in general price levels. This will be done by indexing the cost base by the consumer price index. If an asset were purchased after 19 September 1985 for, say, \$100 000 and sold later for \$130 000, the resulting \$30 000 'nominal' gain must be converted to 'real' terms by accounting for the effect of inflation. If inflation amounted to 25 per cent over the intervening period, the initial asset cost base (\$100 000) would have increased by \$25 000 due to inflation, so that the assessed capital gain would be \$5000.

The treatment of capital losses is different. If the asset in the example above had been sold for only \$90 000, the loss in real terms would be \$35 000 (that is \$125 000 minus \$90 000), but the proposed tax would allow a nominal loss of only \$10 000 (that is, \$100 000 minus \$90 000). If the asset had been sold for \$110 000, then there would have been a nominal gain (of \$10 000) and a real loss (of \$15 000). Under the announced taxation system, no loss offset provisions apply to this \$15 000 real loss. Therefore, the treatment of gains and losses under this system is not symmetrical.

The proposed marginal income tax rates for annual income are shown in Table 1. The income tax brackets have been altered and the marginal rate applying will be phased in in two stages up to mid-1987.

For rural enterprises, the taxation treatment of the sale of livestock and assets such as plant, machinery and equipment will continue as before. Proceeds from the sale of livestock will be treated as assessable income, and changes in the value of breeding stock will be accounted for by the revaluation adjustment. For plant and machinery assets such as tractors, a sale at a value higher or lower than the depreciated value will continue to be treated as a profit or loss, respectively, and assessed with other income.

Table 1: INCOME TAX BRACKETS AND MARGINAL TAX RATES

Annual income	Present scale (marginal rate)		Annual income	Proposed scales (marginal rate)	
	\$	c/\$		1.9.1986(a)	1.7.1987
0 - 4 595		0	0 - 5 100	0	0
4 595 - 12 500		25	5 101 - 12 600	24	24
12 501 - 19 500		30	12 601 - 19 500	29	29
19 501 - 28 000		46	19 501 - 28 000	43	40
28 001 - 35 000		48	28 001 - 35 000	46	40
35 000 and over		60	35 000 and over	55	49

(a) The scale to be introduced on 1 September 1986 will apply with effect from that date for purposes of PAYE instalments, with a composite scale applying on assessment for 1986-87 incomes. The composite scale will consist of 2/12 of the present scale and 10/12 of the scale to apply from 1 September 1986.

Source: Treasury (1985b).

4. HISTORICAL TRENDS IN RURAL LAND CAPITAL VALUES

The assessment of historical trends in capital gains in this section is based on the method of assessment to be used in computing capital gains under the new taxation proposals. This is in line with the basis of valuation of BAE survey farms. In any case, the capital value of land and fixed improvements is dominated by the land component.

In this paper, the analysis of historical data on accrued capital gains and losses is used as a basis for discussion of the possible effects of the proposed capital gains tax. In such an assessment, it must be remembered that annual accrued gains show short-term aggregate changes, but the decision of individuals to buy or sell farm assets will be taken in a longer term context after accounting for a range of factors. The figures in Tables 2 and 3 must be interpreted in this context. That is, one-year gains or losses are unlikely to be realised in the short term.

Data from BAE farm surveys are available on the total capital value of properties for the asset categories of land and fixed improvements, livestock, and plant and machinery. Estimates of rural land values from surveyed properties are obtained from an independent valuation authority which provides estimates based on detailed descriptions of survey properties. Estimates of changes in value over the survey year are based on a complete revaluation of the survey farm or an indexing procedure based on changes in land value at the local government area level. The estimates of changes in land values are applied annually to all sample farms and their use over a period of time is considered to provide a reasonably good estimate of aggregate changes in rural land capital on an accrual basis.

For this analysis, changes in BAE survey values of land and certain fixed improvements are broken down into those caused by changes in prices (per hectare of land) and in quantities (or total property size in hectares). For the 'average farm' within the BAE Australian Agricultural and Grazing Industries Survey, which incorporates the sheep, beef and wheat industries, the average size and land price per hectare are assessed at the beginning and end of each financial year. Total land capital is derived as the quantity (in hectares) multiplied by the price (in dollars per hectare). In this assessment, the land value includes certain fixed improvements such as fencing, yards, roads and watering points but excludes buildings. The change in land capital between two periods can be seen from Figure 1 (and the accompanying equations) to be broken down into a price-induced change and a quantity-induced change. The price-induced change in land and fixed improvements is used in this paper as an approximation for accrued capital gain on land and certain fixed improvements.

A longer term perspective of changes in nominal and real land values for the sheep industry can be seen from Figure 2. The Bureau's definition of the sheep industry is those farms with 200 or more sheep, therefore it includes a large amount of beef and wheat production on mixed enterprise farms. The sheep industry farm population included some 65 per cent of the Australian Agricultural and Grazing Industries Survey population in 1982-83. The trends plotted in Figure 2 are the average value per hectare of land including fencing and watering improvements since 1952-53 in nominal and real terms.

In real terms, the values do not exhibit any significant trend over the period shown although some fluctuation in values is apparent from year-to-year. However, for assets held on a long-term basis, there do not appear to be systematic gains in real terms.

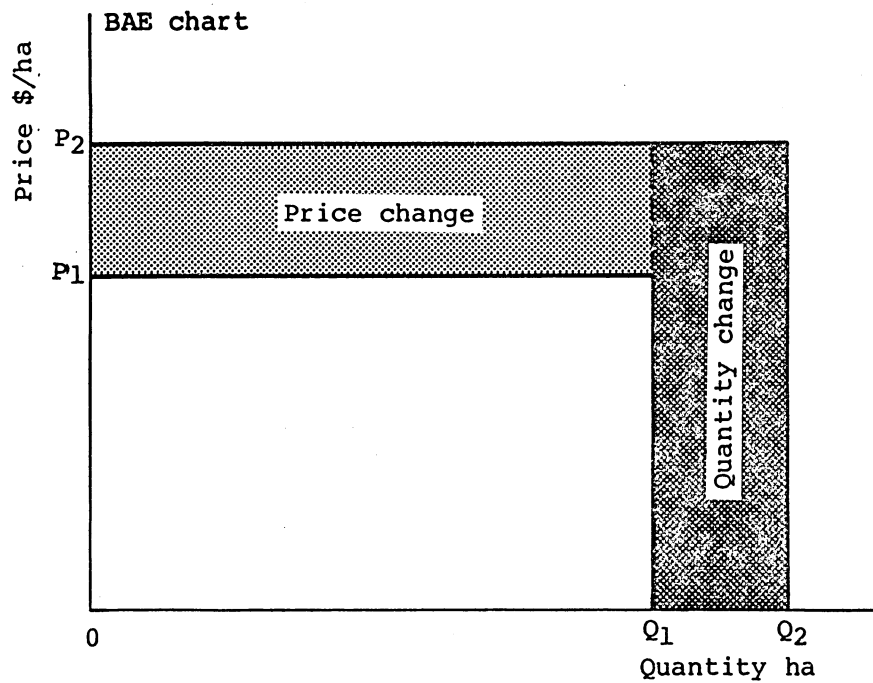
From these results, it can be seen that the impact of the tax is likely to be on properties held for relatively short periods (say, less than ten years). A detailed discussion of some recent survey data follows.

Table 2 contains estimates of price-induced changes in capital for the Agricultural and Grazing Industries Survey over the period 1977-78 to 1983-84. The estimated price changes are adjusted by removing the effects of inflation on the initial capital stock. This provides capital gains and losses in real terms. An annual percentage change on the initial asset base is estimated for comparative purposes.

The figures in Table 2 are representative of the average farm within the sheep, beef and wheat industries. These figures conceal significant variation between individual farms within the population. The population of farms in the surveyed industries in 1982-83 (106 578) was 60 per cent of the ABS estimate of total rural establishments in Australia (BAE 1985b). The estimates in Table 2 probably overestimate capital gains for individual taxpayers because no allowance is made for taxation entities in BAE surveys - real gains or losses for taxation purposes would be reduced when account was taken of the effect of family partnerships and trusts.

The estimates of real capital gains range from +\$33 000 to -\$22 000 per average farm over the period. As a percentage of opening capital within each year, real capital gains averaged 5.8 per cent a year over the seven-year period. Significant variation is observed in the annual

Figure 1: PRICE AND QUANTITY CHANGES IN LAND CAPITAL



(1) Price change = (closing unit price - opening unit price) x opening area
 = $(OP_2 - OP_1) \cdot OQ_1$

(2) Quantity change = (closing area - opening area) x closing unit price
 = $(OQ_2 - OQ_1) \cdot OP_2$

Total capital in time periods 1 and 2 is $P_1 \times Q_1$ and $P_2 \times Q_2$, respectively.

The change in total capital can be seen to comprise the price and quantity change:

$$OP_2 \cdot OQ_2 - OP_1 \cdot OQ_1 = (OP_2 - OP_1) \cdot OQ_1 + (OQ_2 - OQ_1) \cdot OP_2$$

Figure 2: PRICE OF FENCED AND WATERED LAND IN THE SHEEP INDUSTRY: REAL AND NOMINAL

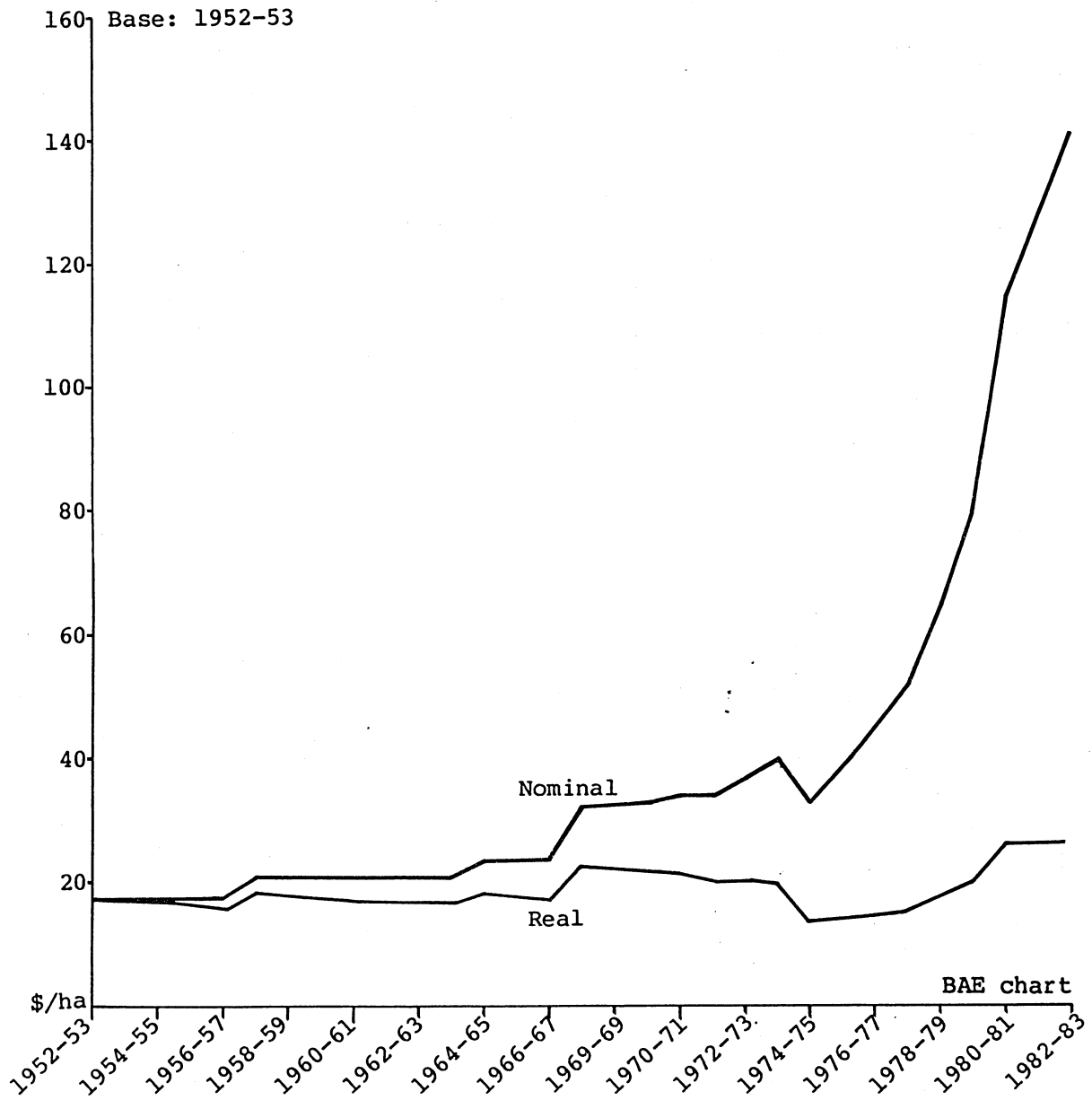


Table 2: ESTIMATES OF REAL CAPITAL GAINS AND LOSSES IN THE SHEEP, BEEF AND WHEAT INDUSTRIES Average per farm

Year	Farm population	Opening value of land and fixed improvements (a)	Closing value of land and fixed improvements (b)	Change in capital due to change in unit price (nominal gains) (c)	Effect of inflation on asset cost base (opening value) (d)	Net gain or loss in real terms	Net gain or loss as a percentage of asset cost
	no.	\$	\$	\$	\$	\$	%
1977-78	115 437	150 528	167 923	15 613 (11)	11 737	3 876	2.6 (36)
1978-79	112 082	158 813	188 832	31 996 (10)	14 108	17 888	11.3 (12)
1979-80	112 874	208 318	257 976	47 716 (12)	22 337	25 379	12.2 (16)
1980-81	112 365	238 894	296 586	54 671 (15)	21 123	33 548	14.0 (18)
1981-82	111 191	309 011	356 090	49 125 (14)	33 172	15 953	5.2 (42)
1982-83	106 578	382 973	408 023	20 682 (24)	42 813	-22 130	-5.8 (21)
1983-84 (p)	106 578	404 525	447 745	19 785 (19)	15 888	3 897	1.0 (93)

(a) Includes land, fences, yards, roads and watering points but excludes operator's house and other buildings. (b) Due to changes in the farm population and sample from year to year, total capital at the end of one year is different from the opening capital of the subsequent year. Therefore, the estimated gains or losses relate to the year in which they accrue. (c) Change in unit price on opening area. (d) Inflation measured by the change in the consumer price index (June quarter on June quarter). (p) Preliminary estimates.

Note: Figures in parentheses are relative standard errors (RSEs), expressed as percentages, of the estimates. RSEs may be interpreted as follows: results indicate that, for example, the average change in capital due to change in unit price on Australian farms in the sheep, beef and wheat industries in 1977-78 was \$15 611, with an RSE of 11 per cent. This means that, if a population census rather than a sample survey had been undertaken, there would be about a 95 per cent chance that the census value would have been within the range of \$15 613 plus or minus 2 x 11 per cent of \$15 613, that is, between \$19 048 and \$12 178.

Source: BAE Australian Agricultural and Grazing Industries Survey.

figures, though real capital gains (according to this measure) occurred in all but one year. The percentage gain in 1983-84 is not significantly different from zero.

Examination of the figures from this table suggests that in the past seven years capital gains have been sporadic and uncertain rather than systematic. This should not be surprising, given the low average rates of return to capital and management in rural industries and the extreme fluctuation in that measure. For all BAE surveyed industries over the past nine years, the pre-tax average real rate of return to capital and management excluding capital appreciation was 0.9 per cent (Hall and Backhouse 1985). Any comparison of rates of return across sectors is of course complicated by the impact of taxation treatment of capital gains.

Further information about the distribution of capital gains within the surveyed industries is contained in Table 3. This table shows the distribution of farms according to accrued capital gains for the period 1977-78 to 1982-83.

Inspection of Table 3 indicates that the spread of capital gains and losses is quite large in all years. While other groups in the community may also experience capital losses, this phenomenon may not be as pronounced as is the case with the farm sector. Because of the system of progressive marginal tax rates, the deductibility of only nominal losses may raise the tax liability of those facing fluctuating capital gains (including farmers) relative to those earning similar but more stable incomes.

The distributional characteristics of capital gains can also be investigated on a locational basis. The BAE classification of the Australian continent into the Pastoral, Wheat-Sheep and High Rainfall Zones is shown in Figure 3. The percentage distributions of real capital gains and losses by climatic zone for 1980-81 and 1981-82, year of generally 'higher' and 'lower' capital gains (see Table 2), are shown in

Table 3: DISTRIBUTION OF FARMS IN THE SHEEP, BEEF AND WHEAT INDUSTRIES ACCORDING TO REAL CAPITAL GAINS

Year	Real capital gains or losses				Total	Real losses but no nominal losses
	Less than \$0	\$0 - \$20 000	\$20 000 - \$100 000	Over \$100 000		
1977-78	46 (3)	44 (4)	9 (8)	1 (29)	100	40 (4)
1978-79	15 (10)	62 (4)	21 (8)	2 (35)	100	13 (11)
1979-80	22 (8)	39 (6)	33 (6)	6 (17)	100	19 (9)
1980-81	9 (13)	46 (5)	38 (6)	7 (14)	100	8 (13)
1981-82	44 (4)	28 (7)	25 (7)	3 (25)	100	42 (4)
1982-83	69 (3)	14 (12)	16 (10)	1 (34)	100	46 (4)

Note: Figures in parentheses are relative standard errors, expressed as percentages, of the estimates.

Source: BAE Australian Agricultural and Grazing Industries Survey.

Figures 4 and 5. The population distribution of survey farms within these zones must be noted - that is, the Pastoral Zone has fewer than 5000 farms whereas the Wheat-Sheep and High Rainfall Zones each have around 50 000 farms. The distribution of real gains and losses within zones is similar for each of the years shown in Table 3 but there appears to be more variation in the inter-zonal distribution between years than within years.

Table 3 also contains estimates of the proportion of farms which fall into the category of accruing capital losses in real terms but making capital gains in nominal terms. In all years examined, most of the farms experiencing real losses did not experience losses in nominal terms. In 1980-81, when 9 per cent of farms were estimated to have accrued real capital losses, 8 per cent of farms accrued real losses but nominal gains. Similarly, in 1981-82, 44 per cent accrued real losses and 42 per cent had real losses and nominal gains. Because of this, the extent of allowable loss offsets (via nominal losses) is greatly reduced.

It can be seen that in recent years the distribution of capital gains is relatively wide within years and is variable between years. In some years, substantial numbers of farms experience real capital losses, although only rarely do farm values fall in nominal terms. The ability to offset real capital losses fully seems necessary if the proposed tax is to achieve horizontal equity. If farms switch between earning real gains and losses over time then systematic capital gains are unlikely to be observed. The allowance of only nominal loss offsets increases the taxation liability incurred as a result of the tax.

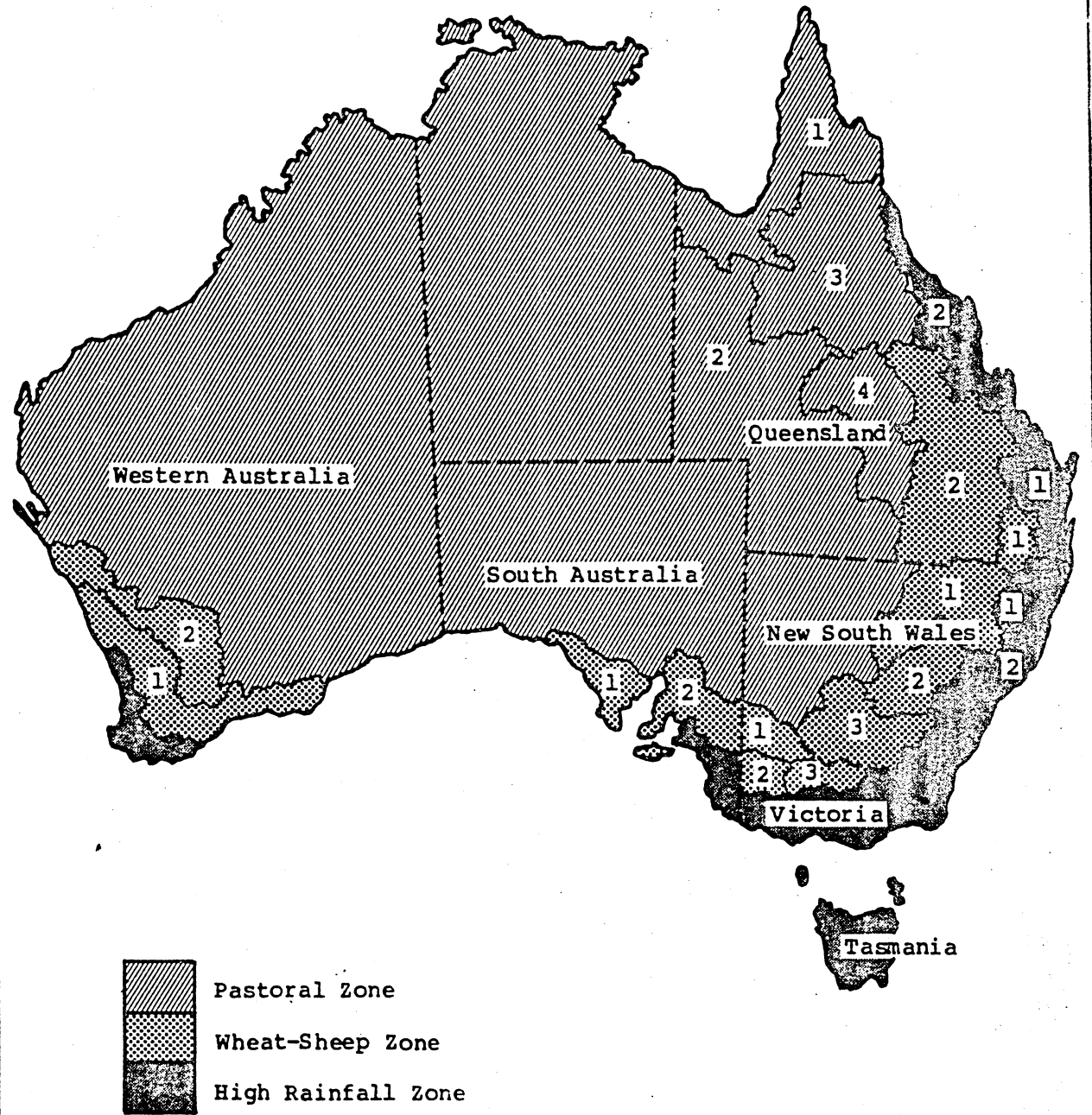
5. SOME IMPLICATIONS OF THE PROPOSED POLICY

The decision to introduce a capital gains tax is consistent with an attempt to broaden the definition of income for taxation purposes and, in this sense, to reduce the inequity in the existing system whereby some taxpayers can convert income that would normally be taxable into tax-free capital gains.

The BAE (1985a) in discussing a possible capital gains tax, assessed the implications of a tax on real gains and made a number of points. Of these points, the most relevant for the current proposals are, first that rural land prices are variable in real terms, so the proposed asymmetrical treatment of gains and losses has important implications for agriculture. Second, that the assessment of realised capital gains with progressive income tax scales would mean that individuals who hold assets for long periods could be forced into a higher marginal tax rate bracket and hence would pay higher rates on capital gain than on other income. (This is commonly known as the 'bunching' problem.) The use of a flat rate tax was recommended to remove this distortion. Third, the success of a capital gains tax in terms of efficiency and equity improvements to the income taxation system would be dependent on the other tax reforms to be introduced. Particular reference was made to the necessity for better account to be taken of the effects of inflation.

While the proposal announced by the Treasurer addresses several inherent design problems, two sets of problems remain and, as can be seen from the data presented in the previous section, these will be important for farmers. First, since the tax is to apply on realisation, there is likely to be some 'lock-in' effect in the sense that, by deferring realisation, the taxpayer can also defer the tax liability, thus

Figure 3: AUSTRALIAN AGRICULTURAL AND GRAZING INDUSTRIES SURVEY: 1980-81
 ZONES AND REGIONS



Note: Numbers 1, 2, 3, 4 represent regions within the zone within the State

BAE chart

Figure 4: PERCENTAGE DISTRIBUTION OF REAL LAND CAPITAL GAINS AND LOSSES:
SHEEP, BEEF AND WHEAT INDUSTRIES: AVERAGE PER FARM: 1980-81

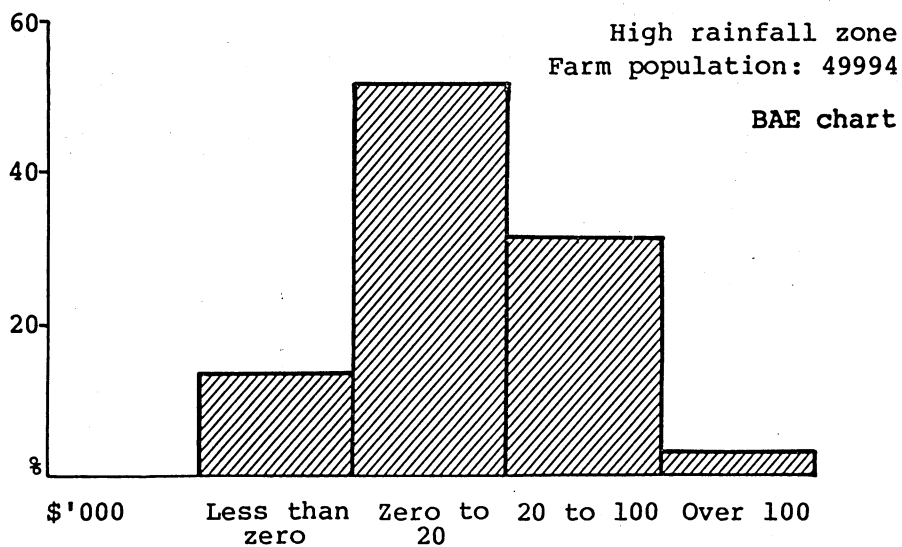
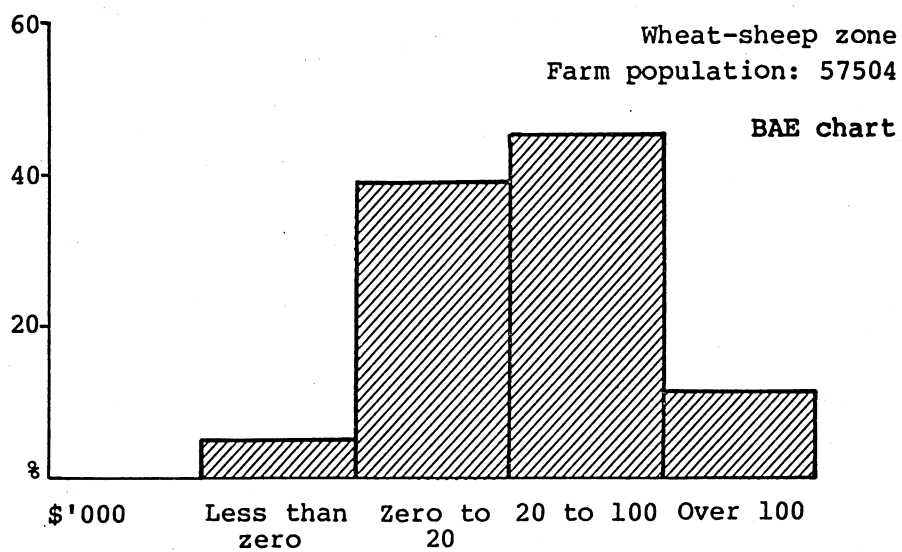
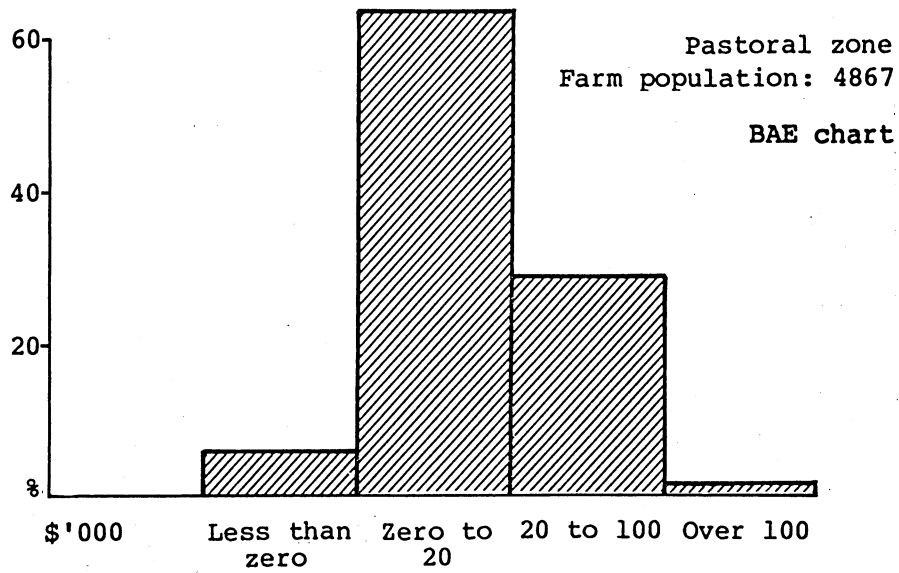
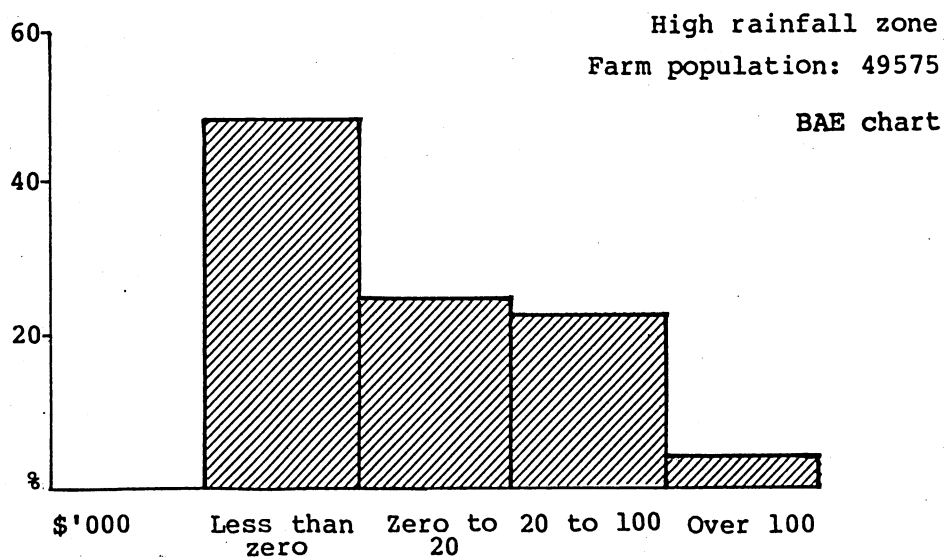
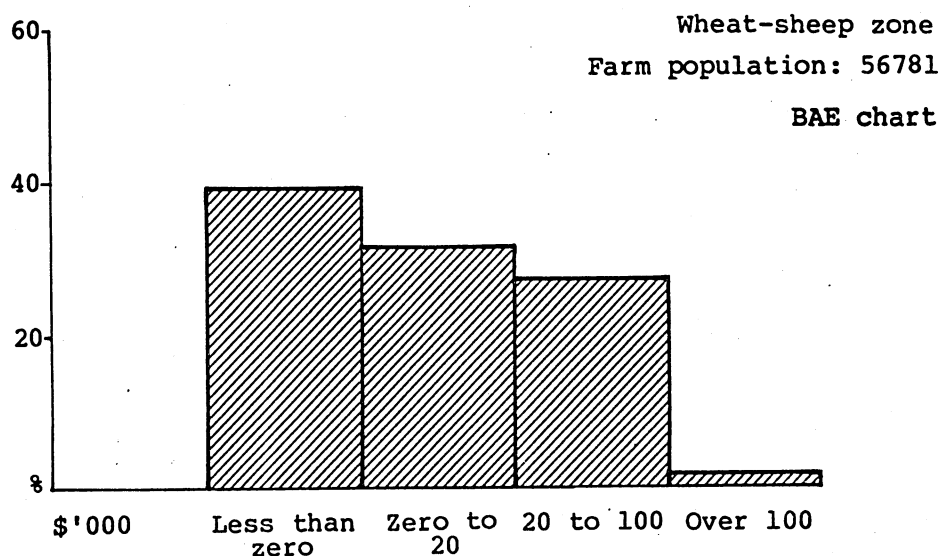
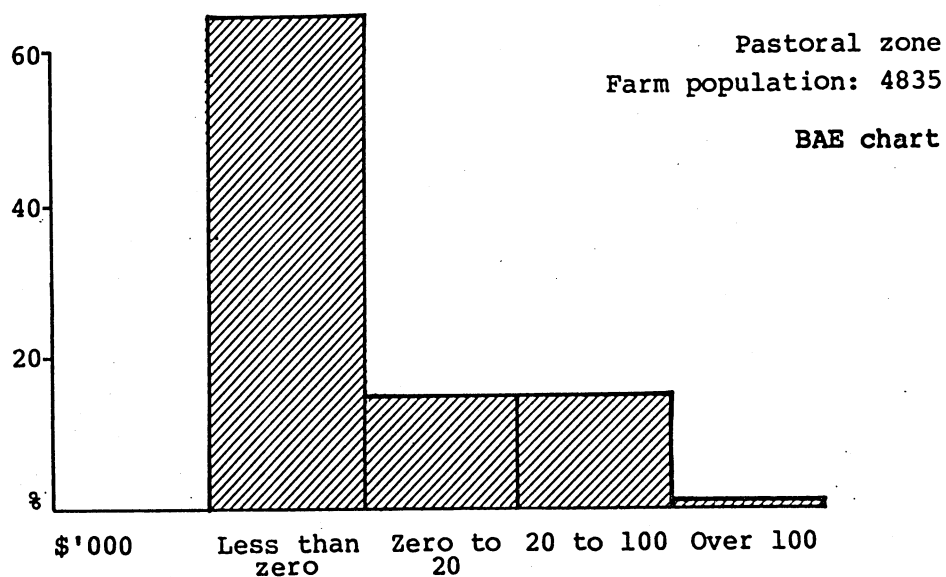


Figure 5: PERCENTAGE DISTRIBUTION OF REAL LAND CAPITAL GAINS AND LOSSES:
SHEEP, BEEF AND WHEAT INDUSTRIES: 1981-82



obtaining, in essence, an interest-free loan from the Taxation Office. In doing so, the tax encourages farmers to time asset sales so as to minimise their effective taxation liability. Such an approach, while appropriate from the individual perspective, may lead to a socially inefficient pattern of resource allocation, with consequent costs to the community.

The extent to which it is appropriate to allow roll-overs would depend on the extent of the 'lock-in' problem. However, from the estimates of capital gains given in the previous section, for some farms, capital gains may be very large in some years and hence the 'lock-in' problem would be significant. The estimates also emphasise the importance of the roll-over and time-to-pay provisions that are included in the proposed taxation arrangements.

The second problem likely to be significant for farmers is that only nominal rather than real losses can be used to offset real capital gains. As can be seen from Tables 2 and 3, there were significant real capital losses on some farms in some years. However, even in 1982-83, when real losses averaged over \$22 000, nominal capital values increased by over \$20 000 (Table 2). That is, inflation ensured that capital values rose even though there were significant real losses. In 1981-82, around 95 per cent of farmers making real losses would have had no offset because they actually experienced nominal gains. Because of the divergence between nominal and real losses, the provision is likely to result in a significant period equity problem. That is, owners of assets purchased after 19 September 1985 which earn capital gains that fluctuate over time (and, by their nature, capital gains typically vary widely over time) will pay more tax than taxpayers with similar but more stable incomes.

The proposed asymmetrical treatment of real gains and losses is a reflection of a broader problem in the existing taxation system, that is, lack of inflation adjustment. Because of the close relationship between the measurement of capital-related income (including capital gains) and inflation, the need to introduce some form of general inflation accounting into the taxation system could be seen as being most important. Certainly, this issue was taken up in the Draft White Paper (Treasury 1985a). While the changes to the taxation system announced on 19 September, including the decision to allow imputation and to tax capital gains, reduce some distortions in the taxation of capital income, other tax-related distortions to the pattern of investment remain. For example, nominal interest income from financial assets remains fully taxable, thus reducing the attraction of this form of investment relative to that of equity investment. In the absence of a general approach to inflation-related problems, the Australian taxation system is likely to continue to pose equity and efficiency problems for many investors, not just those in the rural sector.

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