SOME CALCULATIONS ON INFLATION AND CORPORATE TAXATION IN AUSTRALIA

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ABSTRACT

This paper presents calculations of the effects of inflation on corporate tax liabilities in Australia. Inflation distorts the measurement of taxable corporate income in three main ways: it reduces the real value of depreciation allowances, creates artificial holding gains on inventories, and causes overstatement of the cost of debt financing under a nominal-interest accounting system. The first two of these effects work in the direction of overstating taxable income, while the third works in the opposite direction. The calculations suggest that in aggregate, inflation has increased effective tax rates on corporate income, with the largest effects occurring with a lag of several years after periods of high inflation.

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1. INTRODUCTION

It is well known that inflation distorts the measurement of income from capital, particularly in the context of corporate taxation. As a result, inflation can introduce distortions in the after-tax cost and returns to capital, either by shifting the relative tax burdens on different types of capital investment or by altering the overall tax burden on capital.

As in many other countries, Australian accounting rules require companies to measure all income and balance sheet items in nominal (or, in some cases, book value) terms. It is often argued that a neutral tax system should exclude from the tax base any income attributable purely to a general rise in the price level.

This paper aims to quantify the distorting effects of inflation on the measurement of corporate income, and on the associated assessment of corporate tax liabilities, over the past two decades. Excluded from consideration are distortions associated with concessional treatment given to particular forms of income, or to income from favoured activities; for example, the favourable treatment given to income from capital gains is not discussed, even though this would have had a sizeable effect on corporate tax liabilities. The aim is not to arrive at comprehensive estimates of the "true" corporate income tax base, but to determine the extent to which corporate tax liabilities are distorted by the unintentional mismeasurement of income due to inflation.[1]

There are three major inflationary distortions to conventionally measured nominal profits.

- First, inflation reduces the real value of tax depreciation allowances on depreciable assets.

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[1] For a similar analysis for the United States, see Feldstein and Summers (1979). The Treasury (1987) also calculates real corporate tax rates for Australia.

- Second, the first-in-first-out (FIFO) inventory accounting system commonly used in Australia results in higher taxable profits from holding stocks in inflationary periods.

- Third, the tax treatment of interest payments results in a better known inflationary distortion. Inflation erodes the real value of financial assets and liabilities, but higher nominal interest rates compensate for these losses. Thus only the real component of interest payments constitutes an expense by a debtor or income to a lender, yet nominal interest payments are fully deductible from taxable corporate income, and interest receipts fully taxable.

In the calculations presented below, these three distortions to corporate income are quantified over the recent historical period, with particular attention paid to the tax treatment of depreciation. A measure of inflation-adjusted income is derived from standard nominal profits data, and the resulting additional corporate tax liability attributable to inflation is assessed.

These figures show that inflation has usually increased the corporate tax burden. Over the past 20 years, the tax treatment of depreciation and inventories has led to greater tax liabilities in inflationary periods, while the deductibility of nominal interest payments has partially offset this effect.

Though this study does not attempt to measure the impact of the inflationary distortions to corporate taxes on investment and financing decisions, the potential incentives from such distortions seem fairly clear. In periods of high inflation, companies will benefit most by avoiding investment in depreciable assets and stocks, and instead, acquiring assets that appreciate in value and which are taxed preferentially. The impact of inflation on these decisions is a more complex question which is examined by Ryan (1990).

2. DEPRECIATION

Depreciation arises from the fact that fixed assets used in income production, such as plant, equipment and buildings, commonly last for longer than one accounting period, but not forever. Accounting principles dictate that income and expenses be matched year by year. This requires that the *expense* (depreciation) associated with the use of capital be assessed yearly, regardless of actual capital *expenditure* that year. Because it is not directly observable, depreciation presents a

fundamental measurement problem. In the Australian National Accounts, aggregate national depreciation is estimated indirectly using data on annual capital expenditure and assumptions about asset lifetimes and decay rates.[2]

At the company level, true economic depreciation may differ widely for a given asset depending on its actual circumstances, but tax laws require standardised rules for calculating depreciation allowances, for obvious reasons. As in most other countries, the Australian tax system allows companies to deduct a certain portion of the original *purchase price* of the asset each year, that portion based on a statutory effective lifetime for the particular type of asset and a depreciation formula. Companies may elect to use one of two formulas in calculating the annual depreciation allowance. The "straight-line" or "prime-cost" method provides a series of equal annual deductions. Thus for an asset of purchase price K and lifetime L, L annual deductions of K/L are allowed. The alternative "diminishing-balance" formula applies a rate equal to 150% of the straight-line rate (1.5/L) to the *net* value of the asset each year; any remaining portion of the original price of the asset can be deducted in the last year of the asset's statutory lifetime.

Under these original-cost depreciation rules, the real value of tax allowances falls below actual depreciation in inflationary periods. This occurs because inflation increases the replacement cost of new plant, equipment and buildings, but depreciation allowances are fixed (or declining) in nominal terms, and so decline in real terms over time. Put more simply, under original-cost accounting, the real value of the stream of tax allowances is much less than the original cost of the asset. As a result, and most disturbing to businesses, profits measured at original cost will be overstated, thus increasing the income tax liability.

The effect of inflation on depreciation allowances can be demonstrated with a simple formula. Assuming a straight-line pattern for tax purposes and for actual economic depreciation, the real value of tax allowances A, for an asset of purchase price K with a statutory lifetime of L years under inflation of π, can be expressed by the following formula:

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[2] Prior to 1986, the ABS used depreciation allowances reported on tax returns in the National Accounts, but now estimate actual economic depreciation to obtain a capital consumption measure consistent with national accounting principles.

$$A = \sum_{t=1}^{L} \frac{K}{L} \cdot \frac{1}{(1+\pi)^t} \cdot$$

It is quite easy to see that if inflation is greater than zero, A will be less than K; furthermore, A will decrease as the inflation rate and the life of the asset increase.[3] In reality, this calculation is not so simple when factors such as accelerated depreciation, investment allowances and formulas other than the straight-line method are considered.

Table 1 illustrates how different depreciation rules affect the real value of depreciation allowances for assets of different lifetimes and under different rates of inflation. The four plant and equipment cases reflect actual rules that have existed in Australia and are shown in roughly chronological order.

The first case (1) of simple straight-line depreciation, which prevailed for most of the 1960s and 1970s, relies on the simple formula shown above. (Depreciation was not allowed on most buildings in this period.)

"Accelerated" depreciation, which allowed plant and equipment to be amortised over a shorter than effective lifetime, was introduced in 1980. An additional acceleration provision became available for assets ordered after 19 July, 1982. The so-called "5/3" system, the second case (2) shown, allowed equipment with a statutory lifetime longer than five years to be amortised at 20% per year, and those with shorter lifetimes were depreciated over three years or less.

In case 3, an 18% investment allowance available between 1981 and 1988 is added to the 5/3 allowances. Some form of investment tax allowance for new plant and equipment had been in effect since the early 1960s, and intermittently in the 1970s. This allowance, intended as an investment incentive, was very similar to the depreciation

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[3] To be consistent with replacement-cost valuation, the inflation rate used should be specific to the type of asset considered. Also note that this calculation ignores the real financing costs (the time value of money) that would be included in a standard present-value calculation. It is assumed that these costs are not relevant to an assessment of the real income tax base.

allowance, in that it provided an additional, immediate write-off of a fraction of plant and equipment expenditure.

Case 4 shows the real value of depreciation allowances for new plant and equipment in the current (post-1988) Australian system. Tax reforms in 1985 and 1988 terminated most of the investment allowance and accelerated depreciation provisions. For plant and equipment installed after 26 May, 1988, depreciation allowances must be calculated according to standard effective lifetimes (either straight-line or 150% diminishing-balance method) with a 20% "loading"[4] on these rates. (Note that plant and equipment installed before that date continue to be eligible for the 5/3 treatment and the investment allowance.)

Only one case is shown for non-residential buildings; this is the law effective for buildings constructed between July 1982 and August 1984 and since September 1987. Depreciation is allowed at a rate of 2.5% of original construction costs over 40 years. As Table 1 indicates, this rule implies that the real value of allowances per dollar invested will be equal for all buildings for a given inflation rate. Buildings that last less than 40 years, however, cannot claim the full value of these allowances except in the case of demolition or destruction, when a balancing deduction equal to unclaimed depreciation is allowed. (Residential properties, not shown here, are eligible for annual deductions of 2.5% if owned for investment purposes and constructed after 1987.)

These simple calculations highlight the difference in inflationary bias to depreciation allowances across assets of different expected lifetimes. A comparison of case (4) with case (3) indicates that the current depreciation rules provide a considerably smaller total write-off of plant and equipment than under the system that existed until 1988, for longer-lived assets in particular. For example, under current law, the real value of depreciation allowances for equipment with a 20-year lifetime and inflation of 10% per year amounts to only one-half of the actual cost of the asset.

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[4] Plant and equipment purchased after May 1988 can be written off at a rate 20 per cent faster than implied by the assessed asset life.

Table 1: Real Value of Depreciation Allowances for $1 Invested

ASSET TYPE	TAX LIFETIME	INFLATION 0%	5%	10%
Plant & Equipment		**(1)** Simple straight-line		
	2 years	1.00	0.93	0.87
	5 years	1.00	0.87	0.76
	10 years	1.00	0.77	0.61
	15 years	1.00	0.69	0.51
	20 years	1.00	0.62	0.43
		(2) 5/3 Acceleration		
	2 years	1.00	0.94	0.88
	5 years	1.00	0.88	0.78
	10 years	1.00	0.87	0.76
	15 years	1.00	0.87	0.76
	20 years	1.00	0.87	0.76
		(3) 5/3 Accel.+18% Invest. Allow.		
	2 years	1.18	1.11	1.04
	5 years	1.18	1.05	0.95
	10 years	1.18	1.04	0.92
	15 years	1.18	1.04	0.92
	20 years	1.18	1.04	0.92
		(4) Straight-line+20% loading		
	2 years	1.00	0.94	0.88
	5 years	1.00	0.88	0.79
	10 years	1.00	0.80	0.66
	15 years	1.00	0.73	0.56
	20 years	1.00	0.67	0.48
Nonresidential Buildings		2.5% Annual depreciation		
	20 years	0.50	0.31	0.21
	40 years	1.00	0.43	0.24
	60 years	1.00	0.43	0.24

Some other features of the current Australian depreciation provisions highlight additional uneven tax treatment of different assets. Research and development expenditures can be amortised at 150% of cost over three years, while patents and copyrights must be amortised over their "useful" life. Depreciation of automobiles is restricted. Other less tangible capital expenditures, such as staff training and advertising, can be written off immediately, as can expenditures on certain favoured activities, notably mining exploration and production of Australian films.

Aggregate data for the non-financial corporate sector provide another view of the adequacy of depreciation allowances over the last two decades. Specifically, a comparison of total tax allowances claimed on company tax returns with an estimate of actual economic depreciation at replacement cost indicates the extent to which depreciation allowances were or were not adequate.

Data on corporate tax allowances are readily available from aggregate taxation statistics. The data used here for actual depreciation at replacement and original cost are calculated by the ABS, but should be treated with caution as they are quite sensitive to the assumptions used to construct them.

According to the ABS data, economic depreciation of equipment and buildings at replacement cost has significantly exceeded tax allowances for the last 20 years. In 1987-88, for example, replacement-cost depreciation of $15 billion was almost $5 billion greater than tax allowances. This discrepancy can be divided into two components: the excess of replacement-cost over original-cost depreciation; and the difference between original-cost depreciation and tax allowances.

The relative importance of these two components is illustrated in Table 2, over the period 1966-1988. Column 1 shows the ratio of original-cost to replacement-cost depreciation estimates; this represents the cumulative effect of inflation on fixed-capital values. In the 1960s, this ratio was close to one, as replacement costs did not differ markedly from book values. As inflation accelerated in the 1970s, an increasing shortfall emerged in depreciation calculated at original prices. By the late 1970s, inflation had pushed the replacement cost of existing capital to nearly 200% of its original cost. As inflation abated somewhat in the mid-1980s, this ratio recovered slightly, but because the effects of inflation are cumulative over the lifetime of an asset, the effects of late

1970s inflation on much of the capital stock are still being felt in increased replacement-cost depreciation.

Table 2: Depreciation Ratios

	Original Cost/ Replacement Cost (1)	Depreciation Allowances/ Original Cost (2)	Depreciation Allowances/ Replacement Cost (3)	Depreciation + Investment Allowances/ Replacement Cost (4)
1966-67	0.85	1.02	0.87	0.98
1967-68	0.86	1.01	0.87	0.98
1968-69	0.85	1.02	0.87	0.96
1969-70	0.85	1.03	0.88	0.96
1970-71	0.83	0.99	0.82	0.88
1971-72	0.80	0.98	0.79	0.84
1972-73	0.79	0.94	0.74	0.81
1973-74	0.76	0.91	0.70	0.74
1974-75	0.64	0.95	0.60	0.62
1975-76	0.59	1.00	0.58	0.64
1976-77	0.56	1.03	0.58	0.72
1977-78	0.54	0.96	0.52	0.70
1978-79	0.53	0.92	0.49	0.70
1979-80	0.53	0.86	0.45	0.55
1980-81	0.53	0.87	0.46	0.56
1981-82	0.54	0.84	0.45	0.56
1982-83	0.54	0.74	0.40	0.50
1983-84	0.57	0.98	0.56	0.65
1984-85	0.60	1.04	0.62	0.74
1985-86	0.58	1.08	0.63	0.69
1986-87	0.58	1.15	0.66	0.70
1987-88	0.61	1.10	0.67	0.68

Original cost: Australian Bureau of Statistics, *Australian National Accounts*, Table Appendix B-Consumption of fixed capital (at historical cost) for private corporate trading enterprises.
Replacement cost: ANA, Table 17-Consumption of fixed capital (at replacement cost) for pcte's
Depreciation and investment allowances: Australian Taxation Office, *Taxation Statistics*. Excludes banks and life insurance offices.

The ratio of tax allowances to original-cost depreciation is shown in Column 2. Given that tax allowances are based on original prices, one would expect this difference to be negligible. In fact, the discrepancy was often quite large, but there are a number of plausible explanations for this finding. First, changes in the tax rules clearly contributed to changes in this ratio. Accelerated depreciation, in particular, boosted total depreciation allowances claimed on company tax returns. The tax allowance/original-cost depreciation ratio increased steadily after the introduction of accelerated depreciation in the early 1980s. By 1987-88, tax allowances significantly exceeded original-cost depreciation.

Second, prior to 1982, buildings were not covered by depreciation rules. As a result, actual depreciation would tend to be increasingly understated by tax allowances as buildings increased as a fraction of the capital stock. Third, the data are affected by changes in the composition of the capital stock which may have reduced its average life. Finally, inaccuracies in the ABS estimates may also be a factor, considering the inevitably inexact nature of their construction.[5]

The ratio of tax depreciation allowances to replacement-cost depreciation is shown in column 3 (= column 1 x column 2). The inflationary effect on replacement costs (column 1) typically accounts for all of the shortfall in tax allowances. In column 4, the ratio of both depreciation and investment allowances to replacement-cost depreciation provides an estimate of the extent to which the tax system overall allowed adequate deductions for capital consumption.

Total deductions fell from nearly 100% of estimated real economic depreciation in the 1960s to less than 70% in 1987-88. Note that the ratios in columns 3 and 4 can be thought of as aggregations across assets (of different types, lifetimes and ages) of the real value calculations shown in Table 1. However, direct comparisons would be misleading. In 1987-88, for example, Table 2 shows aggregate depreciation allowances well below replacement-cost depreciation, despite the quite generous tax treatment of plant and equipment in that year. Note, however, that the capital stock in 1987-88 contained many assets purchased prior to 1982 which were not eligible for the 5/3 provision, and which would have been subject to the high inflation of

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[5] One source of error is the industry coverage of the ABS estimates and the taxation data. It is difficult to disagggregate the taxation data into the private, non-financial, corporate trading enterprise sector used in the National Accounts. Leasing activities by financial enterprises, for example, could introduce inconsistencies between the two sources.

the late 1970s. The figures in Table 1 also indicate that as the acceleration provisions are phased out over the next few years, the ratio of tax allowances to actual depreciation can be expected to decline, particularly if inflation remains fairly high.

3. INVENTORIES

Inflation also distorts conventionally measured company income by creating capital gains on stocks. The FIFO accounting method commonly used in Australia measures the cost of goods sold from inventory at book value (cost) rather than current market prices. In inflationary periods, current prices exceed book values, raising the value of company sales relative to costs. Taxable company income consequently includes a holding gain component. In fact, the increased replacement cost of the goods sold means that there is no real gain to the company. This practice of effectively taxing the capital gains on stocks constitutes a substantial tax bias against investment in stocks relative to other assets that are free of (nominal) capital gains taxation.

In recognition of this problem, a trading stock valuation adjustment (SVA) was allowed on company tax returns in Australia between 1976 and 1979. This deduction was calculated as half the general inflation rate applied to the initial value of inventories. Total deductions claimed on company tax returns totalled about $1 billion in each year of the SVA's existence, more than 10% of company income. Since 1979, however, stock holding gains have again been fully assessable as income.

In contrast to existing tax rules, a SVA is included in the National Accounts to ensure that the operating surplus and change in stocks components of national income and expenditure do not include stock holding gains associated with inflation. The SVA is calculated approximately as:

$$SVA = \sum_i \pi_i S_i$$

where S_i is the book value of stocks for each type of good (i) and π_i is the specific inflation rate. The additional income tax paid is equal to: τ.SVA where τ is the company income tax rate; thus the after-tax return on stock investment is reduced by $\tau.\pi_i$ percentage points as a result of book valuation of stocks.

The official SVA measure is used in this analysis to quantify the inflationary distortion to company income from book valuation of stocks. Annual data are shown below in column (3) of Table 3. As would be expected, the SVA fluctuates widely with stock levels and inflation rates, reaching a level of more than $3 billion in 1987-88. It is not uncommon for the SVA to far exceed the estimated change in stocks.

4. DEBT AND INTEREST

Under tax rules in Australia and most other countries, companies are entitled to deduct the full nominal value of interest payments from income, even though the inflationary component of the interest is compensation to lenders for the loss in real value of the debt. Whether this constitutes a tax bias towards borrowing depends upon the extent to which lenders, who must pay tax on nominal interest receipts, demand a higher pre-tax return on debt. (This is one instance in which consideration of tax treatment of corporations, rather than the ultimate investors, does not provide a complete picture.)

In inflationary periods, the nominal tax treatment of interest results in the understatement of company profits, since the corporate sector is a net debtor in aggregate. The magnitude of this distortion to real income can be calculated as the reduction in the real value of net debt holdings (D):

$$= \frac{D\pi}{(1+\pi)} .$$

A similar distortion involves the treatment of non-interest bearing assets and liabilities, particularly trade credit, trade debt, and cash. Company income should also be adjusted for the real loss in value of net non-interest bearing assets.

Quantifying these distortions requires comprehensive national corporate balance-sheet data. New survey data compiled by the ABS are not yet available, and will not cover a significant historical period. Australian Stock Exchange data do not include a complete survey of corporations, and only maintain data for currently operating companies. The Reserve Bank's Company Finance Survey data do not cover a large enough segment of the corporate sector to provide a reliable measure of aggregate corporate debt. The Financial Flows data are more comprehensive, but do not include balance sheet

information. However, debt levels can be estimated from the Financial Flows data by assuming some value for the initial stock in the early 1950s and adding the yearly borrowing flows.[6] The resulting debt measure is admittedly crude, but appears to be roughly consistent with National Accounts corporate interest payments data.

The real gains on net corporate debt and losses on net non-interest bearing assets are shown in column (4) of Table 3.

5. REAL INCOME AND THE CORPORATE TAX BURDEN

Using the calculations for the inflationary distortions arising from tax treatment of depreciation, stocks and debt, a measure of inflation-adjusted corporate income can be calculated. Table 3 shows taxable corporate income as reported in the National Accounts for the non-financial corporate sector. Subtracting the spurious profits on depreciation and stocks and adding the gains on debt produces the final inflation-adjusted income measure.

The difference between nominal taxable income and inflation-adjusted income (column 6) provides an indication of the total inflationary distortion to taxable income. These figures show that nominal income was consistently larger than real income, although in 1987-88, gains on debt nearly offset reductions in income due to tax treatment of depreciation and stocks[7].

Note that the inflationary distortion varies significantly across types of assets and liabilities. Real income from fixed assets and stocks is overestimated in inflationary periods, resulting in a higher tax burden. Stocks are penalised particularly severely. In contrast, the real income on debt is always underestimated, implying a lower tax burden on debt financing.

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[6] This is the methodology used in EPAC (1990), the main source of the debt data used here, adjusted for net trade debt. Net debt levels for 1986-87 and 1987-88 were estimated by applying market interest rates to the ABS interest payments and receipts data. The implied increase in net debt for these two years is large for any reasonable interest rate assumption.

[7] To the extent that nominal interest rates adjust to preserve after-tax real rates for borrowers and lenders, the above calculations will overstate the benefit to firms from the inflationary gains on debt.

Table 3: Corporate Income and Inflation
($ million)

	Total Nominal Income	minus Depreciation less Allowances	minus Stock Holding Gains	plus Real Gain on Debt	equals Inflation Adjusted Income	Difference (1-5)
	(1)	(2)	(3)	(4)	(5)	(6)
1966-67	2,246	119	110	148	2,165	81
1967-68	2,564	134	125	103	2,408	157
1968-69	2,840	149	67	211	2,835	6
1969-70	3,430	156	183	228	3,319	111
1970-71	3,516	274	235	364	3,371	145
1971-72	3,854	367	364	600	3,723	131
1972-73	4,683	497	533	692	4,345	338
1973-74	5,511	666	1,225	1,229	4,850	661
1974-75	5,891	1,133	1,753	2,017	5,022	869
1975-76	6,694	1,421	1,722	1,950	5,501	1,193
1976-77	7,475	1,650	1,369	1,582	6,038	1,437
1977-78	7,649	2,171	1,179	1,284	5,583	2,067
1978-79	9,835	2,618	1,803	1,464	6,878	2,957
1979-80	12,635	3,210	2,686	1,878	8,617	4,018
1980-81	13,659	3,598	2,070	2,070	10,061	3,598
1981-82	12,796	4,139	2,298	2,602	8,961	3,835
1982-83	12,597	5,238	2,233	3,255	8,381	4,216
1983-84	15,347	4,272	1,374	2,330	12,031	3,316
1984-85	18,871	3,872	2,108	2,108	14,999	3,872
1985-86	19,753	4,487	1,628	2,795	16,433	3,320
1986-87	20,786	4,648	3,140	3,845	16,843	3,943
1987-88	23,833	4,874	3,159	6,020	21,820	2,013

(1) Gross operating surplus of pcte's (ANA, Table 19) - depreciation allowances (as in Table 2) + SVA (see below) - net interest paid by pcte's (ANA, Table 29)
(2) Replacement cost less depreciation allowances (both as in Table 2)
(3) Unpublished ANA data for the SVA of pcte's (ANA, Table 61 includes unincorporates)
(4) See Footnote 6 for debt data. Deflator is that for gross domestic product (ANA, Table 3)

Table 4 shows average effective tax rates, both nominal and inflation-adjusted, and the estimated change in aggregate corporate tax liability that has resulted from the effects of inflation on conventionally measured taxable income. Inflation is shown to have increased corporate tax payments by an average of a little more than $1 billion per year over the 10 years to 1987/88.

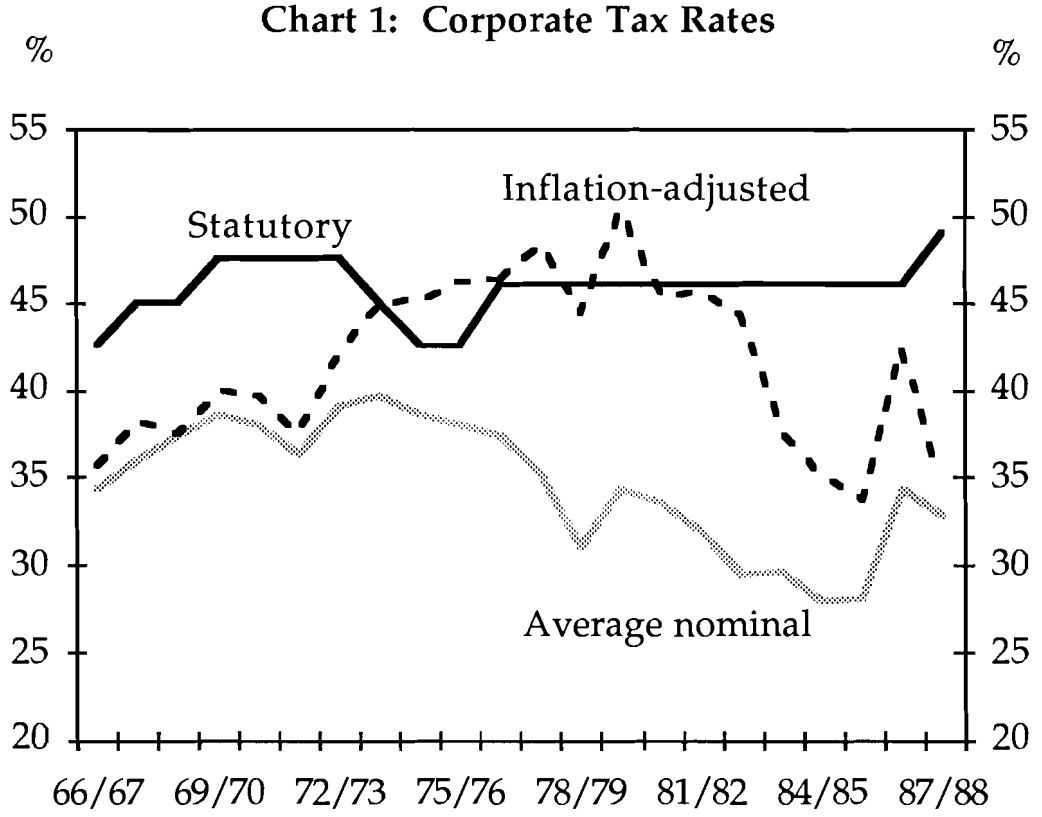
Table 4: Corporate Taxation and Inflation

	Total Taxes Paid ($ Million)	Statutory Corporate Tax Rate (%)	Average Nominal Tax Rate (%)	Inflation-Adjusted Tax Rate (%)	Additional Tax From Inflation ($ Million)
	(1)	(2)	(3)	(4)	(5)
1966-67	771	43	34	36	28
1967-68	922	45	36	38	56
1968-69	1,062	45	37	37	2
1969-70	1,323	48	39	40	43
1970-71	1,334	48	38	40	55
1971-72	1,398	48	36	38	47
1972-73	1,826	48	39	42	132
1973-74	2,181	45	40	45	262
1974-75	2,268	43	39	45	335
1975-76	2,540	43	38	46	453
1976-77	2,793	46	37	46	537
1977-78	2,694	46	35	48	728
1978-79	3,050	46	31	44	917
1979-80	4,334	46	34	50	1,378
1980-81	4,574	46	33	45	1,205
1981-82	4,086	46	32	46	1,225
1982-83	3,699	46	29	44	1,238
1983-84	4,532	46	30	38	979
1984-85	5,253	46	28	35	1,078
1985-86	5,538	46	28	34	931
1986-87	7,130	46	34	42	1,352
1987-88	7,806	49	33	36	659

(1) Income tax payable by pcte's (ANA, Table 29)
(3) (1)/Nominal income, as in col (1) of Table 3
(4) (1)/Inflation-adjusted income, as in col (5) of Table 3
(5) (3)*difference between nominal and inflation-adjusted income (col(6) of Table 3).

Effective tax rates, calculated as total taxes paid relative to taxable income, are always lower than the statutory rate as a result of various tax deductions and credits. The inflation-adjusted tax rate is generally higher than the nominal tax rate, supporting the view that inflation raises the corporate tax burden (Chart 1). The gradual narrowing of the gap between nominal and inflation-adjusted tax rates in recent years appears to reflect two factors: the growth of corporate debt, with its associated tax advantages, and the more moderate rates of inflation in the 1980s, which appear to have reduced the distortions to depreciation allowances in particular.

Chart 1: Corporate Tax Rates



6. CONCLUSIONS

The calculations presented in this paper indicate that the interaction of inflation and the tax system produces significant distortions in the assessment of corporate income and corporate tax liabilities. In aggregate, these distortions result in a somewhat higher tax burden from inflation. The burden falls primarily on investment in depreciating assets (plant and equipment) and on stocks. On the other hand, investment in appreciating assets (such as buildings and land),

particularly if acquired with debt, may be favoured by lower taxation than if their real profitability were accurately measured.

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