

TAX ACCOUNTING FOR INFLATION AND DEVALUATION : THE CASE OF INDONESIA

by

Glenn P. Jenkins

Harvard Institute for International Development

January 1981

I. INTRODUCTION

The adjustments required to correct "generally accepted accounting principles" for the impact of inflation or a devaluation, has been the subject of a protracted debate in the accounting and taxation literature. As an outcome of that discussion, it is now generally recognized that inflation affects the estimation of income and taxes using conventional accounting procedures in at least five different ways. First, depreciation expenses or capital cost allowances become underestimated because they are usually calculated as a fraction of the historical cost of the fixed assets, not their current inflated values. Second, the cost of goods sold tend to be underestimated, and income overestimated, if goods used from inventories are valued on a first-in first-out basis rather than at their current (adjusted for inflation) costs. Third, nominal interest rates tend to rise due to the compensation required by lenders for the decrease in the real value of the principal outstanding due to inflation. This tends to create a significant immediate increase in cash outflow of business relative to the increase in cash inflow due to inflation. For example, if in the case of zero inflation the nominal interest rate was 5 percent it would rise to at least 15.5 percent if the rate of inflation was expected to increase 10 percent a year. Hence, even though the cash inflow from operations would be expected to increase at a rate of 10 percent a year due to inflation, the interest payments would rapidly move to over 300 percent of their original value. Fourth, as interest expense is usually allowed as deduction for tax expenses the entire higher nominal interest expense is usually allowed as a deduction from taxable income even though the component for the compensation for inflation is in reality a repayment of the real value of the outstanding principal. The opposite holds for net lenders where the full nominal interest received is included in taxable income. This interaction between interest rates and traditional rates of taxation decrease the amount of income taxes paid for borrowers, and increases it for lenders. Fifth, to the extent that inflation is unanticipated, wealth transfers will take place from lenders to borrowers as the real values of nominally denominated assets and liabilities are decreased by the amount of the unanticipated inflation.

During the period from 1971 to 1978 the consumer's price index for Jakarta had recorded approximately a 350 percent increase, while the relevant price index for manufactured imports (IMF Export Unit Values of Industrialized Countries) increased by approximately 2.5 times. In addition, in November 1978 the Indonesian Rupiah was devalued from 415 Rp/1 US\$ to 620 Rp/1 US\$.

Despite this considerable movement in prices, the only provision allowing firms operating in Indonesia to revalue their assets from historical costs to account for the experienced inflation, also required them to pay a tax on these inflationary gains. As a result, very few firms were willing to carry out a revaluation of assets.

A revaluation of business fixed assets and inventories would serve two important policy objectives of government. First, it would enable the application of a more orthodox business income tax system reflecting real current costs rather than outdated historical costs in the calculation of taxable income. Second, in order to further the policy objective of developing financial statements of business enterprises must contain accurate information reflecting current values of business assets and liabilities at the present level of prices, not values recorded in price levels that are widely out of line from present conditions.

The reminder of this paper outlines a methodology for the revaluation of business fixed assets and inventories that would correct for the first two effects of inflation outlined above. At the present stage of development of the Indonesian financial markets and tax administration, it is unlikely that the attempt to correct for the last three financial aspects of inflation would be a cost effective endeavour. Hence, efforts were focused on the development of a relatively direct method to revalue fixed assets for the impact of historical inflation and devaluation, thus adjusting depreciation expenses, and also to change the method of estimating cost of goods sold so that it would reflect current costs rather than historical costs.

A methodology similar to the one outlined below was adapted by the Government of Indonesia to carry out this revaluation. From all reports, the procedures were implemented without creating difficulties for either the business establishments or the government.

II. ESTIMATION OF ADJUSTMENT FACTORS TO REVALUE FIXED ASSETS

A revaluation of business fixed assets enable for past inflation and the 1978 devaluation would allow firms to estimate capital cost allowances (depreciation expense) for income tax purpose in a way that used up in the production of output. If companies fully reporting net income according to provisions of tax law, revaluation would of course reduce income tax payments. However, the unavailability of asset revaluations is one prime reason why firms do not report net income correctly. Thus it is doubtful that implementation of revaluation would lead to a reduction in income tax revenue. This adjustment to capital cost allowances for the effect of previous inflation and the current devaluation serves to move the real income tax liabilities of business back in the direction to where would have been if no inflation or devaluation had occurred.

An appropriate revaluation of business fixed assets for past inflation and the recent devaluation should never place a business firm in a better financial position, with respect to current real income tax liabilities, than it would have been in the absence of both inflation or the devaluation. However, the revaluation of the fixed assets for business firms does not solve the entire problem of having income taxes levied on spurious accounting profits created by past inflation and recent devaluation. An additional issue is the development of a method for the correct pricing of goods sold or used from the inventories of firms.

Because of the wide range of items that make up fixed assets of business and the considerable differential movement of prices across the various items, it has sometimes been argued that revaluation of fixed assets as an impossible task that opens the possibility for firms to abuse the provision to avoid income taxes. This conclusion need not be correct, providing the government of broad classes of fixed assets and not try to revalue each type of asset according to its particular net replacement value.

The revaluation of fixed assets according to the movement of one or two broad based price indices will at least as equitable a tax system as when there is no inflation exists and no allowance is made to revalue fixed assets according to the change in relative prices. No country that has been fortunate enough to experience negligible general rates of inflation (0 to 4%) has allowed businesses to revalue specific fixed assets upward for tax purposes, because their relative prices have increased. Similarly, firms have never been required to revalue their fixed assets downward to below costs for estimating depreciation expenses because their current replacement prices have fallen (e.g. computers). Therefore, a revaluation of fixed business assets according to a general price index that also incorporates the impact of devaluation will be as equitable for income tax purposes as the strict use of cost depreciation in a situation where there was little or no inflation. While a system of revaluation of fixed assets that aims to adjust assets to either current appraised or net replacement costs might be considered more equitable in theory, it is unreasonable to expect the tax authorities in most developing or developed countries to administer such a system. Such a system has been rejected by all developed and developing countries who have instituted measures to adjust fixed asset prices for the effects of inflation.

An additional advantage of designing a system of asset revaluation that recognizes only the change in the general price level and not the individual appraised values of the fixed assets is that it prevents firms from obtaining unwarranted depreciation allowances. If the fixed assets are revalued according to their current appraised values, then the base for the depreciation allowance for tax purposes would still include the value of the windfall gains. Windfall gains are measured here as the increase in prices of fixed assets that are over and above the increase in general price level. There appears to be no grounds on either economic or equity considerations for providing tax relief on windfall gains. Therefore revaluation of fixed assets according to a formula based on the general rate of inflation is preferred. A further positive feature derived from the restriction of the revaluation of fixed assets to factors based on the general level of inflation is that it will not provide a shelter to windfall profits from future capital gains taxation in the event the assets are sold. If the book value of fixed assets are adjusted for the effect of general rate of

inflation since they were purchased, and these adjusted values are used as the cost base for the estimation of capital gains, then only the spurious gains arising from general price level inflation would be exempt from capital gains taxation. This is an equitable treatment for the taxation of capital gains. It recognises that inflationary increases in asset prices arising from the increase in the general price level do not reflect any increase in the real income or wealth of the owners of the assets.

To implement a scheme for the revaluation of fixed business assets in Indonesia it would be advisable that only two categories of assets be adopted. Thus two sets of adjustment factors could be used to revalue all assets. One set of adjustment factors could be based on the movement of the general price level as measured by the 62 item consumer price index for Jakarta. This set of adjustment factors could be applied to the non-traded (i.e. non-imported) type of fixed assets that would principally include items such as buildings, engineering structures, and land. It should not be applied for the revaluation of any item that is either imported, or produced domestically, but sold in competition with imported items. These would include business assets such as machinery, equipment and motor vehicles.

A second set of adjustment factors can be estimated for the revaluation of these fixed assets that are traded. These adjustment factors could be based on two variables. First, the IMF price index for exported goods can be used as the basis for the estimation of the adjustment factors. Secondly, the IMF price index for exports from industrialized countries can be modified to reflect the rupiah price level of these items by multiplying it by the ratio (Indonesian exchange rate (Rp/\$) for Dec. 1978)/ (Indonesian exchange rate, Rp/\$, for the year in which the asset was purchased)².

For ease in tax administration these adjustment factors need only be calculated for the period since 1971. To revalue the net book value of the fixed assets that were purchased prior to and during 1971 the adjustment factor for 1971 can be applied. This simplification will tend to undervalue the adjustment for the assets purchased prior to 1971; however, the error is likely to be small as these assets are now likely to be largely depreciated (except of course, for buildings).

Contd..../6

TABLE 1
ADJUSTMENT FACTORS FOR REVALUATION
OF FIXED ASSETS

YEAR	NON-TRADED GOODS		TRADED GOODS		
	62 Commodity Consumer Price Index (Dec) (1966 = 100)	Adjustment Factor for Revaluation of Assets	IMF Price Index (1975 = 100)	Exchange rate Rp 1 US\$	Adjustment Factor for Revaluation Assets
1971	641.5	3.5	54.0	415Rp/1US\$	3.6
1972	807.2	2.8	59.2	415	3.3
1973	1,027.6	2.2	71.7	415	2.7
1974	1,370.0	1.6	90.0	415	2.1
1975	1,639.8	1.4	100.0	415	2.0
1976	1,872.6	1.2	100.0	415	2.0
1977	2,094.0	1.1	112.0	415	1.7
1978	2,234.1	1.0	130.0	620	1.5

Non-Traded

Good Adjustment Factor for year t = $\frac{\text{Consumer Price Index Dec 1978}}{\text{Consumer price index in year t}}$

Traded Good

Adjustment Factor for year t = $\frac{(\text{IMF Price Index Dec 1978} / \text{IMF Price Index Year}) \times (\frac{\text{Exchange rate Dec. 1978}}{\text{Exchange rate year t}})}{1}$

For non-traded fixed assets that includes only land and buildings the adjustment factors range from 3.5 for 1971 to 1.0 for 1978. In the case of internationally traded assets (machinery, equipment, vehicles and tools) the adjustment factors range from 3.6 for 1971 to 1.5 for 1978.³

In Table 1 we present the price indices and the adjustment factors for revaluation calculated from them. For the estimation of the adjustment factors for non-traded assets both the 62 commodity index for Jakarta and the wholesale price index for Indonesia were considered. Except for 1971, the adjustment factors calculated from these two series were almost identical. For 1971 the 62 commodity consumer price index gave a slightly larger adjustment factor. As the adjustment factor for this year will also be used for previous years, it is appropriate that it be either biased upward or at least not biased downward. Therefore, the 62 commodity consumer price index for Jakarta is the preferred series for use here.

III. APPLICATION OF ADJUSTMENT FACTORS FOR REVALUATION OF ASSETS:

The adjustment factors shown in Table 1 are applied to the net-of-accumulated-depreciation book values of the fixed assets purchased in the year corresponding to the year of the adjustment factor. In Table 2 a set of calculations are shown for the case of a company whose total net book value of buildings is 1000 million Rp., made up of 600 million Rp of buildings and 400 million Rp of machinery and equipment. These values are shown as the totals of column 5.

Column (7) Table 2 shows the values of the revalued net book values for two classes of assets. Each value in column 7 is obtained by multiplying the net book value at historical cost of each item in the asset class (col. 5) by the adjustment factor corresponding to the year it was purchased (column 6).

An important consideration in any revaluation of fixed assets is to determine the revenue implications of such a move. This can be partially evaluated by estimating the impact it would have on the depreciation expense which could be claimed before and after such an asset revaluation.⁴ Table 2, column 3 reports what the annual depreciation expense would be in 1979 for fixed assets including buildings and machinery. Before revaluation the depreciation expense is estimated using the straight line method by dividing the historical cost of each item (column 2) by the assets estimated life. (20 years for buildings, 10 years for machinery). In this example the total depreciation expense in 1979 for buildings would be 38 million Rp and for equipment 66 million Rp.

In Table 2 column 8 the depreciation expense is again estimated for this example using the straight line depreciation method for these same assets. The depreciation expense (column 8) is now estimated by dividing the net revalued book value of the assets (column 4) by the number of years left in its estimated life. In the case, consider the building purchased in 1972. The number of years left in its economic life is 13; therefore, the revalued depreciation expense for 1979 is estimated to be $280 \div 13 = 22$. Now the total depreciation expense for 1979 would be 61 and 138 for buildings and machinery, respectively. For the case of buildings, this represents an increase in depreciation expense of 60 percent over what it would be if based on the historical costs of the assets. For the machinery example it would involve essentially a doubling of the depreciation allowances.

While this represents a significant increase in the depreciation allowances its impact on tax revenues from business need not be so great, for at least two reasons. First, the prices of goods that are produced by internationally traded machinery and equipment will tend to rise relative to other prices. Therefore, gross revenues will increase faster for those companies which have had the greatest increase in their depreciation expenses for 1979 due to the revaluation. Secondly, the use of realistic depreciation allowances may allow the taxation authorities to be less lenient on other forms of tax avoidance that might have been necessary for financial survival in the absence of the larger deduction for depreciation expenses and will also provide firms with much less incentive for under-reporting of income.

If the revenue impact is believed to be too severe with the revaluation, it could be mitigated somewhat by extending the period that assets are depreciated for tax purposes. By adding 3 years on the depreciable life of buildings and 2 years on the depreciable life of machinery, the impact of the revaluation on tax revenues would be minimized.

TABLE 2

APPLICATION OF ADJUSTMENT FACTORS
FOR REVALUATION OF ASSETS

<u>NON-TRADED: BUILDINGS (length of life 20 years)</u>							
Year Purchased	(2) Historical Cost In Year Purchased	(3) Annual Depreciation Expense before Revaluation	(4) Accumulated Depreciation In Dec. 1978	(5) Net Book Value at Historical Cost (millions of Rupiah)	(6) Adjustment Factor	(7) Revalued Net Book Value Dec. 1978	(8) Depreciation Expense 1979 After Revaluation
1971 or before	0	0	0	0	3.5	0	
1972	155	8	55	100	2.8	280	22
1973	0	0	0	0	2.2	0	
1974	267	13	67	200	1.6	320	21
1975	0	0	0	0	1.4	0	
1976	0	0	0	0	1.2	0	
1977	333	17	33	300	1.1	330	18
1978	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1.0</u>	<u>0</u>	<u>0</u>
Total	755	38	155	600		930	61
<u>TRADED: MACHINERY (length of life 10 years)</u>							
1971 or before	0	0	0	0	3.6	0	0
1972	0	0	0	0	3.3	0	0
1973	125	13	75	50	2.7	135	34
1974	0	0	0	0	2.1	0	0
1975	167	17	67	100	2.0	200	33
1976	357	36	107	250	2.0	500	71
1977	0	0	0	0	1.7	0	0
1978	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1.5</u>	<u>0</u>	<u>0</u>
Total	649	66	249	400		835	138

IV. ANNUAL REVALUATION OF FIXED ASSETS TO ACCOUNT FOR CURRENT INFLATION:

In order to avoid large periodic revaluations of fixed assets and the uneven impact of such large revaluations may have on the revenues of the Treasury, some countries have opted to allow annual revaluations of fixed assets as a permanent feature of the tax system.⁵ In all cases this annual adjustment has been based on a formula given to business firms by the taxation authorities of the country in question.

Annual revaluation of the net book values of fixed assets serves to keep the values of depreciation expense and the estimation of the value of assets and net worth in line with the current price level used to measure revenues and current costs. However, no attempt should be made to revalue fixed assets according to their appraised or current replacement costs. Such a scheme is virtually impossible to administer and can be abused by firms in their attempt to minimize taxes. Fixed assets should only be revalued to account for the change in the country's general price level. The formulae for revaluation is calculated in the same way as outlined above for the periodic revaluation. However, in this case the adjustment factor for year (t) is calculated as the ratio of the relevant price index in year (t) to the price index in year (t - 1)

The automatic revaluation of fixed assets on an annual basis serves to smooth out the time stream of the cash flow of both business firms and the treasury and thus will reduce business risk. With the event of inflation of even mild proportions the liquidity position of many firms becomes severely restricted. The revaluation of assets and the resulting adjustment to depreciation expenses is one of the easiest ways in which a government can reduce these cash flow difficulties. This does not mean that the Treasury is put in a worse revenue position than if inflation had not occurred. This adjustment has the effect of reducing the increase in real tax revenues automatically gained by the Treasury through the process of inflation.

As the revaluation of assets only applies to the adjustment for the change in the general level of prices, no tax should be levied on this increase in reported value of assets. No change in real income or real net worth has taken place and thus a tax on the amount of revaluation

would place a greater tax burden on firms than if no inflation had occurred.

V. ACCOUNTING FOR INVENTORIES DURING PERIODS OF INFLATION AND FOLLOWING DEVALUATIONS.

When applying traditional practices to measure business income during a period of inflation, a serious error is made in a way that the cost of goods sold is estimated. Such practices require that the cost of goods sold or used as inputs in production be based on the cost prices of the oldest goods of that type held in inventories. This procedure is known as the "first in first out method" or "FIFO".

For example, suppose a firm on the average holds a quantity of inventories equal to one year's sales. The firm purchases items for \$10 each at the beginning of a year but because of inflation the cost of the same type of items are sold for \$12 each throughout the year. Let us also suppose that these items are sold for \$15 each throughout the year and the firm has selling costs and overhead expenses averaging \$2 per unit. Using the first-in first-out method (FIFO) the cost of goods sold for this firm and its net income would be as follows in Table 3.

TABLE 3

Revenue from Sales		\$15.0
Purchase Cost of item (FIFO)	10	
Selling and overhead expenses	<u>2</u>	
Less: Cost of Goods Sold		<u>12.0</u>
Taxable income		3.0
Less: Income Tax at 40%		<u>1.2</u>
Net Income		<u>\$1.8</u>

The cost of goods sold in this case is estimated to be \$12 (the cost of the oldest item in the inventories) plus the \$2 of selling and overhead expenses for a total of \$12. Taxable income is \$3.0, income tax (at 40%) is \$1.2 and net income is \$1.8. After it pays taxes of \$1.2, we find that the firm has available to it \$11.8 in net cash flow ($10 + 1.8$) to pay for the goods required to replace those sold. However, because the cost price of this item has risen to 12 each and the firm is required to pay 1.2 in taxes it is not even able to replace the goods sold from its inventories.

Of the taxable income of \$3.0, part of it (\$2.0) was not true income if the firm wished to continue in business as this amount represented the additional inflationary costs that the firm would have to pay to obtain new goods to replace those sold from inventories. However, this cost item can be correctly recognized if the firm were allowed to estimate its cost of goods sold in the basis of the cost price of the most recent items purchased. This method is referred to as the "last-in first-out method" or "LIFO". Using this method, the cost of goods sold and net income would be estimated as follows in Table 4.

TABLE 4

Revenue from sales		\$ 15.0
Purchase cost of item (LIFO)	12	
Selling and overhead expenses	<u>2</u>	
Less: Cost of Goods sold		<u>14.0</u>
Taxable income		1.0
Less: Income tax at 40%		<u>0.4</u>
Net Income		\$ 0.6

Using LIFO, gross income is \$1.0, income taxes are \$0.4 and net cash flow is \$12.6 (i.e. $12 + 0.6$). From the gross revenues of \$15 the firm can replace the goods which it sold from inventories and at the same time have a surplus of \$0.6.

In the above example, the margins between selling price and total costs of goods sold are realistic for activities which require large

inventories, such as retail and wholesale stores and some manufacturing operations. However, we find that the use of the FIFO method for estimating cost of goods sold can result in the estimation of taxable income that is three times as large as the correct net income as estimated using the LIFO procedures.

For activities which require large amounts of inventories relative to sales, the impact of inflation on the estimation of income tax liabilities will be very severe if the taxation authorities insist that the firms stick to use of the FIFO method for calculating taxable income. If a country is experiencing inflation rates of up to 15 percent it will almost become imperative for such businesses to resort to other tax avoidance procedures if it is not to experience bankruptcy.

From the tax administration point of view the use of LIFO is particularly attractive because of the ease in which information can be obtained. Current prices are always easier to collect and check their prior years' prices. Therefore, LIFO eases the burden of tax auditing.

The use of the LIFO - method has one feature which does raise a minor problem in financial reporting. If no further adjustment is made to revalue the inventories reported on the firm's balance sheet, then they will be carried at the historical cost of the first ones purchased. Through time this will mean that the balance sheet item for inventories will get further and further out of line from their true value. This aspect can be easily corrected by simply adjusting the item on the balance sheet for the effect of the change in the general price level experienced in the past year.

For example, suppose in year one a firm held \$2000 in inventories and the price index level was 100. Now assume that by year 2 the firm had added another \$1500 to inventories to give us a total of \$3500 (using the LIFO method). At the same time the general price index is assumed to have risen to 110. The correct value for inventories reported on the balance sheet would now be :

$$\$2000 \times \frac{110}{100} + 1500 = \$3700$$

This calculation amounts to simply revaluing the inventories of \$2000 which were expressed in year 1's prices to year 2's prices and adding

on to this the current value of the new additions to inventories. If the last-in first-out method is adopted along with this additional annual price level adjustment for inventories on the balance sheets, both taxable income as measured on the profit and loss statement and the real asset value of inventories reported on the balance sheet of a firm will be properly reported.

A further and even more serious problem arose for the case of Indonesia in 1979, because of the devaluation of the Rupiah. The internationally traded goods purchased prior to the devaluation and in 1979 from inventories cost approximately 50% more to replace immediately afterward. Therefore, in such a situation, firms should be allowed to measure the cost of goods sold for these internationally traded goods at their replacement cost after the devaluation. Failure to allow such an adjustment either results in severe hardship for businesses trading in internationally traded goods or forces them to take additional tax avoidance measures. Hence, a once and for all adjustment for the cost of traded goods sold in 1979 could have been made even if the decision were not to adopt the last-in first-out method for estimating the cost of goods sold in subsequent years.

VI. CONCLUDING REMARKS:

While the above methodology does not provide for all the adjustments necessary to completely neutralize ^{all} the tax effects of inflation it does correct two of the most important distortions. For the case of revaluation of fixed assets we have a situation where the theoretically most correct method is also the easiest to implement. If it is government policy to correct the estimation of fixed assets for inflation and hence the depreciation expenses used in determining income taxes and not for changes in relative prices, then it is general price level accounting not replacement cost accounting that is appropriate. For practical tax administration reasons, general price level accounting for fixed assets is probably the only workable solution in any case.

In the case of evaluating the cost of goods sold from inventories this paper recommends the use of last-in first-out pricing. It should be recognized, however, that this method is essential replacement value accounting not general price level accounting. Because inventories are generally held for relatively short periods of time the differences will be slight between the use of LIFO and the use of FIFO but revaluing initial inventories by a general price index. In this case the familiarity of the accounting profession with the use of last-in first-out procedures and the readily available information on current prices would argue for the use of LIFO for estimating the cost of goods sold due to its ease of administration. The use of this procedure will mean that relative capital gains on inventories are not taxed while under a normal unadjusted zero inflation situation such gains are implicitly taxed through an underestimation of the cost of goods sold.

It is common to hear officials from developing countries argue that adjustments for inflation are too complicated for the tax administration to deal with in their countries. Usually they are referring to replacement cost accounting not general price level accounting methods. In an inflationary situation the absence of these adjustments inevitably results in a weakening of the cash flow position of business firms and usually also in the ability of the tax authorities to effectively administer their tax system. The success of the Indonesian Government at implementing a revaluation of accounts for inflation and devaluation should serve as an example of what a developing country can do to alleviate this distortion.

1. The Sandilands Committee commissioned to look into this matter in the U.K. recommended in its 1975 report an adjustment of business income for inflation with a correction of depreciation at replacement cost that would have required the construction by the government statistical office of cost indexes for 19 classes of capital assets. This system was not implemented: Inflation Accounting Sandilands report (1975).

2. International Monetary Fund, International Monetary Fund Statistics "Export Unit Values, Industrialized Countries", 1970 to 1978.

3. The fact that the adjustment factors are almost identical for 1971 indicates that the November 1978 devaluation served to bring the prices of traded goods back into the same relationship to the prices of domestic goods as existed in 1971.

4. The change in tax revenue will be equal to the rate of income tax times the change in depreciation expenses brought about by the reform.

5. Brazil and Chile are two examples.

Bibliography

Aaron, I. Henry (ed), "Inflation and the Income Tax", Washington: The Brookings Institution), D.C, 1976.

Brinner, R., "Inflation and the definition of taxable income". (in Aaron 1976).

Feldstein M., and Slemrod, J, "Inflation and the Excess Taxation of Capital gains on Corporate Stock", National Tax Journal, (USA), Volume XXXI, No.2 June 1978.

Feldstein, M. and Summers, L., "Inflation and the Taxation of Capital Income in the Corporate Sector", National Tax Journal Volume XXXII, No.4, December 1979.

Inflation Accounting, Report of the Inflation Accounting Committee, Chairman F.E.P. Sandilands (London: H.M.S.C., 1975).

International Monetary Fund, International Monetary Fund Statistics "Export Unit Values Industrialized Countries" (IMF : Washington) 1970 to 1979.

Jenkins, G.P., Inflation: Its Financial Impact on Business in Canada. (Ottawa: Economic Council of Canada) special studies series, 1978.

Meade, J.E., The Structure and Reform of Direct Taxation, (London: Allen & Unwin) 1978.

Shoven, J.B., and Bullock, J.I., "Inflation Accounting and Non-Financial Corporate Projects: Physical Assets, Brookings Papers on Economic Activity, Volume III, 1975, and Inflation Accounting and Non-Financial Corporate Profits; Financial Assets and Liabilities, Brookings Papers on Economic Activity, Volume I, 1976.

Tideman, T.N. and Tucker, D. "The tax treatment of business profits under inflationary conditions" (in Aaron 1976).

Tanzi, Vito, Inflation and the personal Income Tax : An International Perspective (London: Cambridge University Press), 1980.