

THE ECONOMIC EFFECTS OF INCOME TAX EXEMPTIONS

by

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The analysis of the economic effects of income tax exemption is divided into two basic categories. The first deals with the micro-effects of exemptions, i.e. effects on the individual taxpayer, or business. In this case we can ignore all considerations of policy other than changes in tax exemptions insofar as they affect the decisions of the individual person or firm. The second category considers the macro-effect of exemptions. Therefore we have to consider the policy implications of any change in the system of exemptions, e.g. whether it means changes in other taxes, a redistribution of tax burden of **existing** tax for which exemptions are granted, a change in government expenditure, or adopting a deficit financing policy.

Exemptions are considered primarily as an exception to the general rule of fiscal universality, i.e. every person - human being or a legal entity - is liable to taxes and other fiscal charges imposed by the State. To discuss the economic effects of exemptions and reliefs one has to consider and refer primarily to the effects of the tax itself on the economy in general and on the individuals as a part of the whole economic system. Such study has been tackled by many economists from Adam Smith up to the present time, and while there is a measure of argument on certain issues, there is still a strong disagreement on certain fundamentals. However, it is apparent that a discussion of tax exemptions cannot be carried out without discussing the effects of taxation to some extent and a brief discussion about the effects of taxation is therefore included.

(A) MICRO-ANALYSIS OF INCOME TAX EXEMPTIONS

(1) Individual Taxpayers :

The effects on incentive to work :

Taxes on wages and on any type of remuneration from work were considered at the end of the 18th century and the beginning of the 19th century as a disincentive to work and even more as a cause of reducing the labour capacity through illness due to decreasing income. Such a way of thinking has been proved a complete fallacy and exaggeration.

The classical idea about the effect of income tax on the supply of labour is that it reduces the individual's ability to work, but on the other hand it might induce him to work more in order to give away in return for a specific amount of income.⁽¹⁾ Any generalized statement seems misleading and therefore every case should be studied individually.

The choice between leisure and income or in other words, the setting of the individual's scale of preference for income compared to leisure, e.g. how many hours of leisure the individual is prepared to give away in return for a specific amount of income.⁽¹⁾ Any tax imposed on the individual's income from work has a negative effect as imposing a real burden on him. His reaction to overcome such a burden depends upon various conditions. One of the most important is the shiftability of the tax. On the assumption that the taxpayer could shift his tax upwards or downwards, he would not increase his working time as his net income is not reduced. Thus he would not think of altering his working hours or his leisure time. Suppose that the shiftability of the tax is impossible and that the supply of work is constant, therefore the labourers find it difficult to increase their incomes through working overtime. In fact this assumption is subject to various arguments when brought into practice. The supply of work might vary from one type of industry to another depending on the aggregate demand for products.

Specific contracts' rules between employees and their employers or between the former and trade unions may prevent a person from engaging in his regular occupation as many hours a week as he would prefer. For example a five-day week forces some people into partial unemployment and thus if a tax is imposed on wages and not shifted there would be no way for workers to increase their income through overtime jobs.

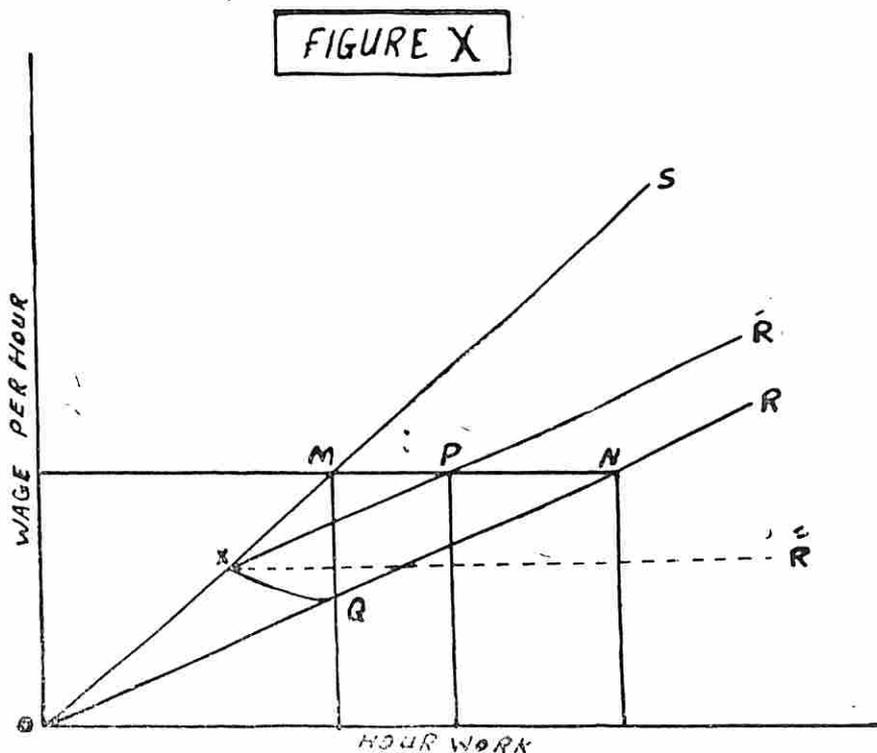
If no restrictions are imposed on work the choice of the person to work more or not lies on the individual's desire to maintain his level of living or not. Where the tax does not alter the level of living of the person this might not encourage him to work more, as he will be satisfied with his relatively unaltered standard of living.

As seen from the previous discussion a single or one-line generalization is difficult to assess. The different and variable indi-

¹ D. Black. *The Incidence of Income Taxes*, pp. 157-162.

vidual behaviour towards the tax imposition makes it impossible to decide precisely the effect of income taxes on the incentive to work.

Under a proportional income tax any exemption limit granted will change the tax rate to a progressive one. In Figure X the line OS represents income earned before tax and that the individual can earn money at a constant wage equal to the slope of OS. OR is the opportunity line after imposing a proportional tax providing no exemptions or personal reliefs. To earn the same amount of income as before the tax the individual has to work more hours and the equilibrium point is shifted to N instead of M. This is inclined to be true under the assumption that the wage rate is constant and that more work is available without any restrictions from trade unions or employers. If the tax system grants exemptions and reliefs to all taxpayers the slope of the wave-line after tax will change. The starting point will become X instead of O as OX represents exempted income. The effect of exemptions on the slope of the line XR is that it reduces such slope by the difference in the effective rate of tax in the case where exemptions are granted and where no exemptions are available. This could be measured by the length of PN, as the equilibrium point is shifted to P.



Under a proportional tax where exemptions are limited to certain low-income groups and not effective to any taxpayer above a specific limit the slope of the wage line after tax is different. (1) Point X will be the starting point of liability and the line shifts to point Q where it meets the opportunity line OR.

The wage line under a progressive tax is represented by the line OXR". Under a progressive tax a person has to assess the marginal benefit from working an extra hour in order to make up for the decrease in his income due to tax. The marginal utility of extra unit of work depends on the progression rate of the tax on the assumption that all other conditions are constant.

From the above analysis the effect of tax exemptions on the incentive to work is difficult to assign for the various and multiple factors which control the individual's behaviour towards the tax imposition. On the other hand a general, but somewhat arbitrary, estimation of the effect of income tax exemptions on the incentive to work could be therefore deduced. As exemptions reduce the effective rate of the tax and by implication the tax liability the individual might not have the same incentive to work if there were no exemptions.

If we assume that the tax on wages can be shifted either to the employer or to the consumer the situation will differ. The labourer will get his real income as before the imposition of the tax and the employer will try to shift the tax upwards to the consumer. This depends on the supply and demand for the commodity produced and also on the supply of workers. Suppose that the tax shifted upwards to the consumer in higher prices and that the change in price did not effect the demand for the commodities produced. Accordingly the labourer will not work more, as real income has not been changed, but the change will take place in the wage rate. His hours or work are the same as before the tax imposition. Introducing a system of personal exemptions the situation might differ. The wage rate might be reduced by the amount of exemption. If the wage rate is stabilised without taking into account the effect of exemptions, the individual will have an indirect subsidy increasing his income. Therefore, if the individual's choice is in favour of leisure, he

1 It is the case under the Egyptian Schudular Income Taxes that personal exemption is allowed to low-income bracket and not to all incomes,

might be tempted to reduce his working hours by the amount equal to the exempted income. In this case exemptions could be visualised as a disincentive to work.

The Effect of Exemptions on the Incentive to Save :

A person saves if he spends on consumption less than his income in a given period. The amount of his savings is obtained by subtracting his expenditure on consumption in a specific period from his income in the same period. If Y represents his income and C is the consumption in the same period and S is savings within the given period, therefore $Y - C = S$. If he consumes more than his income, he is doing the opposite of saving, i. e. dissaving, and we similarly measure the amount of his overspending by subtracting his income from his consumption $C - Y = S$ ($-S$ is dissaving).

Each individual is restricted in the amount he saves but the size of his income is determined by other people's expenditure on the goods that he produces. Each individual considers his own income as given and independent of his own expenditure, and, not being interested in the effect of his expenditure in creating income for someone else, he sees no connection between income and expenditure. Generally speaking, savings are dependent on consumption and on income simultaneously. Saving could be defined as the total amount withheld from consumption during a given period.

Savings take one of two shapes ; either forced (involuntary), or free (voluntary). The former type arises when a person produces something that cannot be consumed or when compelled by legal or conventional action to set aside part of his income and not to use it for immediate expenditure on consumption ; e.g. contributions to old age pension schemes, social security system, etc. On the other hand, voluntary savings are only conducted by the will of the individual and his choice of deferring the spending of part of his income for certain motives. Therefore, the last type, the voluntary savings, is the type we will take into consideration when discussing the effect of income tax exemptions on the incentive to save.

An income tax reduces the disposable income inclined to be spent on consumer goods and on capital goods through savings. Therefore income taxation has a direct effect on the consumption function and on the propensity to save. Introducing a sys-

tem of personal exemptions and reliefs in the income tax changes the taxpayer's ability to save accordingly. Personal income tax reliefs reduce the tax liability and thus increase the disposable income. The effect of such reliefs depends mostly on the way the individual allocates his net income after tax between consumption and saving. The individual decision towards such allocation has a great influence on the amount saved. The effect on either consumption or savings depends on various factors which motivate the behaviour of the individual taxpayer. These functioning factors could be summarized in the following :

1. The amount of income and its position in the whole income structure. It is emphasized that individuals in low-income groups are mostly affected by the imposition of the tax which reduces or eliminates their ability to save, as they would not be able to reduce their consumption by the amount of the tax liability if such expenditure on consumption gives them the bare necessities of an acceptable standard of living around the subsistence level. As the individual will not approve of a reduction in his standard of living beyond the subsistence level in order to save, or in other words, if he prefers immediate enjoyment rather than future benefit, he will try not to reduce his expenditure on consumption and reduce or eliminate completely his savings.

An individual in a well-to-do class — what could be called middle-class — is considered to be in a different situation concerning his personal behaviour towards the tax. If such a person is thrifty and tries to hold his saving rate at a certain level in spite of the effect of the tax on his income, he will reduce his consumption expenditure. This might not be so in the case of another individual in the same income group as thriftiness is a characteristic phenomenon which is not widely found. Persons differ in their behaviour towards allocating their disposable income between consumption and saving and therefore a general rule is difficult to draw.

The effect of income taxation on the tendency to save in high income groups is that it reduces their savings by nearly the amount of the tax, as most individuals within this group try not to alter their expenditure on consumption in order to keep up the standard of living and thus they have to reduce their savings. Progressive taxation is more severe on individuals

within high income brackets and therefore their decision to save is dependent on the aggregate future income derived from savings and other sources subject to high progressive rates. Their behaviour towards altering their savings or their expenditure on consumer goods depends on the marginal utility of the last income unit to be subjected to taxation on the future fruits.

2. The civil status of the individual has a great influence on the incentive to save. A bachelor with the same income as that of a married man with two dependents will suffer less from an income tax which provides no allowances or personal reliefs. The ability of the bachelor to save part of his income will not be relatively affected by the tax if compared with that of the married man.

3. Services and transfer payments rendered by the government affect the incentive to save as they reduce the tax burden on the taxpayer. The reduction in the tax burden due to governmental services varies according to the benefits acquired by the individual. Some persons do not use such services and therefore their real tax burden is unaffected. Consequently it is difficult to set up a general rule for the behaviour of the various individuals towards public services. But on the other hand one could emphasize that services do reduce the real tax burden of the lower and middle classes and hence increase their ability to save.

(2) Individual Business :

Effects of business exemptions on the Incentive to Invest:

Investment decisions are basically influenced by the net return of capital invested. Risks in business, predictable and unpredictable, control the individual behaviour in choosing the most suitable type of investment. Predictable risks are in minor effect on the incentive to invest as it is comparatively easy to forecast such risks and bear them in mind. But unpredicted risks, or uncertainty, is difficult to assess in advance and thus their influence on investment will differ according to the individual behaviour.

Therefore, assumptions about uncertainty control the incentive to invest. Investment in risky business demands a relatively high return compared to investment in secure types. In a

risky business each person willing to invest will form a different estimate of what success such business will be reflected by profits realised. The estimation of each person will differ regarding the rate of return in future. Uncertainty schedules could be drawn regarding each type of business and also regarding each type of shares within the individual business.

Introducing an income tax or increasing the rate of the already imposed income tax on the net return of business will alter the courses of events concerning investment decisions. Each individual will form an estimate of the firm's chances of gain, different from what he would have done had there been no new tax or no increase in the tax rate. The uncertainty schedule will therefore be different than the first, i.e. what it would have been had there been no additional tax. The change of uncertainty schedule will be influenced by the change in the net return after the tax imposition. The marginal investor in risky business will be inclined to direct his investments towards safer kinds, e.g. government securities. Generally speaking, the effect of the tax on investment in risky enterprises is that it will reduce the incentive to invest in such business. On the other hand any alteration in the tax liability of such enterprises and hence in the return of investment will increase the incentive to invest. Reliefs and allowances play an important part in reducing the business tax liability.

In general, all existing income tax structures allow various reliefs and exemptions from business income taxation for several reasons. The basic and well established reason is that any income tax should be levied on net income only. Therefore, all necessary deductions should be allowed in order to reach net income, otherwise income tax might be imposed on capital and become ruinous to business and this increases the risk-bearing and decreases the incentive to invest.

The following are the basic well known income tax reliefs which affect directly the net return of investment and thus influence the incentive to invest.

I — Inventory valuation, Depreciation :

It is an approved and recognised concept that an income tax should be levied on net income. To avoid any decrease in production income tax should be confined to surplus income.

Various methods have been adopted in order to measure net taxable income. Our object at present is not to enumerate these methods as they are closely related to interpretation of the concept 'taxable income'. On the other hand, almost all economists and accountants agree on specific allowances which should be deducted in determining net taxable profits. The most important are, depreciation, depletion of wasting assets, business losses and also losses or profits realised by adopting a certain method for inventory valuation.

Inventory valuation as well as depreciation allowances has different methods of computation. Each way differs from the other and thereby affects the net profit. For the purposes of the present discussion we assume that the most popular method of depreciation is the "straight-line" and for the moment we leave behind the 'accelerated depreciation'; and the basic accepted principle of stock valuation is "the lower of cost or market value" (cost is determined either by the first-in first-out, *Fifo*; last-in first-out, *Lifo* or average-cost rule). The difference of any method used for inventory valuation results in either what could be called "inventory profits" or "inventory Losses". To be more realistic these profits or losses could be called unrealised inventory profits or losses. In fact some writers emphasised that, "most of the inventory profits are not only unrealised but they are also unrealisable if the concern is to continue in business — Inventory profits — cannot be converted into cash profits without a net liquidation of inventories." (1)

The various methods of inventory valuation have, as previously mentioned, different incidence on business profits. *Fifo* method imposes a larger cash drain on business through increased tax liabilities when prices are rising, and a smaller cash drain when prices are falling and business is contracting. (2) Traditional methods, i.e. *Fifo*, average-cost, tend to exaggerate the severity of economic fluctuations through their effect on business, as the lag of time in the case of *Fifo* method, for example, when prices are changing rapidly, upwards or downwards, result in a sharp increase in profits or losses. On the other hand, if

(1) H.B. Arthur, *Inventory Profits in the Business Cycle*, American Economic Review, March 1938, p. 28.

(2) J.K. Butters, *Inventory Accounting and Policies*, pp. 124-125.

these traditional methods are compared with Lifo, the latter reduces the severity of economic fluctuations. (1) Under an unstable economy higher prices mean high stock costs and hence higher reported incomes of business enterprises. In the down-trend of the economy the contract takes place when the additional output, due to increased investment, does reach the market and the inflated price level falls, the lower stock costs of the individual business are treated as reducing income, thus intensifying the down-trend.

Depreciation allowances in a dynamic economy raise a multiple problem when computing net taxable profits. The basic problem is the effect of price changes on depreciation allowances. Affiliated to it is the question of technical progress coupled with price changes. How likely are those problems to affect the rate of capital formation and the expansion of productive capacity ?

To answer any question regarding capital formation we should know the way in which investment decisions are made. This is a relatively difficult task, but it is possible to say that the rate and the period of depreciation tend to affect the incentive to invest by altering the supply of internal funds available.

Most income tax laws permit the recovery of capital, represented in assets, tax-free. Thus a firm which undertakes capital expenditure currently receives in return the right to income tax deductions in following years. Under unstable economic conditions the sum of these future income tax deductions which is equal to the cost of the assets varies according to the fluctuation in prices. How much the difference is dependent on : a) the depreciation time period ; b) the depreciation method ; and c) the rate of discount appropriate to the prevailing economic situation.

We turn now to the problem of the way in which price changes affect directly investment decisions and policies. Increasing attention has always been focussed on the size of depreciation allowances. Fundamentally the larger are depreciation allowances the larger the proportion of national product which will be absorbed by business enterprises before any distribution

(1) Lifo has the effect of excluding from profits the higher cost of replacing the opening stock.

of income takes place. The higher are depreciation charges, other things remaining unchanged, the lower must be the profits, hence the lower will be the tax liability. This statement could be true if economic conditions were stationary, but in reality such a statement should be modified according to the fluctuating economic conditions, whether up or down, replacement costs of depreciable assets begin to diverge and difficulties begin to intrude. It has been widely argued that in times of inflation profits could be considered as high and overstated if depreciation allowance based on historic-cost remains unchanged. The cost of replacing expiring equipment in today's inflated market is actually much greater than current depreciation charges, which are related to the original cost of assets.

On the other hand various opponents of the above issue emphasise that the rise in the assets' prices might be due to the increase in the technological development which increases the productive efficiency. It may be quite possible, in spite of inflated prices, to replace old assets with new ones whose cost per unit of productive capacity or output is less than that of cheaper but less efficient assets being replaced.

On the assumption that the efficiency and productivity of the new assets is the same as the old ones, when newly obtained, any change in the money value will affect the replacement cost. Therefore, a practical device has to be discovered in order to adjust the depreciation allowances based on the original cost. It is a difficult job to find an adequate and practical device to adjust depreciation charges according to changes in prices. Replacement cost is widely accepted as a relevant method for the solution of the problem. (1) One of the adequate measurements is to revalue the depreciation charge based on original cost in current money terms, using an appropriate price index. This would put the depreciation funds so provided into the same purchasing power terms as the assets against which such funds were notionally earmarked. Measuring the current depreciation

(1) E. Cary Brown opposed the use of replacement-cost depreciation in his book "Depreciation Adjustments for Price Changes". p. 17, he concluded that : "historic-cost depreciation is more desirable than replacement-cost for tax determination. In our view, tax equity should be based on differences in real income. Replacement-cost depreciation ignores these differences by providing a special exemption for certain tax-payers".

charge for replacement based on the appropriate price index does not provide sufficient funds if price levels keep rising. In other words there can be no finality in the concept of measuring the current depreciation based on a price index, since depreciation provided in one year, even expressed in money terms, may be quite inadequate to provide funds for the replacement of the asset at a later and still higher price level.

Another difficulty faces us in adjusting depreciation according to price changes ; a complete price index for all types of machinery and plant is not available even in countries which enjoy a developed statistical system.

Therefore, under the hardships mentioned an adequate price index has to be found in order to carry on the "revaluation" of the yearly depreciation. One could recommend a general index for all assets, that is the "value of money" index ; e.g. "value of the £" index in the U.K.

The adoption of the "replacement-cost" method, and taking into account the change in the "real" value of capital assets, will reduce the tax liability. This in turn will increase both the retained reserves and business profits, and hence in times of inflation this will intensify the severity of the inflationary situation. While during the slump replacement-cost based on changes in prices will decrease real profits and increase the down-trend movement of the economy.

If price changes were ignored the individual financial situation could be summarized in the following way. During the boom the firm has to finance the excess of investment over current savings by using cash balances available, or increasing overdrafts and loans, or obtaining more equity capital. This excess spending power of the business sector as a whole will intensify the boom or at best keep it alive. On the other hand, when prices are falling, the excess of business savings over business investment is represented by an accumulation of cash or the repayment of overdrafts and loans. The implications of such behaviour by all enterprises will draw money out of circulation by business with the result that there is a reduction of the volume of "money to spend", thus deepening the depression.

From the equity point of view replacement-cost depreciation helps to reach the real net worth of business. But this fiscal

merit does conflict with economic stability as it will reduce the tax liability and thus increase the disposable income and consequently intensify the inflationary trend.

Another integration which breaches equity is that the existing firms enjoy accumulated tax-free funds for replacement and can expand their business without difficulty while new enterprises have to look for other sources in order to carry on any further expansion. (1)

Â general compromise between equity and economic policy concerning depreciation methods under price changes has to be accomplished after a careful study of the various possible consequences. This compromise should be flexible and appropriate to the prevailing conditions.

Accelerated Depreciation as an Investment Stimulus :

Investment could be successfully stimulated by choosing a special depreciation system which reduces the cost of capital assets and provides an early recovery of capital through tax — saving, i.e. tax-free reserves. Investment planning under conditions of relative certainty is easily approached if early capital recovery is possible. This commonly takes the form of requiring that the capital assets pay for themselves in a time period substantially shorter than its economic life. This is well known as a “pay-off” for investments.

To investors who seek a protection against risk by an early return of capital, accelerated depreciation may be a decisive factor. Accelerated depreciation will reduce the amount of profit subject to tax during the “pay-off” period and increase the available funds for further expansion through internal finance. This avoids external finance if not available. The preference for internally generated funds is universally accepted by businesses, but it is likely to be felt most keenly by the small and rapidly growing business that finds recourse to the capital market difficult.

Accelerated depreciation, on the other hand, helps in obtaining external finances if it is necessary. Most lenders seek payment of loans made to finance equipment purchases over a period shorter than their economic life and thus, accelerated depreciation permits free-of-tax cash inflow for debt-repayment. This provides an extra safeguard to the lender.

(1) *Ibid.*, p. 16

In general accelerated depreciation for tax purposes stimulates incentives to invest by increasing profitability and lessening risk. In underdeveloped economies this method could prove effective in stimulating investment in new enterprises. Growing firms also are encouraged to finance more of their investment internally.

To complete the above picture it is desirable to discuss the situation in the British experience regarding capital allowances and their incidence on investment. The following is a critical review of capital allowances under the U.K. income tax.

The Effect of Capital Allowances on the individual business in Britain :

The main issue behind granting initial or investment allowances besides the annual allowance is to accelerate the rate of increase of industry's productivity or, in other words, to put Britain more on the level with other industrial nations in respect of the important matter of the modernisation of plant and buildings. The growth of productivity depends, first, on the rate of technological progress and, secondly, on the speed with which the new ideas and inventions are translated into new machinery and tools. The invention of better instruments of production and the discovery of new and more economical process is basically a matter of research and experiment. Their speedy adoption in commercial practice involves the replacement of existing plant when it is economically obsolete, or, in other words, when the prime costs of the existing equipment begin to exceed the prime cost plus the fixed charges on new equipment.

Britain, during the inter-war years, tended to lose ground in industrial research as well as in the speed of its translation into commercial practice. The basis reason was the lack of finance. The granting of initial allowance at the end of World War II was meant to relieve from taxation all accumulated funds for the speedy replacement and modernization of plant and machinery, and also to grant a tax-free obsolescence allowance to a continuing business.

The ability of an enterprise to keep its plant and processes in line with technological progress is dependent on its ability to set aside adequate funds. This depends : a) on the earning of profits ; b) on the extent to which gross profits are paid away

to shareholders or to the Treasury when they ought to accumulate funds for the replacement of capital used in production.

Before the introduction of the initial allowance, the practice followed the accounting theory. Therefore, if a company had been allowed to make tax free deductions for wear and tear of its capital assets from profits at the end of the assets life there would be a sufficient accumulated tax free reserve for replacement.

The case which faced the industrialists after World War II was the lack of funds to replace out of date assets. The companies were in difficulties as they could not accumulate funds rapidly enough for replacement.

The initial allowance was introduced in 1944 in an attempt to meet the above mentioned difficulties. The introduction of the initial allowance met only part of post-war industrial hardships regarding machinery and plant. It is understandable that most of the firms under the "initial allowance" relief could recover the full original cost of assets over their useful life.

But two main criticisms could be raised. The first is that a company should not merely be able to recover the original cost of its assets before paying tax, but should be enabled to expend such sums as are necessary to maintain its assets in an up-to-date modern state. Technical progress involves a continuous increase in the amount of plant to perform a given operation. Accordingly the Government has to provide a device to help in meeting such criticism. The second objection relates to the rises in the cost of replacing the assets by completely identical ones, leaving aside the arguments regarding modernization and new inventions, owing to changes in the value of money. (1)

These two significant concepts are still not completely met by the introduction of the initial allowance or the investment allowance.

The clear gain from the application of "initial allowance" and "balancing charge or allowance" is to accelerate the writing off in the first few years of the asset which would otherwise be permitted by the annual allowance. But the actual cash gain to the taxpayer

(1) Report of the Royal Commission on Profits and Income. Final Report, Cmd. 9474. pp. 103-123.

consists only of the interest-free loan from the Revenue Authority, which is automatically redeemed in later years, plus the possibility of a saving if tax rates are lower in the final years than in the initial year. The final result is unchanged, depreciation allowance is computed according to the "original-cost" principle while no attempt is made towards an alternative basis of "replacement-cost" which takes into account price changes. Consequently, the ultimate benefit to industry could be measured by the interest on the tax deferred.

The following hypothetical example illustrates the difference between depreciation based on accounting principles and depreciation (capital allowances) for taxation provisions.(1)

A plant costs £ 1,000 and is presumed to be depreciated in 28 years. The residual value at the end of the period is £ 100. The average percentage for normal depreciation for accounting purposes is $7\frac{1}{2}\%$. Let us put 8% for convenience in calculations ; therefore, the annual allowance for taxation would be 10% ($5/4$ of 8%). The following Table elaborates this example ; column A refers to the written down value at the beginning of the year for accounting purposes ; Column B shows the appropriate annual depreciation at 8%. Column C refers to the written down at the beginning of the year for taxation while Column D gives the amount of the capital allowances, annual allowance at 10% ($5/4$ of 8%) and initial allowance of 20% ; the fifth column shows the net excess of capital allowance over the "accounting" depreciation allowance.

From the annexed table the following could be deduced :

1. That nearly one third of the total capital expenditure is allowed in the first year for taxation purposes.

2. That fiscal allowances have exceeded the appropriate accounting provisions by £ 220. The tax on this sum measures the deferment of tax liabilities. Therefore, if the tax rate is $8/6$ the income tax would be £ 93 10^s and this amount will represent the "loan" for that year.

3. The fiscal allowances fall short of the accounting provisions and accordingly the "loan" is gradually reduced.

4. The fiscal allowances result in reducing the residual value to less than £ 100, the assumed value at the end of the asset life.

(1) "The Economist", June 25, 1949, pp. 1197-1199.

Therefore, the profits of the final year have to be adjusted by the application of the "balancing charge" which amounts to £ 59.

5. It is clear that half of the "loan" would not be repaid until the 17th year.

6. The adding of the balances in the cumulative column (E) will give the aggregate excess of fiscal allowances over depreciation for accounting purposes, on expenditure £ 1,000 a year for 28 years. It is found to be £ 3558 and the aggregate 'loan' is the deferred on this sum.

The difference between the "investment allowance" introduced in 1954 and the "initial allowance" in their impact on business at large is : That the investment allowance gives an immediate addition to the full annual depreciation allowances, amounting to the tax on 20% of new plant and machinery, and on 10% of new industrial and agricultural buildings, with no countervailing reduction in the allowances of later years, while in the case of initial allowance, it confers no permanent benefit upon the industrialist, but only enables him to bring forward, in a specific period, tax allowances that he will be eventually entitled to, and thus it might encourage him to undertake investment when his cash resources are short. In the case of initial allowance the actual benefit is the "interest-free loan" as above mentioned, but in the case of investment allowance the approximate relief will thus represent about 10% of the cost of plant and machinery, and 5% of the cost of buildings. Such relief could be also considered as an expedient subsidy to new investment.

I believe, from the above review that the initial allowance is not able to render the appropriate help in solving the problem of replacing capital assets when their costs are increased due to inflation. Therefore, the idea that the initial allowances had a permanent part to play in financing industry in a time of inflation is rejected, while the partially suspended investment allowances could be considered as a semi-adequate device in solving this acute problem. As mentioned before, the investment allowance could be only considered as a temporary subsidy for new investment. What we need is an adequate fiscal device to help industry in replacing their capital assets in times of inflation and changing value of money. Unfortunately this device is still in remote reach and, therefore, the investment allowances could be recommended to replace the initial allowances for the time being.

To complete this review, I have to discuss a dilemma which faced my study of the British capital allowances, that is capital gains and capital losses created in replacing capital assets in relation to the "balancing charges" and "balancing allowances".

At the outset of the argument we should state the fact that it has been always kept in the mind of British law-makers as well as fiscal experts that capital gains and capital losses should be far from the income tax's sphere of influence. Has the U.K. income tax confined itself to this conception ? And to what extent regarding capital allowances?

Capital gains, in its wide context, are those gains realised through the sale or exchange of capital assets. The computation of capital gains or losses is a debateable point, but it is widely accepted that capital gains or losses could be measured by the difference between the written down value of the asset, normally after the deduction of the allowed depreciation, and the sale or exchange price less the estimated residual value at the end of the asset's life. (1) Changes in price standards during the course of life of the asset results in such gains or profits ; this is the frequent phenomenon which has already established itself during the World War II period and after.

The British income tax, as provided by the 1945 Act, imposed the so-called "balancing charges" and granted "balancing allowances" designed to correct any over-allowance, or any under-allowance whether or not the asset in question was replaced. From 1945, therefore, the annual and initial allowances are only provisional; they are subject to correction when an asset is sold or scrapped and a surplus or a deficiency is shown. The "balancing allowance" and the "balancing charge" operates within the limit of the already allowed capital allowances. Therefore, in the case of an asset costing £ 500 and the expected residual value is £ 100, at the end of 10 years useful life, and sold for £ 400 at the end of the fifth year-capital allowances granted during the five years amounted to £ 200 ; therefore, surplus subject to the "balancing charge" is limited to £ 200 not £ 300 the actual surplus.

According to the above definition of capital losses, the £ 200 which came under the influence of the "balancing charge" is con-

1. The advocates of such argument are . W. Vickrey. *Agenda for Progressive Taxation*. p .101; and Simons, *Personal Income Taxation*, pp. 148-169.

sidered to be capital gains taxed under a different invisible or intangible procedure. This system taxes only part of the capital gain which is limited by the allowed capital allowances. Such a procedure could be defended as it is only a readjustment of capital allowances which were over-allowed or less-allowed during the course of useful life of the asset, and which could be accurately computed in time. But, these feeble pretexts could not deny the fact that the British income tax has covered capital gains as well as capital losses.

(II) Losses Offsets and Investment :

A reward in the shape of profits is the expectation of any type of business investment. Risk and uncertainty which are encountered in most investment decisions have to be secured and covered through fiscal measures. Such measures are needed to encourage investment in "risky" business which is considered better than conservative investment from the point of view of the development of an economy. Full-loss offsets against business profits liable to income tax is the present feature of most income tax systems. The pattern upon which losses are deducted from taxable income depends mostly on the fiscal policy adopted by the central government.

A progressive tax on profits has a different effect on losses offsets than a proportional tax. Under the latter, losses deducted from taxable income neutralize the effect of taxation on the reward of risk-taking. This is true if the provision for carry-over losses is unlimited.⁽¹⁾ But in the case of a progressive tax such an effect is not found. The reward for risk-taking is usually reduced under a graduated tax if losses occur and the "tax-saving from deducting a loss from taxable income is usually smaller than the tax liability would have been on a gain of equal size."⁽²⁾

Consequently the effect of carry-over business losses on in-

1 Richard McGloode made the following illustration to prove the effect of carry-over losses under a proportional tax: "a 40o/o corporate income tax will reduce a 150 dollar return on a 1,000 dollar necessarily a reduction in the possible reward for risk-taking from 15 o/o to 9 o/o of the amount risked. If the full loss can be deducted from taxable income in the event that the investment is unsuccessful, the net amount at risk is reduced to 600 dollars. The 90 dollars return after taxes is still 15 o/o of the net amount at risk". R. Goode, *The Corporation Income Tax*, p. 120.

2. *Ibid.*, p. 121.

vestment and hence, on risk-taking is obvious. The effectiveness of offsetting losses against profits is dependent on various factors. The most significant are the period during which losses could be carried forward or backward; the rate of tax, i.e. proportionate or graduated rate and its flexibility; and finally the situation of new firms compared to old and well established ones. The adequacy of any tax system providing for loss offsetting depends also on the administrative feasibility of such provision from the Revenue Authorities' side as well as from the individual firm's side. This is dependent on the state of maturity achieved in the accounting system of business and the pressure of work within the Revenue Authority.

(III) Effects of the Exemption of Corporate Savings :

The fiscal treatment of undistributed profits depends mostly on economic conditions prevailing and on the need for revenue to meet public expenditure. The discrimination between distributed and undistributed profits in tax treatment was held feasible during business cycles as a measure to reach equilibrium.

The fiscal treatment of undistributed profits takes one of the following shapes : a) complete exemption from taxes ; b) levying a reduced rate compared with that levied on distributed profits ; or c) imposing a separate tax other than income tax (1) A complete or partial exemption of undistributed profits, which is our present concern, might stimulate the accumulation of corporate savings. This would decrease the amount of distributed profits. Rich shareholders will benefit from such policy as they will avoid the progressive rate of the personal income tax. An appreciation in the value of their shares will take place and thus capital gains accrue if they sell their shares. Under a tax system which exempts capital gains or subjects them to a low rate, these shareholders will have an ample opportunity for tax avoidance. On the other hand, there might be some shareholders who prefer an immediate benefit rather than waiting for a later anticipated benefit. Therefore, although the tax treatment of both distributed and undistributed profits affects the firm's policy towards dividend distribu-

(1) In the year 1963 an "undistributed Profits Tax" was imposed in the U.S.A. The rate of the tax was progressive, ranging from 7 o/o to 27 o/o as a supplement to the "Corporation Income Tax" Business and popular reaction were generally unfavourable and this led to the repeal of the tax in 1939. W.J. Shultz & C.L. Harris. American Public Finance p. 443.

tion the psychological inspiration and the other characteristics of the firm's directors have an indirect influence on such policy.

Business savings have a direct impact on the market value of shares. Any increase, other things being unchanged, would increase the market value of the company's shares. If we assume that all companies are of the same financial strength and carrying on the same type or trade, any adoption of a similar policy towards the distribution of dividends would, most probably, have no effect on the relative market value of their shares. But this situation is normally not found in any economy, as business in the different sections of trade and industry differ in strength, financial as well as productivity, even within the same type of industry or trade. Therefore the special fiscal effect of the undistributed profits would depend primarily on the company's individual policy based on its director's speculations for the future.

(B) TRANSITION TO MACRO-ANALYSIS :

While the micro-economic method, with its analysis of the behaviour of the individual taxpayer and the individual business towards the imposition of income taxation or towards any exemption scheme, is a necessary part of one's apparatus of thought, its applicability in the economy as a whole will remain relatively different. The general effects of income tax exemptions depend on the aggregation of individual decisions. The general effects of income taxation on the economy as a whole, and particularly its effects on consumption and savings, depends on the pattern chosen to represent the aggregate behaviour of individuals or groups of individuals.

The study of the effects of any tax system requires the study of its burden. From the economic standpoint, high taxation may be said to be bad for either of two reasons. First, and most obvious, taxation may so limit incentives that it will, directly or indirectly, lead to the curtailment of production, either from an existing level or from a prospective and otherwise attainable future level. Any result of this sort means that a country's real income is reduced below that which it otherwise would reach. The second alternative reason is that high taxation may be ineffective in restricting private spending to offset increased government spending. As government expenditure becomes higher, additional taxes may not lead to commensurate reductions in outlays in the private sector of the economy. The macro-relation between the private sector and

the public sector of the economy determines the general effects of taxation.

Any reduction in the tax liability through granting reliefs or exemptions to specific groups of individuals will imply various alternation in the tax burden of others. Keeping public revenue at a certain level while introducing a system of tax exemptions and reliefs the government has to pursue one of the following policies : a) to increase the income tax rate on high-income groups ; b) increase the rates of indirect taxes ; c) reduce public expenditure ; or d) follow a deficit financing policy. The adoption of any one of these policies will imply different alterations in the tax burden of other groups.

In general the fiscal policy conducted by the authorities in response to the decrease in the aggregate public revenue due to the introduction or the increase of income tax exemptions does affect by implication the distribution of income and employment.

(C) MACRO-ANALYSIS OF INCOME TAX EXEMPTIONS

The economic effects of income taxation, personal and business, have been subject to various discussions. The most significant effects are those on employment and on income distribution. A progressive income tax is considered to be an effective tool in reducing income inequality. The effect of income taxes on consumption, savings and investments implies a direct change in employment. Exemptions or any relief from income taxes induce a change in the tax impact as it reduces the tax liability of a group of taxpayers while it might have the adverse effect on other groups if rates are increased on groups within high-income brackets to make up for the loss in public revenue. Therefore, the discussion of the macro-economic effects of income tax exemptions will be focussed on the general implications on income distribution and on economic stability.

(1) *The Effect on Income Distribution and Income Allocation :*

The fiscal effects of any increase in the exemption limit of the personal income tax or introducing new reliefs which result ultimately in a reduction in the tax yield have to be considered according to the fiscal policy adopted by the government in tackling such reduction. Various procedures could be adopted by the government in making the necessary adjustment to alter the situation resulting from the revenue shortage. Such devices depend on other economic, political and social circumstances. By and large

any reduction in income tax yield due to exemptions has to be considered from its budgetary incidence.

Let us assume that the only direct tax is the income tax, besides other indirect taxes. In order to keep the total revenue constant to meet the stable government expenditures the authorities have to adopt one of the following policies ; a) to increase the income tax rate specially on high income groups ; b) increase the indirect tax rates ; or c) to leave both direct and indirect taxes' rates as they are to pursue a deficit financing policy. The social and economic implications of any of the fiscal devices mentioned have to be carefully examined so as to arrive at the most suitable device for application. On the other hand the government might find it easier to cut its expenditure by the amount equivalent to the decrease in the direct tax yield, and therefore, the need for the adoption of one of the above devices does not exist.

However, the fiscal policy conducted by the authorities in response to the decrease in aggregate revenue due to the increase in income tax exemptions does affect by implication the distribution on income.

We assume that the fall in the total revenue caused by the increase in exemptions or the introduction of new reliefs especially within the low-income groups will be compensated by an increase in the income tax rates and thus will shift the burden to other income groups.

Progressive income taxes tend to alter the distribution of income according to the rate of progression. The change in the distribution of income after the imposition of the tax is closely related to : a) the marginal rate of tax, b) the exemption limit, c) other personal reliefs ; and consequently the effective rate results from the application of different reliefs. Another factor which determines and influences the distribution of income in the long run is the effect of taxation on the incentive to work, consume and save or invest. If the tax system differentiates between earned and unearned incomes, it is important to take into account the ratio of the two types.

The definition of "taxable income" is important in order to deduce the relationship between income before taxes and after taxes. It also helps to decide the aggregate effective rate of the tax on income. Gross income subject to tax before the application

of personal reliefs could be completely different from that originally received by the individual. Items which form the taxable income are at most times less than those which actually constitute the real income enjoyed by the individual. There are various examples to illustrate this concept. Capital gains in many cases are excluded from taxable income though it is an increase in the net worth of the individual within a specific period. Home consumed products of a farmer and also various services rendered by employers to their employees are usually not included in the taxpayer's income liable to tax. Generally speaking, the definition of gross income subject to income taxation is one of the principal factors which affects the distribution of income.

The disposable income after tax related to the gross income before tax is affected by the application of the various reliefs and allowances besides other factors mentioned above, which might reduce the net taxable income to the exemption limit and therefore, the ability to pay the tax is negligible from the State point of view. On the other hand, the role of personal reliefs and allowances is considered as a further progression added to the progressive rate of the tax so as to produce an effective and equitable rate

The inequality of income before tax is always supposed to be greater than after the tax under a progressive system. In most countries individuals within the low-income group embrace the mass of population, and those constituting the high income brackets are the minority. To plan either a "sound finance" or a "functional finance" such distribution has to be borne in mind. The person in charge of any fiscal planning has to look primarily towards the adequate starting point of tax liability which will induce the formation of a functional fiscal policy. Reliefs and other personal allowances play the major part in deciding the starting point of tax liability. In order to clarify the relationship of the factors which affect the ratio of gross income to the disposable income after tax and effect of tax reliefs on such ratio, the distribution of the personal income has to be studied. The following is an analytical attempt to find the effect of income tax exemptions on the distribution of personal income within the four assumptions previously mentioned.

1) We assume that government expenditure is constant and that the reduction in tax revenues due to the increase of exemptions will be compensated by increasing the rate of the income tax while other taxes are unchanged. Any increase in the income

tax rate means the shifting of the burden from those who enjoy the exemption privilege towards the other income groups, especially the middle and upper income groups.

The general attitude of taxation function viewed as a revenue device is therefore to reduce private money incomes while it increases the government money income. Taxes, especially income taxes, have a distributive effect on money incomes among individuals. The greater the yield of taxation, the smaller on this account is the ability to spend. Income taxes, as other taxes, are monetary devices ; to the extent that they have a yield, they reduce private cash holdings. Consumption in the lower income groups tends to decrease as the impact of income taxation is heavier than on the higher income brackets, where consumption is usually constant. Savings, on the other hand, depend on the social characteristics of the people, on the rate of taxation, on the standard of living and also on the social services rendered by the government.

Generally, a progressive income tax reduces thrift more than a proportional income tax of the same yield. The different distribution of income after taxes under progressive and proportional taxes might induce the rich to curtail their consumption by small amounts, whereas middle and lower income groups will be forced to reduce their consumption expenditure substantially. The ultimate impact of income taxes on personal savings is greater on the middle and upper classes. But on the whole, such a statement is incomplete as it does not take into consideration the possibility that individuals in a thrifty community may reduce their consumption expenditure in order to preserve their savings standard. There is no way of ascertaining on theoretical grounds alone what the actual reductions in private expenditure will be in any particular case. It is a fact that we need empirical evidence obtained by an examination of the various behaviour patterns of those individual whose incomes are decreased because of the tax. Any reliefs or exemptions granted to the lower income strata tend to alter the income distribution if such reliefs are not granted.

To sum up, under the present assumption the following could be deduced :

- (a) The exemption of a certain group of individuals or increasing the existing reliefs will increase both their consumption expenditure and also savings.
- (b) The increase in the rates of the progressive income tax will reduce savings of higher income groups as there is a presumption

that individuals within such income groups try to maintain their standard of living while keeping their consumption expenditure at a relatively constant level. Therefore the effect of high rates will fall on savings. We have to take into consideration that higher marginal rates of income taxes may lead to the dissipation of capital as their disposal income after tax is not enough to maintain their customary standard of living and thus they might find it advisable to disperse their assets. In the short-run the allocation of income among consumption and savings is in general dependent on the marginal propensity to save of taxpayers. We shall see the significance of this when discussing the effect of exemptions on the economic stability.

(c) The increase in the rate upon high income groups might have a disincentive effect if the average rate is accompanied by higher marginal rates.

(d) Increasing income tax rates does not necessarily mean greater tax yield as such excessive rates might have a disincentive effect thus reducing production and thereby income. Consequently, it should be understood that the government can only control the tax rate and not the yield.

(2) The second assumption is that the government will try to maintain the same level of expenditure met with equal amount of revenue while introducing new income tax exemptions or increasing the existing reliefs. In order to cover the reduction in the income tax yield the government will attempt to increase the rates of indirect taxes without changing the rates of the income tax. The effect of such policy has the following repercussions on income distribution.

(a) Indirect taxes, especially taxes on commodities enjoying inelastic demand, are regressive by nature, therefore any increase in the rates tends to increase its regressiveness. This will increase the inequality of incomes especially between individuals who do not benefit from the increase in income tax exemptions. The effect of such increase in regressiveness may cancel the benefit acquired through the increase in income tax exemptions. Consequently, the increase in indirect taxes' rates will neutralize the increase in the income tax exemptions.

(b) The degree of increase in regressiveness depends on what kind of commodities are subject to the increase in the tax rate. If the increase is confined to the necessities, this means that low in-

some groups will suffer from such increase and will reduce their consumption. On the other hand this will not affect the consumption expenditure of the higher income groups.

If the rate increase is limited to luxuries, this might lead to the decrease in consumption of such commodities, as the demand in this case is supposed to be elastic. The government, therefore, will not be able to obtain the required to offset the reduction in the income tax revenue due to the increase in exemptions. Low income groups, however, will benefit from the increase in income tax exemptions as they are not affected by the increase of indirect taxes on luxuries.

(c) Comparing the advantages and disadvantages of the effects of assumption (1) and assumption (2) we can deduce that under the increase of indirect taxes this will have a minor effect on incentives, while under the first assumption the increase in income tax rates incentives will be adversely affected.

(d) Within the present assumption the increase in indirect taxes may lead to an increase in prices. Under full employment, the increase in prices of commodities included in the cost of living index, will result in a demand for wage increase and will start a wage price spiral. Ultimately this may accentuate inflationary pressure.

(e) An increase in indirect taxes may result in a reallocation of resources which might improve or deteriorate the allocation of economic resources due to the change in the distribution of factors of production resulting from change in demand.

(3) Under the third assumption the government will pursue a deficit policy to finance the reduction in the income tax yield due to the increase in exemptions. The government may borrow from the public or from banks.

(a) If the government borrows from banks the following repercussions may occur : Such loans will increase the net profit of banks through the relatively high rate of interest offered by the government on its securities as the government, in order to encourage the banks to buy the increasing numbers of its bonds, has to offer high rates of interest.

The increase in net profits increases the distributed profits to share-holders. Therefore, the distribution of income will be affected according to whether the banks' shares are held by low, middle or high income groups.

(b) In a case of public borrowing, if the money borrowed is held in either balances and is to be invested in government securities, this will mean an increase in the inequality of income distribution, of most of these securities will be held by the individuals within the high income groups.

If the public is encouraged to divert its investments towards government securities this leads to an increase in the rate of interest offered by the government and thus results in more income inequality.

It should be noted that higher interest rate might have an adverse effect on private investment, but for the purpose of the present discussion we assume, for simplification, that its effect is negligible.

Generally speaking, in all cases public borrowing would have the tendency to increase income inequality.

(4) Finally, we can assume that the reduction in the tax yield due to the increase in income tax exemptions will be met by cutting down the government expenditure by the same amount. Accordingly the need for the government to undertake any of the above mentioned policies is overruled.

The obvious effect of the decrease in expenditure is that the national income will decline by a magnified proportion of the original amount of the declining expenditure caused by the multiplier effect. Implicitly the reduction in government expenditure might increase income tax exemptions.

Any clear cut statement regarding the question of the distributive effect of reducing government expenditure might prove illusive as it is difficult to measure the effect of such deduction on the various sectors of the economy, and thus it is difficult to predict its distributive effect on incomes.

(2) Income Tax Exemptions and Economic Stability :

The problem of economic instability due to the business cycle has caused a great discomfort to most governments. Economists have tried their utmost to discuss adequate measures to deal with such instability and various studies have taken place and several solutions put forward. Fiscal as well as monetary measures were taken and channeled to deal with and mitigate the severity of the business cycles. Tax measures, as an important part of a counter-

cycle fiscal policy, have been unanimously advocated as an effective device for combatting business fluctuations and their consequences. My aim at present is to emphasize the role of income tax exemptions and reliefs, which are a part of the whole tax system, in maintaining economic stability.

Income tax has proved to be an adequate fiscal measure in stabilizing the economy. Its influence in checking the various effects of the business cycle is more apparent in a developed economy, while it has a relatively inferior importance in a less developed economy. This is due to the low standard of living as a consequence of overwhelmingly low income per capita, which in many cases just reaches the subsistence level in underdeveloped countries.

The flexibility of an income tax as a fiscal counter cyclical measure depends mostly on the rate schedule and size of reliefs which affect directly the tax liability. The comparative efficiency of various changes in the rate schedule or the tax base due to modifications of reliefs and exemptions could be measured by the multiplier effects of a tax increase or decrease — that is by the relation between the amount of tax changes and the resulting increase or decrease in the aggregate demand.

Changes in personal income tax is argued to have a greater effect on the business cycle than an income tax on business profits. Business tax liabilities are directly related to the success or the failure of the business itself. Thus a firm obtains an automatic reduction or increase in income tax, depending on the trend of the economy, i.e. prosperity or recession. For the Revenue Authorities this means that the yield of business income tax automatically declines during the depression and increases during recovery. Therefore, it is believed that other taxes particularly taxes on sales, production, or on cost factor, would be more deflationary than business income taxes "that would yield the same amount of revenue over a complete business cycle (1).

One of the most important factors which should be carefully considered is the timing element in applying any fiscal or monetary measure. Any tax change has to be timed so as to render its expected fruits at the appropriate time without having an adverse

(1) National Bureau of Economic Research "Policies to combat Depression" Paper prepared by R. Goode on «The Corporate Income Tax in a Depression». 1956. p. 150-170.

repercussion. Tax cuts during a session have to be carefully put into power at the appropriate time, otherwise it might start an inflationary trend. In the meantime tax changes should closely appropriate to changes in the rate of spendings. Another problem which faces the administration is what would be called the "announcement problem". By this, I mean that any change in tax provisions has to be decided by the people's representatives, as is the procedure within a democratic system. Therefore, the announcing of the proposed changes in taxes could have an adverse effect, as some taxpayers might try to act in a different way in order to obtain a future benefit (1).

The role of income tax exemptions in stabilizing the economy could be illustrated and discussed through the assumptions laid down previously when discussing the effect in income distribution. The main assumption is that the budget is balanced in spite of any changes in tax yields due to changes in income tax exemptions.

(1) First, we assume that the increase in tax exemption and hence the reduction in the aggregate public revenue will be compensated by increasing income tax rates. The impact of such changes will be quite obvious on the redistribution of income from high income groups to low income groups and thus increasing the propensity to consume in general. Such a state of affairs would be favourable in a situation where unemployment prevails as it would reduce unemployment by the increase in the demand schedule.

In the case of full employment such reaction would mean more inflationary pressure in the economy, under the assumption that there is a balanced budget.

Within the business sector of the economy any increase in capital allowances, for example, will increase business savings and the effect of such savings on economic stability depends upon the way in which savings are invested. But does this mean that the use of savings, even in the most efficient directions, helps us to reach the optimum point of economic welfare? To answer this question the following has to be borne in mind: a) If we invest

(1) For example, if a new capital allowance such as "Initial Allowance" on new capital assets is proposed to encourage investment during the recession this might lead to a postponement of expenditure in capital goods which in turn might intensify the recession.

the business savings in a period of unemployment this will increase employment ; but the use of such savings does not mean that the ideal allocation of savings or investment is reached ; b) to stabilize the economy does not mean to increase savings, especially in period of unemployment. If there was a need to increase investment in this period, we should take measures which encourage investment directly, as the encouragement of business savings does not necessarily mean that it will be automatically invested ; c) the encouragement of business savings will increase the imperfection of the capital market as it will lead to the concentration of a large part of the company's savings within these companies, without exposing such savings to test in the capital market. This will lead to the concentration of the economic power of these companies and also to stagnation within such companies.

Consequently any increase in income tax rate, personal or business, might not produce the wanted yield to cover the loss through the increase in any tax exemptions as the government cannot control the yield of any tax. Moreover, a further reduction in income tax yield might occur in spite of the increase in the rates, as such an increase might have a disincentive effect. These two facts have to be considered from the point of view of their direct impact on the economy. High tax rates on business profits might induce entrepreneurs to reduce their productivity to avoid the tax especially if it is progressive. This might, in turn, produce unemployment.

(2) Keeping the budget balanced with the increase in income tax reliefs, the government might increase the rates of indirect taxes in order to make up for the deficit in the income tax yield. As mentioned when discussing the effects of exemptions on income distribution, any increase in indirect tax rates is likely to increase their regression. The increase in their regressive nature will reduce the propensity to consume regarding commodities which became subject to the increased rates, on the assumption that demand on those commodities is inelastic. Under conditions of prevailing unemployment the increase in indirect tax rates worsens the situation especially in industries producing the taxed commodities. This state of affairs is true if the increase in the indirect taxes is paid by the consumers. But the situation might differ if the increase in the rates is paid by the company or shifted upwards to dealers of raw materials. Demovability of the tax, in

general, depends on the economic situation of the company producing the taxed commodity, i.e. pure competition or monopoly. (1).

Under full employment condition, the increase in the indirect taxes' rate which increases prices of the taxed commodities would reduce the demand, if such demand is elastic, and so reduce the inflationary pressure.

Any increase in the indirect tax rate may lead to a change in the allocation of resources in favour of non-taxed commodities and this might worsen such an allocation. Accordingly unemployment may develop and other fiscal and monetary measures have to be sought to adjust the situation.

3) The third assumption is that the government, to maintain a balanced budget, has to adopt a deficit financed policy to cover its deficit due to the increase in income tax exemption. The effect of such a policy under such conditions of unemployment will reduce unemployment. Compared to the above devices, (1) and (2) it will be more powerful in creating income and employment.

4) The final assumption is that the government will maintain the same tax rates at a constant level and cut its expenditure by an amount equal to the decrease in income tax yield caused by the increase of exemptions. In a case of full employment, such action reduces the presumed existing inflation. On the other hand, in the case of unemployment such cuts in government expenditure will have a delationary effect, but we must take into consideration the net effect of changes in exemptions. The increase in exemptions alone without increasing other tax rates will increase the demand schedule and ultimately incomes according to the multiplier effect. Therefore, the net effect of changes in exemption could be measured by the difference of the raised incomes caused by the increase in exemptions and the decline in the national income due to cuts in public expenditure.

To conclude the discussion of the role of income tax exemptions in mitigating the severity of economy fluctuations it is desirable to review briefly the role of the basic reliefs in the business cycle :

(1) We need not discuss the shifting and the incidence of indirect taxes here as this subject has been widely discussed by various students of public Finance.

i) Changes in personal exemptions, either in exemption limit or in other personal relief, are considered as a competent measure in changing the tax base. This change is usually coupled with a change in the rate schedule. During inflation the personal exemption limit is reduced in real terms and thus the actual tax base becomes wider. In the depression a reduction in the tax base as well as in rates provides an adequate measure to reduce the tax liability and thus to increase the disposable income which consequently increase the demand schedule. As it is the same in other fiscal measures, the timing problem raises an important question in choosing the appropriate time to start such changes. The timing problem in this very measure is not so difficult as it is in other fiscal measures. This is relatively true because, in most tax systems, the fiscal year of all individuals is the same, therefore, the authorities have only one date for the application of such changes — that is the end of the fiscal year. During the depression tax cuts must be avoided on principle, and particularly because unlikely, unfavorable conditions they may result in inflation.

ii) On the first appearance of the down trend of the economy unused personal exemptions and reliefs could be carried backward against previous taxable income (1). This would help in mitigating the cyclical effect. The carry-back method would create a negative tax liability or a subsidy in the shape of a tax refund. The feasibility of such a measure depends more on its practicality from the administrative point of view. The timing problem also arises within this device and the appropriate time for the application of this averaging method could be left to the decision of the authorities when they decide that the down trend has already started.

After recovery of a permanent averaging method either carry forward or carry backward of unused exemption achieves a stable revenue to the treasury and helps to establish greater equity.

iii) Methods used for inventory valuation are considered an important factor in influencing the fluctuations of business problems. During a recession the adoption of Lifo method reduce the fluctuations in reported business profits and tax liabilities will fall less rapidly than under Fifo method as under the latter “the lag between assumed cost of goods sold and replacement post be-

1. W. Vickrey. Agenda for Progressive Taxation, pp. 189-191.

comes important in a period of rapidly changing prices" (1) Consequently Fifo method appears to be a relatively adequate method for stabilizing the economy and reducing the sharp fluctuation in profits or losses due to price changes in inventories.

iv) Accelerated depreciation could be used as an anti cyclical device if used after a careful study of its direct and indirect effects on the tax system especially if used as a means to avoid the tax. The effect of accelerated depreciation on depression will depend on the future tax rates, on the availability of loss carry backs or forwards and on the difference between "pay off period" and its useful life (2).

The change in prices, if taken into account in the computation of depreciation allowance, effects the cyclical flustuations. The adoption of replacement — cost depreciation in inflation will render an undesirable effect ; it will increase the disposable profits after tax which include special reserve accumulated through the application of replacement — cost depreciation. If such amounts are distributed, it will increase the intensity of the cycle through its effect on the propancity to consume. If undistributed, such profits would increase the propancity to invest which, in turn, through the multiplier effect would raise the demand schedule to a greater level.

A desirable compromise could be found to solve the above dilemma and to bring together two aims, equity and combatting the inflationary economy. The excess of depreciation allowance computed according to replacement cost over the normal depreciation allowance could be transferred to a separate account which should not be used unless the asset is completely amortised or unless permission is granted. Before the asset's complete amortisation, by the Revenue Authorities. In other words the "access depreciation allowance" should be controlled by an authoritative body.

Replacement-cost depreciation might be an additional obstacle to investment during depression when prices are expected to decline, as future deductions would smaller than under original-cost depreciations. But if prices are expected to rise, in the case of a short run recession, the adoption of replacement-cost depreciation

(1) National Bureau of Economjc Research, of cit. p. 151.

(2) *Ibid.*, p. 164.

would be more feasible for firms to invest in depreciable assets.

v) During depression a special tax of undistributed profit or any fiscal measure which differentiates against retained profits stimulates additional distribution of dividends and thus increases the shareholders' consumption expenditure. Such differentiation might have an adverse effect on the incentive to invest, within the business sector as the firm would let cash funds for internal finance of further investment.

The adoption of any method which differentiates against undistributed profits during inflation would intensify the upward trend by increasing disposable income and hence consumption expenditure. Therefore, such differentiation ought to be suspended at the first stage of recovery.

Depreciation on Accounting Principles compared with Capital Allowance for Taxation Purposes (Reducing Balance Method)

Depreciation			Capital Allowances for Taxation		Net Excess of Capital Allowances	
Cost of Plant £ 1000	Written down value at beginning of year (A)	Appropriate Annual Depr. at 8% (B)	Written down value at beginning of year (C)	Initial Allow. at 20 % and Annual Allow. at 10 % (D)	For year (D-B)	Cumulative (E)
	£	£	£	£	£	£
Year 1	1000	80	1000	(I.A. 200 (A.A. 100)	+ 220	220
2	920	74	700	70	— 4	216
3	846	68	630	63	— 5	211
4	778	62	567	57	— 5	206
5	716	57	510	51	— 6	200
6	659	53	459	46	— 7	193
7	606	49	413	41	— 8	185
8	557	45	372	37	— 8	177
9	512	41	335	33	— 8	169
10	471	38	302	30	— 8	161
11	433	35	272	27	— 8	153
12	398	32	245	24	— 8	145
13	366	29	221	22	— 7	138
14	337	27	199	20	— 7	131
15	310	25	179	18	— 7	124
16	285	23	161	16	— 7	117
17	262	21	145	14	— 7	110
18	241	19	131	13	— 6	104
19	222	18	118	12	— 6	98
20	204	16	106	11	— 6	93
21	188	15	95	9	— 5	87
22	173	14	86	9	— 5	82
23	159	13	77	8	— 5	77
24	146	12	69	7	— 5	72
25	134	11	62	6	— 5	67
26	123	10	56	6	— 4	63
27	113	9	50	5	— 4	59
28	104	4	45	— 55	— 59	Nil
29	100	—	100	—	—	—
—		900	—	900	—	3558