Some Fiscal and Monetary Policy Experiments in Sweden

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Both monetary and fiscal instruments have been continuously and rather systematically used in Swedish stabilization policy during the entire postwar period. The policy has relied mainly on rather conventional "Keynesian" tools of fiscal and monetary policy: variations in public spending and taxation, interest rate variations, and attempts to influence the supply of credit and money. It may be of some interest to report on the experiences of these tools, in the context of general macro theory. However, there are also a number of experiments with "new" tools worth studying – special tax-subsidy program (such as investment taxes and so-called investment funds policy) to influence private investment; attempts to make variations in public investment programs more useful in countercyclical policy by way of an actual "shelf of public projects"; active labor mobility policy; "protected works" for people with special difficulties to compete in the open labor market; experiments with various kinds of credit market regulations, etc. There are also a number of interesting problems to report on possible destabilizing effects on income formation of the highly progressive tax system, as well as on the effects of fiscal policy actions on the behavior of organizations.

Let us start with a schematic picture of the general performance of fiscal stabilization policy in Sweden after the Second World War.

General Fiscal Policy

An attempt is made in Chart 1 to estimate the immediate (direct) impact effects of fiscal policy on aggregate demand, i.e. the "multiplicand" in the context of a simple Keynesian multiplier model. The analysis includes the effects of both discretionary actions (changes in tax rates and in public real expenditures) and of automatic budget changes (mainly on the revenue side). All effects are

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The paper is partly based on two forthcoming publications by the author, [15] and [16]. I am grateful to Marianne Biljer for research assistance.

expressed as a percentage of GNP (in the previous year).[1] The statistical computations in Chart 1 have been made by Lars Matthiessen.

As the consumption function used includes time lags, and the figures for public expenditures are taken from the national accounts, the analysis will *in principle* take account of *all* basic time lags in influencing aggregate demand – the recognition lag, the decision lag and the effect lag. The quantitative estimates do not include the effects of fiscal policy on private investment; actions designed to influence private investment have instead been indicated "qualitatively" by arrows in the diagram – arrows pointing "up" denoting expansionary actions and arrows pointing "down" denoting restrictive actions.

The reason for using this rather primitive analytical technique is that no sufficiently reliable econometric models exist so far for Sweden (or, I think, for any country, for that matter). Thus the analysis may be regarded as a substitute for an econometric approach – with a combination of, on the one hand, a quantitative estimate of *direct* impact effects on private consumption and public spending on goods and services, and, on the other hand, a *qualitative* analysis of the direct effect of actions undertaken to influence private investment.[2]

The analysis includes both central and local government activities (excluding the small groups of publicly owned corporations). As the central government in fact, during most of the period, has tightly controlled the volume of housebuilding – by credit supply over the budget and some administrative controls of building starts – variation in housebuilding has been treated in the analysis as a fiscal policy instrument. By contrast, public credit transactions in general, and monetary policy are not included in the diagrammatic analysis.

According to the diagram, fiscal policy in Sweden has shown a countercyclical pattern most of the time (mainly during the period 1949-1963) – with positive impact effects on aggregate demand of

[1] For a discussion of the methodology of the study see [7], [11], [14] and [19]. In estimating the effects on private consumer goods demand, a consumption function of the following type (for yearly data) has been used (with t-value below the coefficients):

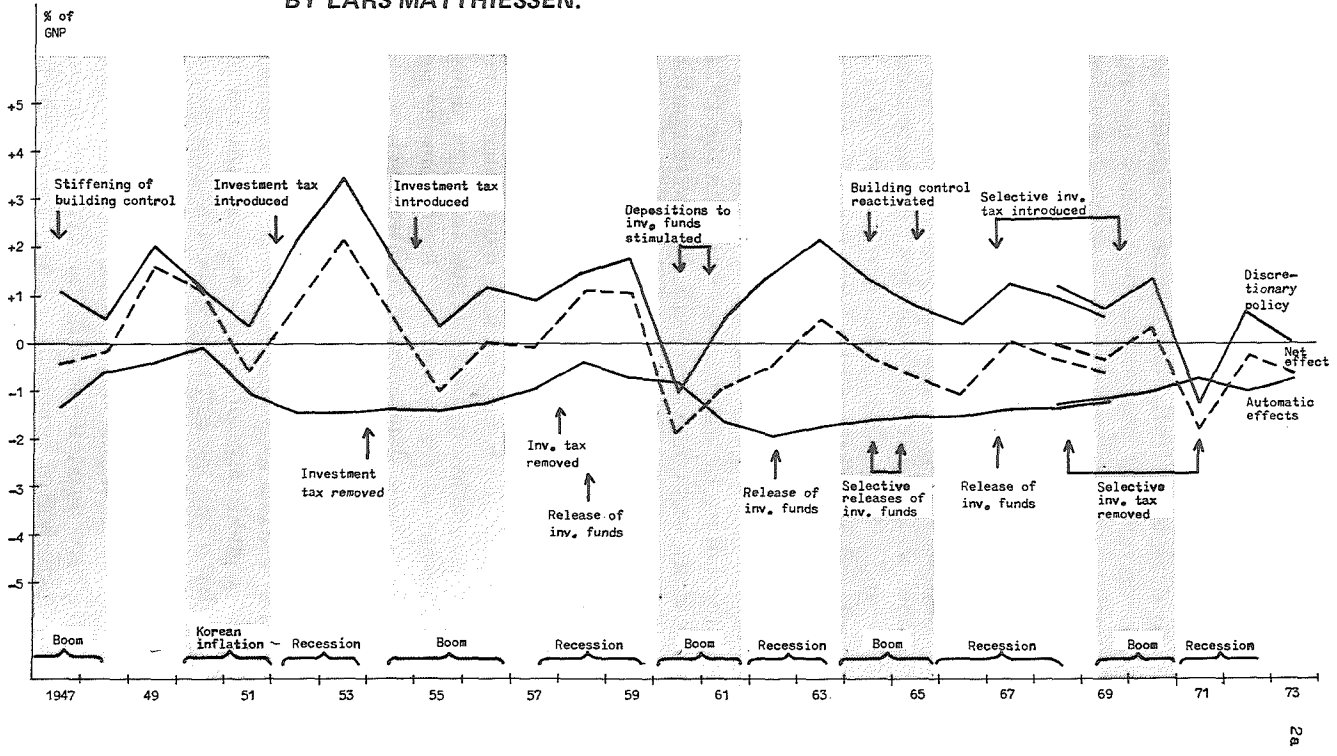
$$C_t = \underset{(5.21)}{0.43}\, Y_t + \underset{(6.27)}{0.58}\, C_{t-1} - 878.90$$

$$R^2 = 0.998 \qquad D/W = 1.98$$

[2] Pension fees on firms are treated as indirect taxes, assumed to be shifted on to households (by way of commodity prices or wages) – perhaps a questionable assumption in short-run analysis.

CHART 1

IMPACT EFFECT ON AGGREGATE DEMAND OF FISCAL POLICY, PERCENT OF GNP. REAL VALUE ESTIMATES (1947-1969 IN 1959 PRICES, 1968-1973 IN 1968 PRICES). YEARLY DATA. ESTIMATES BY LARS MATTHIESSEN.



discretionary actions usually of about 2 percent of GNP during recessions, and effects rather close to zero (occasionally negative) during booms. The "automatic stabilizer" on the demand side – for instance by way of automatic tax increases when income in the private sector rises – has had very little variability over time. If actions designed to influence private investment are also considered, the countercyclical pattern of the policy is somewhat more pronounced.

However, restrictive actions have been considerably delayed in the booms. And from 1964 the countercyclical pattern has hardly been discernible. Not only have the restrictive actions been weak and delayed in booms (1964, 1969) and the expansionary action rather weak also in recessions (such as 1966 and 1972/73), but the policy on some occasions is probably best characterized as "procyclical" (1966 and 1971). Moreover, during the 1971-73 recession, the attempts to *replace* general expansionary measures with strongly selective measures were highly unsuccessful. The obvious lesson is that selective policies cannot *replace* a skillful management of aggregate demand.

As the failure of stabilization policy in the 1971-73 recession to a large extent was connected with the severe conflicts of goal at that time – unemployment was amplified by restrictive policies designed to fight inflation and an *assumed* balance-of-payments problem – the experience also underlines the need for a multiplicity of policy instruments when there is a multiplicity of policy targets.

The experience in 1971-73 also illustrates what several countries, such as the United Kingdom, have experienced several times, i.e. that domestic stabilization policy tends to break down if the exchange rate is fixed at an "inappropriate" level from the point of view of the targets concerning the domestic activity level.

Specific Fiscal Tools

So far I have looked at "general" fiscal policy only. However, there is a good case for developing stabilization policy tools *specifically* designed to influence specific components of aggregate demand, such as inventory investment, fixed private investment, public investment, housebuilding etc. One obvious reason is that macroeconomic disturbances often come from specific sectors of the economy. By using tools with the main impact on the sector from which disturbance originally comes, rather than using tools with effects on *all* sectors, we avoid creating "disturbances" on a great

number of other sectors of the economy [11A]. Secondly, and this is a rather similar aspect, in an economy working close to full employment, there is often simultaneously excess demand in some sectors and excess supply in others. In such a "split" economy, there is a case for using tools with impact on specific parts of total demand and/or supply [14].

It is therefore of interest to discuss the stabilization policy problems for various breakdowns of GNP. Let us start with private consumption.

Private Consumption

Variations in taxes for households have *not* been extensively used for short-run stabilization policy in Sweden — or in any other country for that matter (except possibly the United Kingdom) — during the postwar period. There are several reasons for this. One basic "non-economic" reason is presumably the slowness of the parliamentary machinery. Another, related reason is connected with complications in party politics. After all, it is households, not firms, that have voting rights!

There are, however, also a number of more "purely economic" reasons. One is related to (1) the scope and time lags, and the uncertainty about these, of the effects, i.e. with the properties of the aggregate consumption function; another reason is connected with (2) the effect of the policy on the behavior of organizations, such as labor unions; a third, closely related aspect has to do with (3) the "automatic stabilizers" of the tax system. Let us look at each one in turn.

1. *Scope and Time Lags of Effects*

Simple *one-period* Keynesian consumption functions have during the last decade more or less universally been replaced by *multi-period* consumption functions, with consumption in a given period a function of disposable real income during several consecutive periods. This has at least two important consequences for fiscal policy. To highlight them, let us assume that consumption in period t, (C_t) is a function of past, present and expected future real disposable income (Y_p, Y_t, and Y_f, respectively):

$$C_t = f(Y_p, Y_t, Y_f)$$

Let us first look at the influence of *the past* (neglecting the future); this influence may be interpreted as some kind of "inertia" in behavior: it takes time for households to adjust to changes in income, in particular if the change deviates considerably from the previous trend. The well-known consequence is that unexpected, or as compared to past experience "abnormally" large increases (reductions) in current income (Y_t) would result in a rise (fall) in the average saving ratio of households.

The marginal propensity to consume with respect to *current* income only ($\delta C_t/\delta Y_t$) then becomes rather small, as compared to figures usually assumed in textbook examples in fiscal policy analysis, based on older, one-period consumption functions. In fact, a short-run one-year marginal propensity to consume of the magnitude of 0.4-0.5 is quite usual in contemporary econometric studies from various countries, where such "inertia" effects, reflecting the past, are considered. Thus, in order to reduce consumer goods demand by $1 billion in one year, it would be necessary, *ceteris paribus,* to cut down real disposable income by $2.0-2.5 billion, whereas the same demand-reducing effect could in principle be achieved by a reduction in public spending on goods and services by just $1 billion (considering, in both cases, the *direct* impact only). Assuming that political complications are positively correlated with the *size* of tax and expenditure changes (realistic in particular in the case of tax increases), the "new" types of consumption functions no doubt make fiscal policies designed to influence private consumption look more difficult than suggested by the older, one-period consumption functions.[3]

Second, let us look at the influence of *the future.* A complication for fiscal policy, as regards finding the appropriate scope of action, is that the coefficients in empirically estimated consumption functions presumably usually reflect the influence of changes in income that have been expected by households to be "permanent"; for instance, in the sense that Y_t and Y_f change in the same direction (possibly even in the same proportion). As a corollary, we would expect that a change in disposable income that is expected to be *temporary,* i.e. a change of Y_t for which $\delta Y_f/\delta Y_t = 0$, will influence household consumption much less than a change that is expected to be permanent (i.e. where Y_f/Y_t is constant – or at least where $\delta Y_f/\delta Y_t > 0$); the

[3]A more technical-analytical inference from empirical multi-period consumption functions is that the changes in the budget surplus between two years, whether actual or some kind of "full employment surplus", may be a rather poor approximation of the size of the demand effects of fiscal policy – if we did not know that before.

reason is of course that the expected income stream over time (measured for instance by its capital value) would in the first case change only insignificantly [4, 12, 14].[4]

The situation is somewhat different in the case of changes in *indirect* taxation. Here too, of course, a permanent tax change influences real disposable permanent income more than a temporary change. However, in the case of a *temporary* tax change, there is also a substitution effect between periods, strengthening the effects on consumer goods demand in the first period – a "postponement effect" (of a similar kind, in principle, as for *temporary* investment taxes) [12]. If this substitution effect between periods is stronger than the difference between the income (wealth) effect of a permanent and a temporary tax change, there is in principle a case for announcing changes in indirect taxes to be temporary, and income taxes to be permanent – from the point of view of stabilization policy only. However, it is an open question, if governments can persuade the taxpayers to believe that a tax announced as temporary will be just that: "Nothing is so permanent in this world as a temporary tax". It is also difficult to convince people that a change in the income tax that is announced to be permanent will also be just that, if households have experienced that earlier announced "permanent" changes in income tax rates have been "temporary", as they have to be in stabilization policy!

2. *The Behavior of Organizations*

An even more complicated issue is that various *organizations* of income receivers might adjust their income claims to tax changes designed to influence their real income. As has been recognized in many countries, labor unions and/or farmers' organizations have occasionally asked for compensation for tax changes – in the form of increases in wages and agricultural prices, respectively. Even though the mechanism may apply both in the case of direct and indirect taxes, the possibility has been particularly recognized in the latter case.

When this type of mechanism is working, attempts to fight demand inflation by higher taxation are likely to result in cost-push inflation instead (in excess of the price increase directly "attributable" to higher indirect taxes). The conclusion is presumably that it is difficult to pursue stabilization policy if the dominant organizations of income receivers do not "cooperate" with, or even

[4]However, it should be observed that the effects on *spending* on consumer goods, including the purchases of durable consumer goods, most likely are not quite as small as the effects on *consumption,* defined as the flow of services provided by consumers' goods.

subordinate their activities to the wishes of the authorities responsible for stabilization policy, which of course is one of the basic ideas behind (a modest version of) "incomes policy".

3. *Automatic Destabilizers*

Consideration to the effects of tax policy on income formation is important both for the theory and empirical applications of "built-in stabilizers".

Even if high marginal tax rates and a progressive tax system make the government budget function as an automatic stabilizer on the *demand side* (in the markets for commodities and services), it may at the same time be a destabilizer on the *cost side* by inducing various organizations of income receivers to demand compensation for "automatic" tax increases. Such reactions could push up production costs. Thus, even if "automatic" tax changes might stabilize real aggregate demand, and possibly also the path of real GNP, they may at the same time "*de*stabilize" the trend of wages and prices. Thus, there is a delicate balance between the stabilizing effects on the demand side, and the destabilizing effects on the cost side – of "automatic" tax increases.

In fact, if the tax system is highly progressive, very large increases in wages will be necessary to achieve a given increase in real disposable income, in particular if the price-raising effects of wage increases (in excess of productivity increases) are considered. This might be illustrated by Erik Lundberg's so-called "wage multiplier" (formulated in 1953), which shows how much the wage rate must increase (in percentage term) to compensate for a 1 percent (autonomous) price increase – when both the progressiveness in the tax system and induced price increases due to higher wage costs are considered [17]. Hence, the multiplier does *not* show how much wages will *in fact* change as a result of an "autonomous" price change (there is no behavior function for wages in the model), but instead how much wages *would have to change* to keep real after-tax wages constant.

Let the Lundbergian "wage multiplier" be written

$$m = \frac{1}{\frac{1 - t_m}{1 - t_a} - k} = \frac{1}{e - k},$$ [5]

[5] The ratio $\frac{1\text{-}t_m}{1\text{-}t_a} = \frac{\Delta\,(W - T)}{W - T} \Big/ \frac{\Delta\,W}{W} = e$ is the elasticity of after-tax wages $(W - T)$ with respect to before-tax wages (W). k is the elasticity of prices with respect to wages. The *size* of k depends of course *inter alia* on the length of the period. In the interval where $e - k$, $m - \infty$, and hence in that case no change in wages can compensate for an autonomous price increase, considering the effects on real disposable wages of both price increases and induced changes in taxes.

where t_m and t_a are the marginal and average tax rates, respectively, and k is the ratio of the "induced" price change (in percentage terms) to a 1 percent change in wage rates. In the case of Sweden, fairly realistic figures for the tax rates are $t_m = 0.6$ and $t_a = 0.3$, respectively. If $k = 0.5$, the "wage multiplier" becomes 6, implying that wages have to increase by 6 percent to compensate for an initial "autonomous" 1 percent increase in prices. (If we would neglect induced price changes – i.e. if we assumed that $k = 0$ – the wage multiplier would be 1.5.) This kind of tax system, though having rather strong "conventional" automatic stabilizing effects on the *demand side,* might be rather explosive in its effects of the *cost side,* if labor unions have learned how much wages must be pushed up to compensate for the effects of progressive taxation and price increases.[6]

An obvious way of counteracting these biases toward cost-inflation of the tax system is that the government offers households increased real disposable incomes by way of a tax cut, thereby helping them to moderate their wage demands. (Something like this was done by the government in August 1973.)

Inventory Investment

Year-by-year fluctuations in inventory investment are in many countries of the magnitude 2 to 3 percent of GNP. (See Chart 1 for Swedish figures.) Thus, a successful stabilization of inventory investment could make a considerable contribution to macroeconomic stability. In fact, if the authorities fail to stabilize not only export production (which is extremely difficult to stabilize) but also inventory investment, a stabilization of the growth path of GNP will put a very heavy burden on counter-cyclical policies toward the other GNP components.

[6]If the tax system is *extremely* progressive (or k is large, i.e. close to unity), we might even wind up in a situation where $e < k$ (such as when $t_m = 0.7$, $t_a = 0.3$ and $k = 0.5$). The multiplier than becomes *negative* and the only chance for wage earners to compensate themselves for a 1 percent ("autonomous") increase in prices would be to force through a *reduction* in nominal wages – assuming that this reduction will pull down prices according to the coefficient k. In open economies this presumably requires a revaluation of the currency. Thus, (1) if all employee organizations would understand the functioning of the system; (2) if they all could act by *concerted* action; and (3) if they could bring about an appropriate revaluation, incentives would in fact in this case have been created for wage *reductions!* Thereby employee organizations could "cheat" the government on real disposable income.

Thus, Whereas a highly progressive tax system (making *m* high and positive) may considerably stimulate cost inflation, an even more progressive system (making *m* negative) could *theoretically* create anti-inflationary (or even deflationary) incentives for employee organizations.

It is probably correct to say that very few attempts have been made so far in various countries to influence the short-run behavior of inventory investments by specifically designed tools. Moreover, most econometric studies in this area do not seem to reveal many effects on inventory investment of "general" monetary and fiscal tools, as implemented so far in various countries. This interpretation of econometric studies also seems to be quite consistent with the observation of a rather symmetric, and *apparently* rather "undisturbed" (by economic policy) time path of inventory investments in many countries; this seems to hold for Sweden as well (Chart 2).

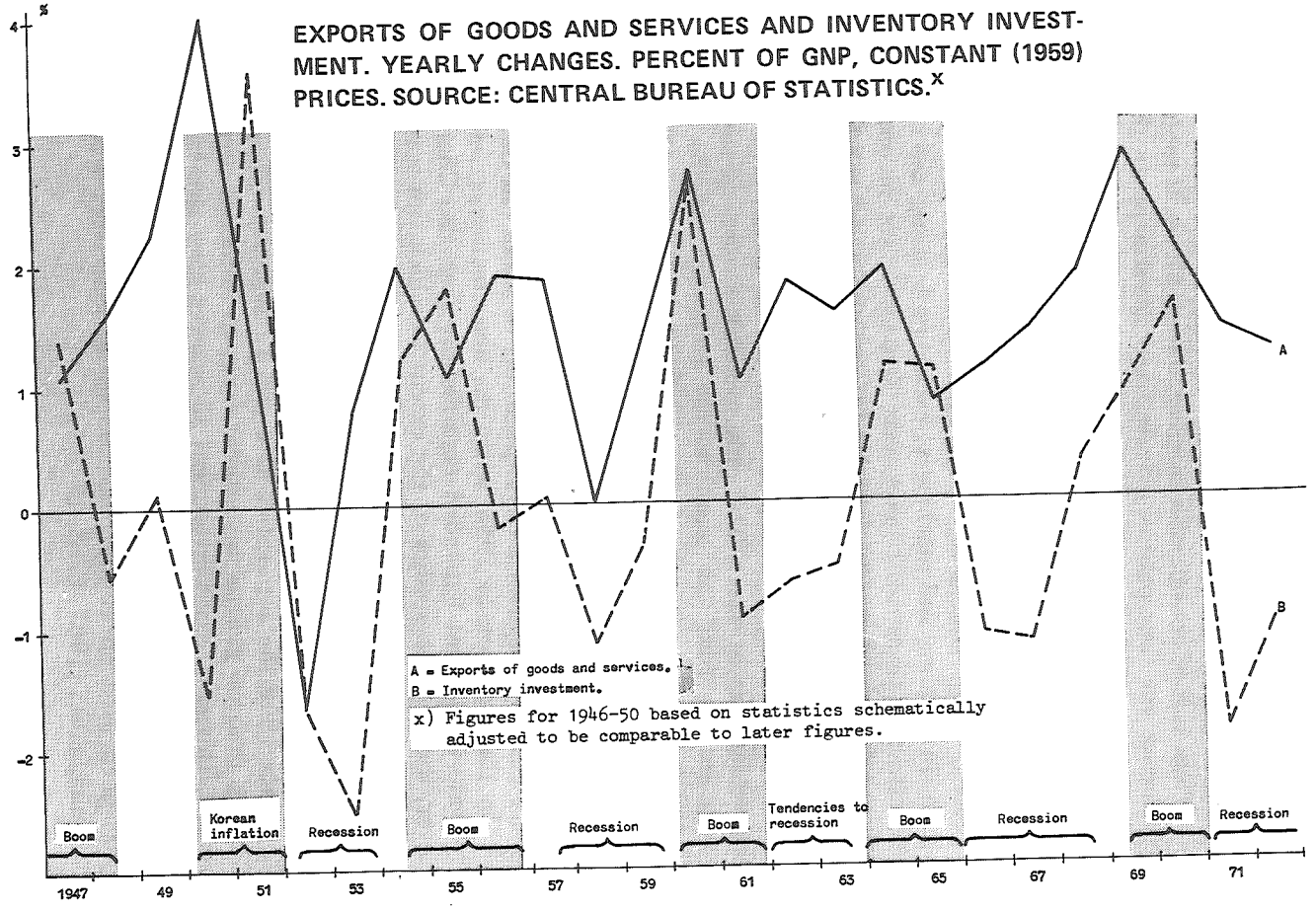
A preliminary conclusion of all this is, in my judgment, that *much* stronger doses of monetary or fiscal incentives than those tried so far – possibly by way of policy tools designed *specifically* to influence inventory investment (such as taxes and subsidies on inventory investment) – would be necessary to achieve appreciably stabilizing effects on inventory investment.

Private Fixed Investment

In contrast to the (relative absence of) policies towards private consumption and inventory investment in most (all?) countries, energetic attempts have been made in several countries to influence the short-term behavior of private fixed investment. We might, in principle, conceive of a monetary policy skillful and aggressive enough to stabilize the time path (around the trend) of private fixed investment. However, the authorities in many countries do not seem to be able or prepared to implement such a policy. There are several well-known reasons for this: (1) the uncertainty about the scope of the effect, and the length of the effect lag; (2) the rather "uneven" impact on different sectors, with risk of unemployment problems in certain subsectors of the labor market (such as in construction), possibly also conflicts with political allocation goals; (3) "disturbances" of the values of the stocks of earlier issued assets (though such "disturbances" might help to create the desired effects on spending); (4) undesired and/or uncertain effects on the distribution of income and wealth (between debtors and creditors); (5) complications with respect to the balance of payments by way of the international mobility of capital in response to interest rate differentials; (6) price-raising cost-push effects of interest-rate increases, in particular perhaps in price-regulated sectors such as public utilities, housing and agriculture; (7) problems of party politics; (8) prejudices and taboos about interest-rate flexibility among politicians; (9) the need for rather "differentiated" tools of policy in an economy where we

CHART 2

EXPORTS OF GOODS AND SERVICES AND INVENTORY INVESTMENT. YEARLY CHANGES. PERCENT OF GNP, CONSTANT (1959) PRICES. SOURCE: CENTRAL BUREAU OF STATISTICS.[x]



are rather close to full employment; hence there may be simultaneously excess demand in some sectors and excess supply in others (a "narrow-band economy"); and (10) the need to use *many* tools simultaneously in a world with many policy targets.

Thus, it is of considerable interest to look for *fiscal* tools as well to influence the time path of private fixed investment. In the Swedish attempts to stabilize private investment, two fiscal policy "innovations" are of particular interest – *taxes on investment expenditure* and *investment funds* policy.

General investment taxes have been used during two periods in Sweden, 1952-53 and 1955-57, on both occasions amounting to 12 percent of investment costs. The tax rate was applied to gross investment in building and machinery, excluding housing and most public investment. Investment taxes were deductible for income taxation purposes. As the income tax rate for corporations has varied around 50 percent in Sweden, the *net* (after tax) investment tax rate was about 6 percent in the two periods.

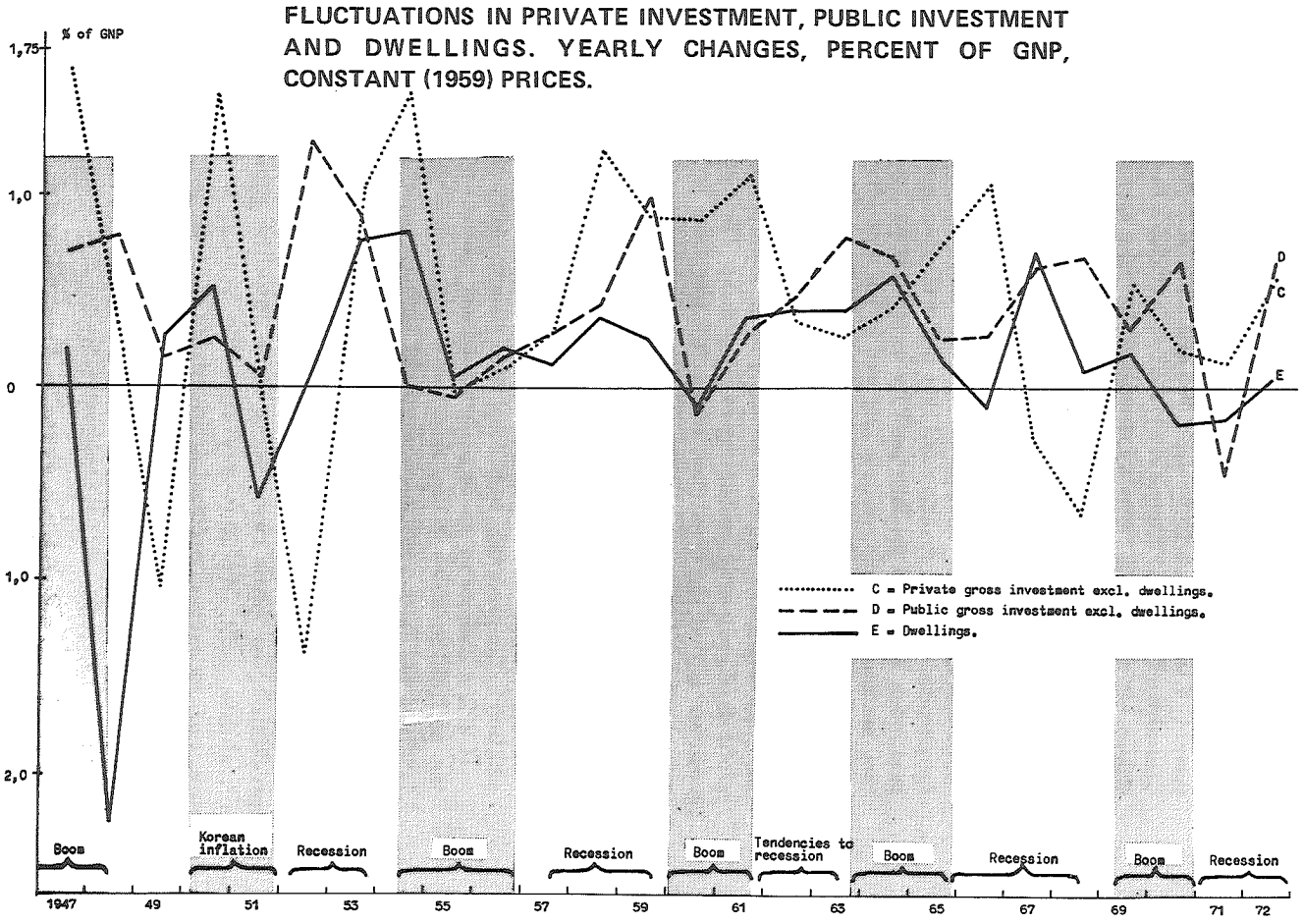
It is extremely difficult to estimate the quantitative effects of these investment taxes. The only available studies of any value are two studies using the questionnaire technique, of the effects on investment in industry of the 1955/56 investment tax [2, 22]. According to these studies, (planned) investment by industry was reduced by 5-6 percent in 1955, and a little less in 1956, due to the introduction of the investment tax in 1955. The effect of the investment tax, which was declared to be temporary, indicates a short-run *price* elasticity of investment expenditure of about one half.[7]

In the recession of 1958, when the investment tax was removed, private investment expanded considerably (see also Chart 3). However, there are no studies of the extent to which this was the effect of the removal of the investment tax or of other policy measures, such as an easing of the building regulation, a more expansionary monetary policy or possibly the minor release then of "investment funds".

Since 1958 the authorities have relied on *investment funds policy* rather than on *general* investment taxes to influence private investment. However, extra investment allowances have also been used at several occasions since the mid-sixties (1964, 1968, 1971-72) to influence private investment. Moreover, a *selective* investment tax has been used on building investment in the service sector and for municipalities (1967, 1968, 1970-71).

[7] As the 12 percent tax reduced demand by about 5-6 percent.

CHART 3


FLUCTUATIONS IN PRIVATE INVESTMENT, PUBLIC INVESTMENT AND DWELLINGS. YEARLY CHANGES, PERCENT OF GNP, CONSTANT (1959) PRICES.
% of GNP
1,75
1,0
0
1,0
2,0
C = Private gross investment excl. dwellings.
D = Public gross investment excl. dwellings.
E = Dwellings.
Boom
Korean inflation
Recession
Boom
Recession
Boom
Tendencies to recession
Boom
Recession
Boom
Recession
1947
49
51
53
55
57
59
61
63
65
67
69
71
72

The investment funds system (used mainly from 1955) implies that corporations, and certain other types of firms, are allowed to set aside as an investment-reserve fund a certain fraction, 40 percent, of profits before tax. This investment reserve is exempt from taxation, but 46 percent of the sum has to be deposited in a blocked account with the Central Bank (with no interest rate); the rest is available to the firm. By certain tax advantages, firms are stimulated to make appropriations to investment funds and to utilize them for investment in recession periods. The idea is, consequently, as in the case of temporary investment taxes, to induce firms to change the timing of their investment expenditure from booms to recessions.[8]

The basic incentive in the investment fund system is that firms are allowed to deduct new additions to the fund from their current profit for purpose of profit taxation and that profit tax does not have to be paid when the funds are later used for investment purposes, provided they are used at a time which is accepted by the authorities. Thus, the investment fund may be characterized as an appropriation, free of tax, for investment in the future. The immediate advantage to the firm is a certain gain of liquidity; the alternative to depositions of 46 percent of the appropriations to blocked accounts in the Central Bank is to pay profit taxes, presently amounting to 54 percent. The main incentive, however, is that the investment funds, still free from taxes, later on may be used for investment expenditures during periods when the government wants to stimulate private investment. Then the firms are also allowed to make an additional deduction from profits of 10 percent of the amount taken from the investment funds. Thus, the system implies tax deductions by depreciation charges in excess of 100 percent (in fact by approximately 110 percent) of the investment cost – in addition to the previously mentioned immediate liquidity gain.

If a firm chooses to use its investment funds without permission of the authorities, which it can, the fund is subject to the usual profit taxation, and there is also a special penalty tax imposed by the addition to taxable income of 10 percent of the amount taken from the investment fund.[9]

The idea of investment funds is similar to that of accelerated depreciation. In both cases there is a liquidity gain as well as a profitability gain. We may say that the system is approximately equivalent to free depreciation in advance of an investment made during a stipulated "release period". The firm obtains a "tax

[8]For a presentation and analysis of investment funds policy, see Eliasson [5], Edenhammar and Johansson [3, 10], and Matthiessen [20].

[9]The firm can use 30 percent of the deposition freely after 5 years, however (the so-called "free sector").

subsidy" which amounts to the value of the tax reduction (due to the deposition and the 10 percent investment deduction) *minus* the capital value of future tax increases due to lost opportunities of "normal" depreciation deductions.

As an indicator of the potential importance of investment funds policy, it may be mentioned that in 1971 the funds amounted to 3.8 billion kronor (about 0.8 billion dollars), compared to a total of gross investment by private manufacturing industry of about 6.9 billion kronor in 1971 and about 15.5 billion kronor (3.1 billion dollars) for total private gross investment (excluding investment in housing).

The government has permitted firms to use their investment funds under favorable conditions during four main periods – 1958/59, 1962/63, 1967/68 and 1971/72. The releases of investment funds have each time been of about the magnitude of *5 percent of total private investment,* with releases "spilling over" occasionally into the first boom year as well (1960, 1964, 1969). (See Table 1.) Thus, a very small fraction of yearly private investment in Sweden is in fact directly influenced by the investment funds scheme.

The first release occurred in 1958 and 1959, when private investment increased by 7 percent each year, in spite of obvious tendencies to a recession. There are no empirical studies of the effects, but there

TABLE 1

YEARLY RELEASES FROM INVESTMENT FUNDS

Year	Million Sw.Kr.*	Main Period of Release	Percent of Total Private Investment
1956	0.6		0.2
1957	0.2		0.01
1958	29.9	May 1958–	0.54
1959	308.8	–Sept 1959	5.09
1960	381.0		5.41
1961	172.4		2.12
1962	170.6	May 1962–	1.96
1963	644.6		7.01
1964	313.6	–March 1964	3.15
1965	227.5		2.03
1966	302.9		2.34
1967	536.3	May 1967	4.11
1968	1,421.2		11.47
1969	730.4	–March 1969	5.63
1970	368.7		2.58
1971	988.5	July 1971-Dec 1971	6.35

*Approximate dollar figures are obtained by dividing by 5 or 4, depending on whether the "old" or the "new" dollar rate is regarded as more relevant for a comparison.

seems to be general agreement that the release of funds lasted for so long that a substantial part of the investment expenditure generated by the action came at the beginning of the next boom (end of 1959 and beginning of 1960).

The effects of the release of the investment funds in 1962/63 and 1967/68 have been studied empirically by the use of a questionnaire technique [5, 21]. According to one study, there was a well-timed *net* effect (compared to the hypothetical case without a funds release) on private gross industrial construction during the ten-month period July 1962 – April 1963, amounting to about 15 percent of total annual industrial construction. (Chart 4, upper part.) There was also, during a five-month period, a net increase in orders placed for machinery and equipment of about 5 percent of total annual industrial machinery investment. That the timing of the policy was good from the point of view of the business cycle is indicated by a finding of the study, that the net effect reached its maximum in the middle of the recession at the beginning of 1963, nine to ten months after the announcement of the release of the funds. The effects had approximately disappeared by the middle of 1963, well in time before the next boom.

The effects of the investment funds release for machines in 1967 also seem to have been successful, including good timing, according to another study by questionnaire technique (Chart 4, lower part); for instance, during the four quarters when the funds release was in operation, the effects on machine investment amounted to about 7 percent of total machine investment in the manufacturing sector during a half-year period in the middle of the release period. (Chart 4, lower part.)

It should be emphasized, again, that the reliability of the results of these questionnaire studies presumably are somewhat questionable.

The release in 1971/72 was of a more selective basis than earlier releases, and it also involved less favorable terms for firms. There are presently no empirical studies available of the effects.

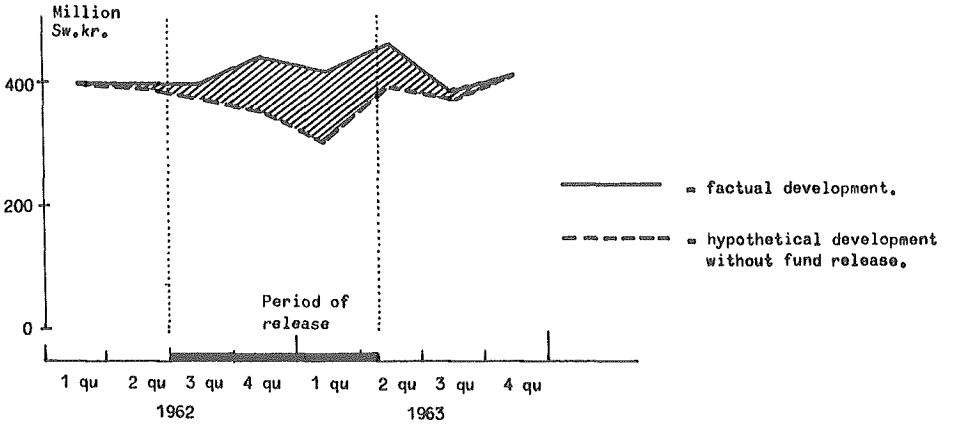
Public Investment and Housebuilding

The most important part of stabilization policy in Sweden has probably been short-run variations in public spending on goods and services. It has often been argued, in the international discussion, that short-run variations in public spending do not, in practice, constitute a very useful tool for economic stabilization. In the case of *current* spending, e.g. *public consumption,* there is probably some

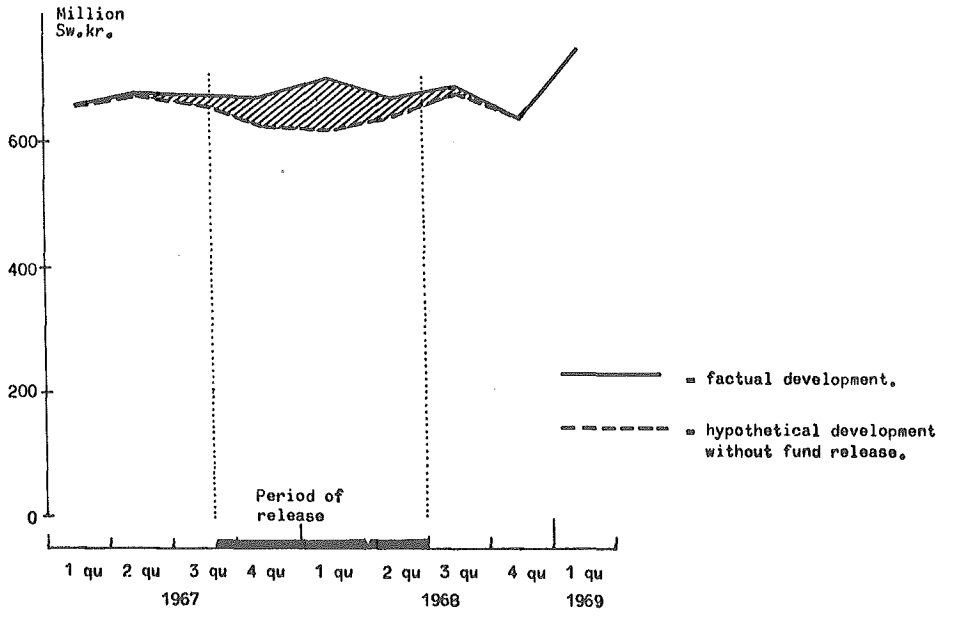
CHART 4

EFFECTS OF INVESTMENT FUND RELEASES IN MANUFACTURING INDUSTRY (SEASONALLY ADJUSTED, FIGURES IN CONSTANT PRICES).

A. EFFECTS ON CONSTRUCTION, 1962/63 RELEASE.



B. EFFECTS ON MACHINE INVESTMENTS, 1967/68 RELEASE.



truth in this observation, though it should be possible, and in Sweden it has to some extent been possible, to speed up, or maybe even slow down, *the rate of expansion* of programs which have already been planned.

More importantly, countercyclical variations in public investment spending should be much easier. The technique used in Sweden to make public investment a useful tool of short-run stabilization policy is rather similar to the techniques used to influence private investment.

The *decision lag* has been reduced by giving the right to the (executive) government to vary investment spending, up and down (in practice by at least 10 percent), during the course of the budget year, without previous consent of Parliament. This means, in fact, that the decision lag does not have to be longer than the time it takes for the government to judge the conjuncture situation and take action.

The *effect lag* has been reduced by giving various public authorities incentives to prepare continuously an "actual" shelf of ready projects; most government agencies (except possibly the university system!) nowadays know that if they do not have ready projects when "the next" recession comes, other agencies will be allowed to fill the vacuum for increased public investment instead, which means that the agency in question might have to wait for another recession to implement its projects. The *scope* of the actions can also be made reasonably large by holding a sufficiently large shelf of projects. In boom periods, contractive effects can, in principle, be achieved mainly by postponement of new orders and the launching of new projects; thus in this situation the effect lag would be expected to be more of a problem.

The government has also tried to use countercyclical variations in housebuilding as part of aggregate demand management. (Chart 3.) The techniques have been to regulate the supply of credit to housebuilding, which is largely financed by government credit, and also to influence the timing of housebuilding by the system of building starts, administered by the Labor Market Board according to the local availability of building workers, mainly as a method to even out seasonal fluctuations in housebuilding. A prerequisite for this policy has been that there is a permanent excess demand for housing (due to rent control), which means that increased building during recessions has not created problems of empty apartments in new houses. However, such problems would occur as soon as there is a tendency to equilibrium in the market for new apartments. This seems, in fact, to have occurred in the early seventies. In a market

with equilibrium for new apartments, new techniques would be required to use housing as a tool of counter-cyclical economic policy: for instance subsidies for house construction in recessions, and taxes (or *reduced* subsidies) during booms.[10]

As suggested by Charts 2-3, it would seem that the authorities have, to some extent, succeeded in moving public investment countercyclically to private investment (as well as to exports and inventory investment); it may be of interest to note that this countercyclical pattern has been most pronounced for local governments, which are influenced by monetary policy, building start restrictions and the earlier-mentioned selective tax on building investment. (There has been a countercyclical pattern also for public consumption by municipalities; see L. Matthiessen [19].) The countercyclical pattern is less pronounced for housebuilding.

In 1971 the countercyclical pattern broke down completely for the entire public sector, including housebuilding. The main reason was probably, as already suggested, delayed restrictive policies to fight the rapid inflation and the balance-of-payments deficit during the previous boom (in 1969-70).

Labor Mobility Policy and Public Works

Labor market policy is another area of budget policy, where new tools have been tried in Sweden during the postwar period, in particular from the 1958 recession. The development in this field has very much followed the ideas of Gosta Rehn, with the emphasis, particularly during the first ten years, on methods to increase *labor mobility,* such as increased activity of the public labor exchange boards, financial help to people who move from one job (place) to another, public organization and financial help for retraining, etc. However, in recent years there has also been increased emphasis on various types of *job-creating activities* — such as protected works, subsidies to the employment of the handicapped, and location subsidies.

Another way of expressing the importance of various programs is to look at the number of persons engaged in them. At the present

[10]There are other problems, too, connected with heavy cyclical fluctuations in housebuilding. For instance, there is a risk that costs are increased when housebuilding is rapidly expanded, and that these cost increases are not reversed in periods of reduction in housebuilding. It is therefore possible that the rate of inflation in the housebuilding sector is increased by aggressive countercyclical policies in this sector. Maybe there is also a risk that such cost increase can spread to other sectors of the economy (for instance by way of competition for labor).

time (1972), more than 1 percent of the labor force is more or less continuously engaged in public works or "protected employment" or "vocational rehabilitation" (work at high subsidies of labor costs), and another 1 percent is engaged in retraining organized by the Labor Market Board. The amounts are more dominated by long-term trends and seasonal fluctuations than by the business cycle. These activities together account for about 1.5-2.0 percent of the labor force in the early seventies, as compared to about 0.5 percent in the early sixties (Chart 5 and Table 2).

From 1956 to 1972, the budget of the Labor Market Board rose from 125 to about 3,900 million kronor in current prices. In 1972 this is nearly 2 percent of GNP, as compared to 0.2 percent of GNP in 1956. Direct "job-creating" activities nowadays account for about half of this expenditure (48 percent) – divided into 28 percentage points on "traditional" public works and 20 percentage points on new types of public works, so-called "protected employment" and "vocational rehabilitation", mainly designed for people who have difficulties in obtaining jobs in the open labor market. The other half of the expenditure may be classified broadly as "adjustment activities" (mobility-increasing policies, retraining, etc.) and administration costs.

> Figures on government spending, or the number of people engaged, are a very incomplete indicator of the "importance" or "costs" of these various activities. The "economic costs" for the society of public works and "protected employment" and "vocational rehabilitation" is of course much smaller than the government spending, as a production result is obtained. Their total "economic costs" may rather be estimated as the difference between the return (value added) of the factors of production in public and protected works, and in alternative uses, which in some cases might be zero. Occasionally, the value added might of course be zero (or negative) also in public works; there may be some "social benefits" of the employment effects in such cases too, however.

Several different goals lie behind the activities called "labor market policy": (1) to give the unemployed work rapidly; (2) to help them obtain new skills; (3) to compensate them financially for adjustments "forced" upon them by the development of the economy; (4) to make it possible to keep a high level of employment without increasing *aggregate* demand so much that excess demand emerges in high-employment sectors (i.e. labor mobility is designed as a method to make it easier to reconcile full employment and price stability); (5) to facilitate the rate of structural change of the economy. There is hardly any doubt that the policy has made impor-

TABLE 2

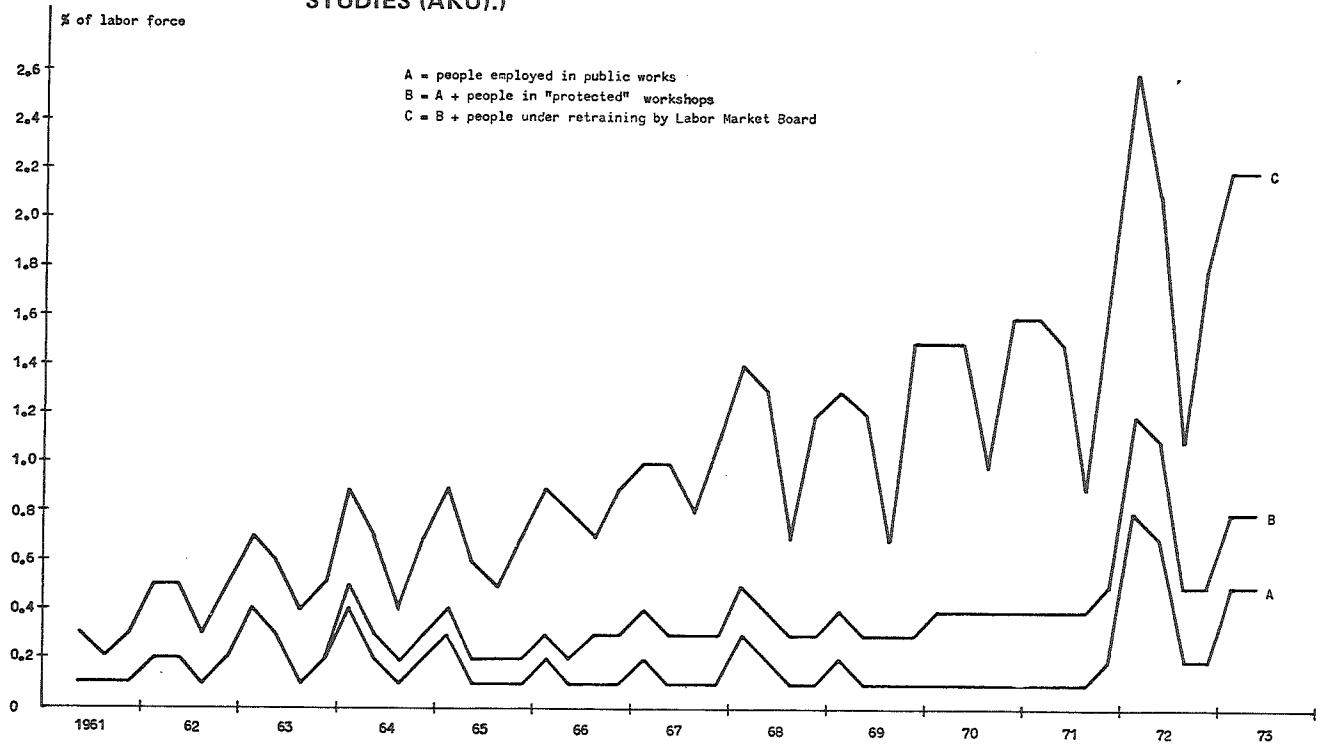
NUMBER OF PERSONS IN PUBLIC WORKS, IN PROTECTED WORKS AND RETRAINING

(Yearly Averages)

	1966	1967	1968	1969	1970	1971	1972
Public works	4,664	5,433	6,826	4,332	3,197	4,743	18,733
Protected employment and vocational rehabilitation	14,480	19,987	27,916	29,419	33,415	38,969	40,388
Protected workshops	5,792	6,892	7,652	9,388	10,906	11,952	12,906
Retraining	18,846	23,549	29,593	31,564	33,882	39,425	43,089
Total	37,990	48,969	64,335	65,315	70,494	83,137	102,210

CHART 5

LABOR FORCE TAKEN CARE OF BY LABOR MARKET BOARD (PERCENT OF LABOR FORCE ACCORDING TO LABOR FORCE STUDIES (AKU).)



tant contributions to solve the first three "social" and "distributional" problems. However, empirical studies of "Phillips-curve"-type do not give much support for the hypothesis that labor mobility in Sweden has contributed to reducing the conflict between full employment and price stability [9].

Monetary Policy Experiments

The history of Swedish short-term monetary policy after the Second World War might be divided schematically into three periods:

1945–50: pegged interest rates and an easy ("passive") monetary policy;

1950–55: attempts to pursue a tight monetary policy at low interest rates and with direct controls in the credit market;

1955– : more and more reliance on "high" and flexible interest rates, still with a number of credit market regulations.

Monetary policy in Sweden during the first years after the war followed the same general pattern as in most other countries. However, since the middle of the fifties, monetary policy has been extensively used as a tool in stabilization policy. A typical feature of the policy is that a vast variety of methods have been used – discount rates, open market operations, cash reserve requirements, liquid asset ratios, other portfolio regulations, bond issue control and occasionally also ceilings on bank advances (1955-57 and 1970). The increased reliance on monetary policy during the last decade, particularly to fight inflation, is indicated by the increased fluctuations in interest rates, on a rising trend (Chart 6). Another indication is that the "real quantity of money" held by the private (non-banking) sector usually tends to fall considerably during periods of tight monetary policy.[11] (See Chart 7 for a money/GNP ratio.) It is also of interest to note that interest rate policy in later years has been more and more motivated by balance-of-payments considerations.

In spite of much higher interest rates in the booms of the sixties than in the boom of the fifties, the degree of credit rationing seems to have been severe also in the sixties. An explanation is probably that the expected real interest rate after tax – i.e. the nominal rate, after tax, deflated by the expected increase in consumer goods prices

[11] The quantity of money is here defined as the value of currency, demand deposits, and time deposits held outside the banking sector.

– may not have increased as much as the nominal interest rate before tax, if at all. In fact, as income taxation is about 50 percent and interest costs are deductible, and as people have reason to expect a yearly price rise of perhaps 4-6 percent, the real interest rate after tax in Sweden is scarcely above zero.[12] Thus, the real interest rate after tax is instead lower than during the depression of the thirties. Hence, *in real terms,* the "low interest rate policy" has in fact never been abolished. It is therefore not surprising that excess demand for credit has been considerable in boom periods.

A schematic picture of monetary policy in the postwar period in Sweden is given in Charts 6-9, showing interest-rate changes, the money/GNP ratio, percentage change in the quantity of money, and percentage change in the stock of credit obtained by the business sector from the organized credit market.

If evaluated by interest-rate changes, monetary policy shows a countercyclical pattern from the mid-fifties, when the policy of pegging interest rates was abandoned (if the effect lags are not *very* long, in fact at most one-and-a-half or two years). The diagrams for the quantity of money and the amount of credit to business (Charts 7-9) show about the same pattern. The diagram of changes in the credit stock gives a rather similar pattern, though according to such a diagram, monetary policy, or rather "credit" policy, would seem to have been much more restrictive in 1952, 1955/56 and 1969/70 than in the booms of 1960 and 1965.

The most important factor behind the fluctuations in the "reserve base", and hence facilitating the variability in the quantity of money, has been fluctuations over the cycle in the cash surplus (deficit) in the government budget – not financed by borrowing in the open market – as well as surpluses in the balance of payments during recessions and deficits during booms.

> With budget deficits and expansionary monetary policy during every recession – and a boom after every recession in a four-to-five year cycle – there is, of course, for reasons of simple arithmetic, a peak in the rate of change in the monetary variables about 1-2 years before every period of economic expansion and a trough about 1-2 years before every

[12] An interest rate of 8 percent, a tax rate of 50 percent, and a rate of expected price rise of 4 percent make the real interest rate after tax about 0 percent. This calculation is relevant mainly for households who acquire assets, the incomes of which are not susceptible to effective taxation, such as owner-occupied houses. How relevant this type of calculation is for firms depends on how the tax system treats "nominal capital gains" due to inflation, i.e. how assets are evaluated.

CHART 6

DISCOUNT RATES AND INTEREST RATES ON MANUFACTURING BONDS. SOURCE: CENTRAL BUREAU OF STATISTICS.

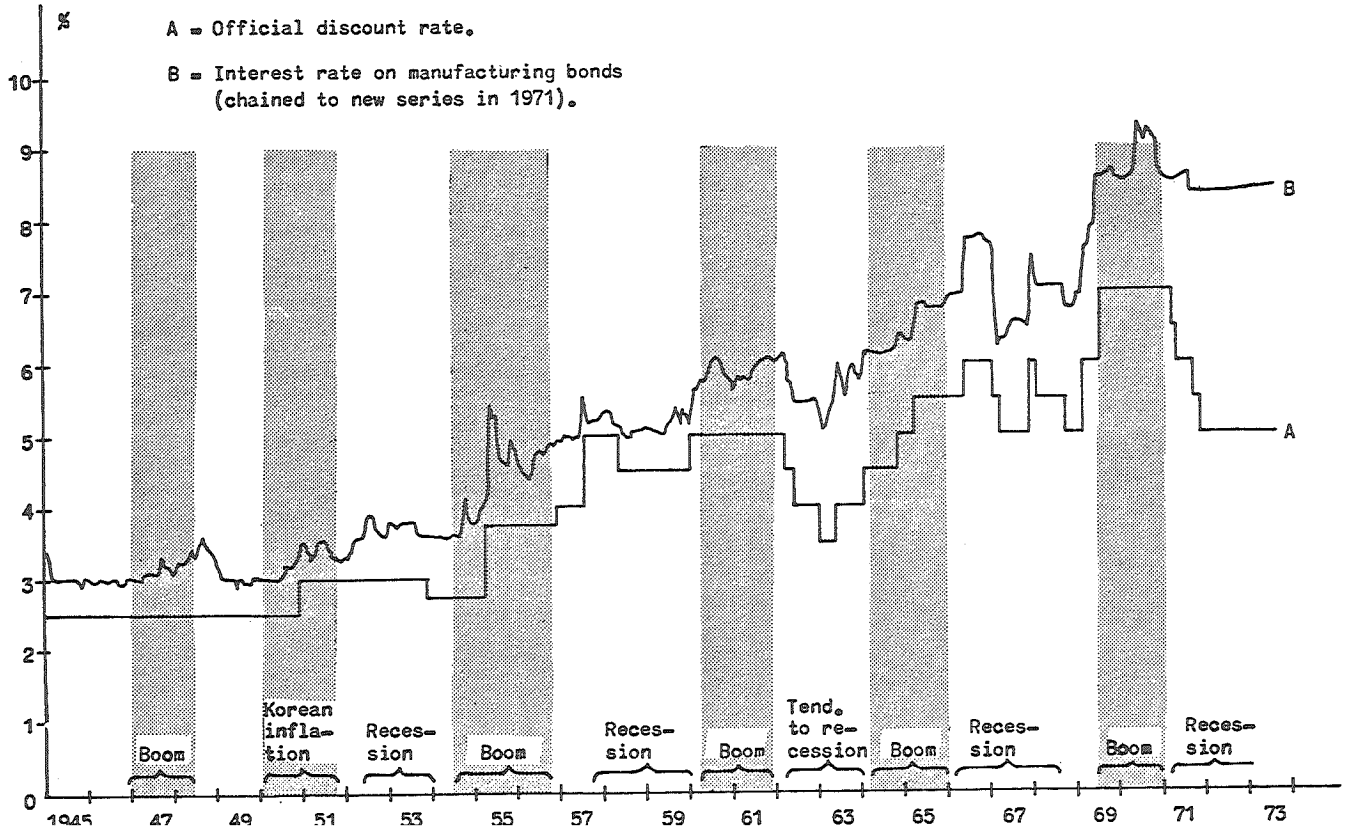


CHART 7

MONEY – GNP RATIO

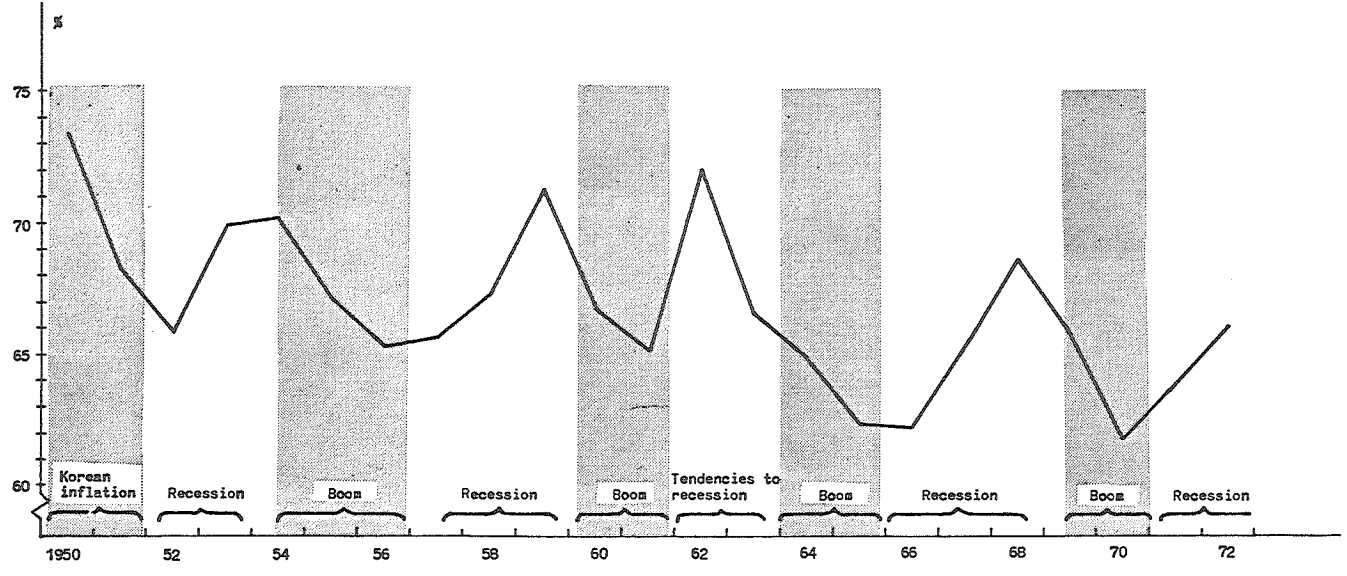
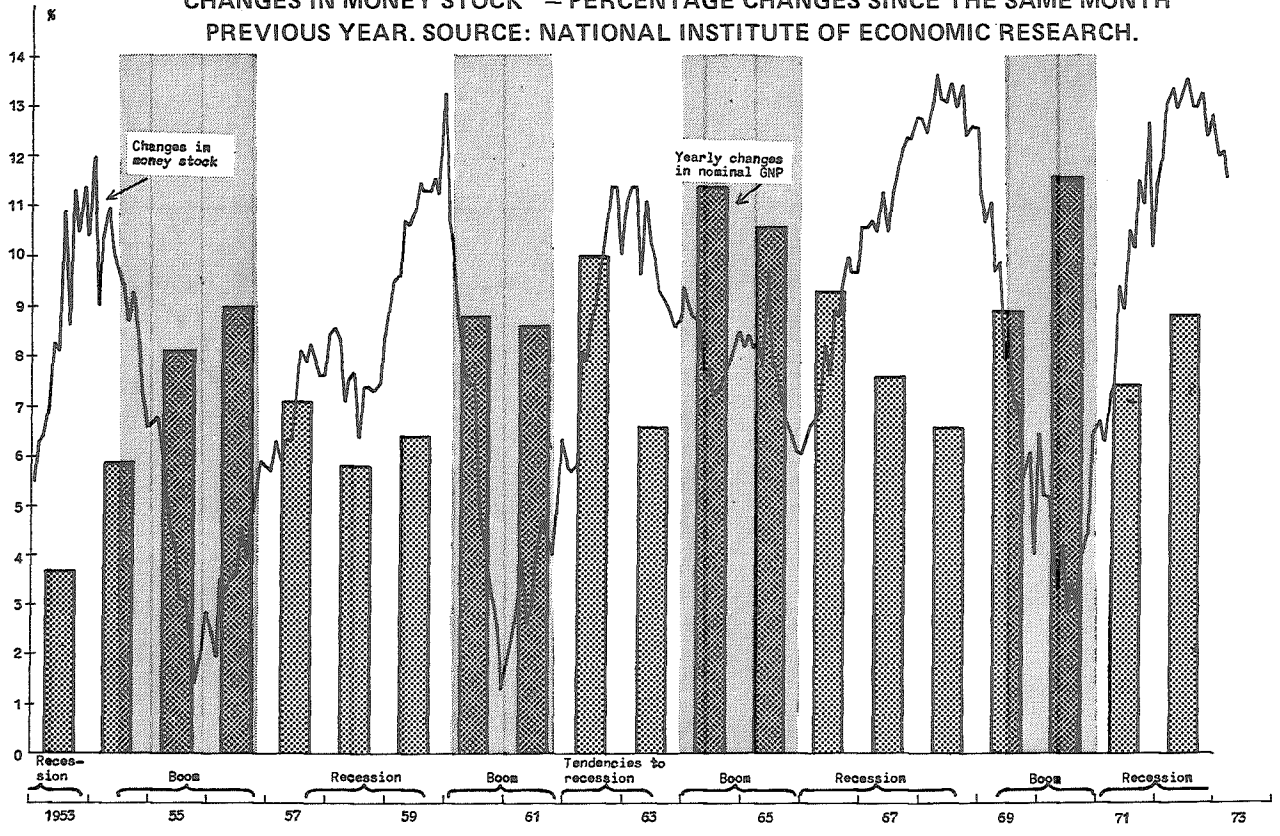


CHART 8

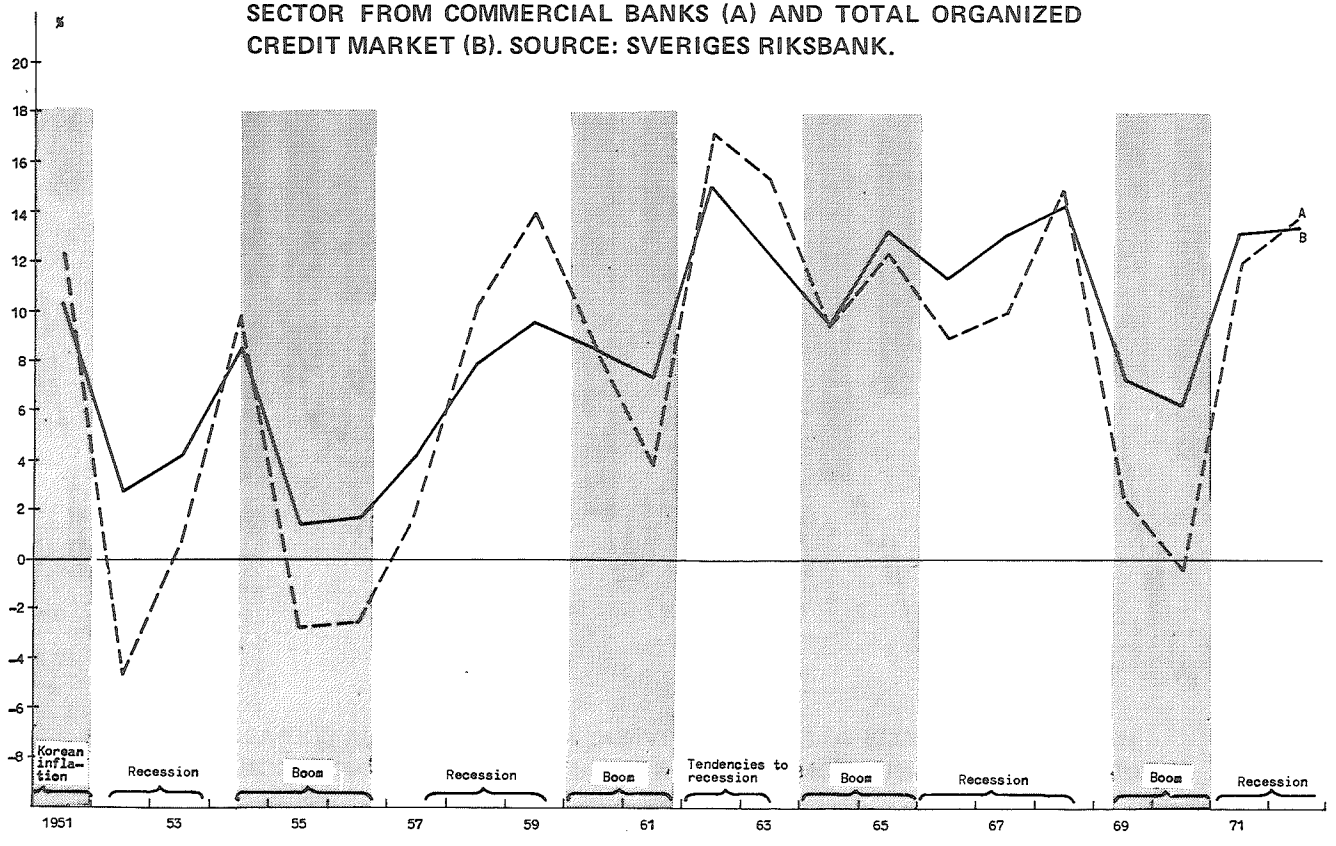
CHANGES IN MONEY STOCK[1] – PERCENTAGE CHANGES SINCE THE SAME MONTH PREVIOUS YEAR. SOURCE: NATIONAL INSTITUTE OF ECONOMIC RESEARCH.



1) Currency, demand deposits and time deposits in commercial banks, savings banks, postal banks, and banks ("centralkassor") for agriculture credit.

CHART 9

YEARLY RATES OF CHANGE OF CREDIT STOCK OF THE BUSINESS SECTOR FROM COMMERCIAL BANKS (A) AND TOTAL ORGANIZED CREDIT MARKET (B). SOURCE: SVERIGES RIKSBANK.



period of economic contraction. This pattern will, of course, emerge regardless of what the "ultimate" causes are of the fluctuations – changes in export demand, autonomous shift in private investment, public spending on goods and services (or "sun spots" for that matter). If we accept that the fluctuations are mainly "caused" by shifts in international demand for Swedish exports, we would have a good illustration of the risk of interpreting a systematic statistical correlation with time lags between two variables – in this case between financial variables and economic activity – as a causal relation, with the first type of variable (the financial variable) asserted to cause the change in the latter (the activity variable).

However, even if changes in the quantity of money are not regarded as "causes" of fluctuations in aggregate demand and nominal GNP, the expansion of liquid assets, including money, during recessions may of course be regarded as an "enabling" factor for the expansion in aggregate demands and GNP during the ensuing booms.

We know very little about the effects on aggregate demand of these policies. There are some empirical studies available, however, based on questionnaire techniques. One is the earlier-mentioned study (by Guy Arvidsson and Krister Wickman) of the effects on investment expenditures in manufacturing of the investment tax in the 1955/56 period, which also included an analysis of monetary policy. The results of these studies are summarized in Table 3.

The results reported by the studies are quite consistent with other types of information. More specifically, we know that *actual* investment by industry (*ex post*) was about 15 percent lower than planned investment expenditures (*ex ante*), reported regularly in the survey undertaken by the Board of Commerce (Kommerskollegium), immediately before the policy measures were undertaken.

According to these studies, monetary policy reduced investment expenditures in manufacturing by about 5-7 percent during the first year (1955) and by about 10 percent during the two-year period (1955/56) with the main effects emerging from stiffer credit rationing rather than from the rather modest increase in interest rates (by about one percentage point for industrial bonds).

There is also a study by questionnaire techniques (by Lars Jacobsson) of the effects of monetary policy in the 1969/70 boom and the 1971 recession [8]. According to this study, the restrictive credit policy would have reduced the investment expenditures in manufacturing by 3 percent in 1969 and by 8 percent in 1970.

Again, the credit rationing is reported (by the firms) to have had much stronger effects than the interest-rate increase which did occur (by a little more than 2 percentage points for industrial bonds, from spring 1969 to autumn 1970).

The effects were (according to all studies just mentioned) concentrated in small and medium-sized firms (except for firms with less than 10 employees, which were not much affected). For instance, quite strong effects were reported in 1970 for firms with 10-49 employees (a reduction in investment spending by 12 percent) and, above all, for firms with 50-199 employees (22 percent reduction).

It may also be possible to obtain some information of the strength of the "pure" interest-rate effects on investment expenditures – on the basis of the studies of the effects of investment taxes and investment funds. Suppose that an interest-rate change that affects the capital value of an investment in the same way as does an investment tax, also has the same effect on investment spending. We can then – on the basis of the studies of the effects of investment taxes and investment funds policy – calculate that a *1 percentage point* change in the long-term interest rate should have influenced investment spending in manufacturing by 1-5 percent in the 1955/56 boom, by about 2 percent in the 1962 recession, and by *1* percent in the 1967/68 recession [13, 16].

TABLE 3

EFFECTS ON INVESTMENT IN MANUFACTURING OF INVESTMENT TAX AND INTEREST-RATE POLICY – AS ESTIMATED BY QUESTIONNAIRE STUDIES

	Percent Reduction in Investment in 1955		Percent Reduction in Investment in the Two-Year Period 1955/56
	According to 1955 study	According to 1956 study	According to 1956 study
Due to:			
Investment tax	5.8	5.0	3.2
Interest-rate increase	0.8	0.7	0.7
Stiffer credit rationing	3.9	6.9	9.1
Undistributed effect	3.5	1.7	1.0
Total effect	14.0	14.3	14.0

As fluctuations in investment spending plans (*ex ante*) by a magnitude of 10-15 percent do not seem to be unusual in many countries, this would indicate that interest-rate policy, as practiced so far, is usually "under-dimensioned" for achieving an efficient stabilization of private investment expenditures. If our analysis and the Swedish experiences, as reported here, are useful for *generalizations* about interest policy – in Sweden as well as in other countries – we would often need fluctuations in long-term interest rates of the order of 5-10 percentage points to stabilize private investment spending along its trend. The figure has, of course, to be adjusted downward if strong "credit rationing" effects are connected with monetary policy. However, as is often pointed out, that would mean that the case for monetary policy, as opposed to direct controls, to influence private investment is probably somewhat weakened. This would be an additional argument in favor of investment taxes or investment funds policy, as compared to monetary policy; these types of fiscal policy actions are in fact more "pure" forms of "interest-rate policy" than can be brought about by monetary and credit policies proper.

Thus, it would seem that the Swedish studies on the effects of monetary and credit policy – as implemented in Sweden – give support neither to those denying the effects of general monetary and credit policy, nor to those who argue that such policies have great effects even in *very* "small doses".

Some Critique of Monetary Policy in Sweden

By the shift to restrictive monetary policy in the middle of the fifties, still at rather low interest rates, the previous excess demand for commodities and labor was succeeded by excess demand in the credit market. Such a monetary policy – relying heavily on "credit rationing" – may be severely criticized on several grounds.

(1) Control of the volume of credit issued by credit institutions may be a poor instrument for monetary policy due to the fact that *the relation between the credit volume and aggregate demand* (for commodities and services) *is rather weak* [18], a point emphasized by Erik Lundberg and Bengt Senneby. In particular, a given aggregate demand in the economy can be combined with a varying volume of credit, depending, for instance, on how saving and investment are distributed between households, firms and government. For instance, the greater the fraction of saving performed by households and government, the larger is the volume of credit necessary in order to transfer financial surpluses to the business sector from the other sectors. Moreover, the more the distribution of saving deviates from

the distribution of investment *within* the business sector, the larger is the credit volume necessary to finance a given investment program. In fact, in a process of "profit inflation" a rise in investment might be compatible with a *reduced* credit volume. On the other hand, in a deflationary situation, with a rise in unplanned inventories, the demand for credit might have to *rise* to carry the increased inventories and at the same time to finish already started investment projects.

Thus, the credit volume may be both a poor *instrument* of economic policy and a poor *indicator* of the effects of monetary policy. This recalls well-known arguments against regarding the budget surplus as a tool, or an indicator, of fiscal policy: the volume of credit as well as the budget balance is an endogenous variable in the economic system, which is strongly influenced by a number of different parameters, including various policy instruments, as well as by other endogenous variables.

(2) Moreover, a system of credit restrictions on banks and other institutional lenders rather rapidly results in *an expansion of the credit market outside such credit institutes;* for instance, production firms lend to each other rather than depositing money in the banks. Part of these transactions take the form of trade credit and a considerable amount of these occur over the borders of the country. Thus, production firms simply take over "bank functions" and "credit intermediation functions" to some extent.

(3) Even if a credit freeze might work as a short-run brake on an acute investment boom, flexible interest rates might give the credit market better properties as a *built-in-stabilizer* than will a regulated credit market with a loan ceiling. Bent Hansen [6] has tried to show this by a number of examples of disturbances in the economic system, with a credit market with flexible interest rates in one case and with pegged interest rates and a controlled credit volume in the other case. One of Hansen's examples was a situation in which household saving increased and, as a consequence, business income tended to fall. In such a situation, a flexible credit market would automatically transfer increased saving into credit supply, partly long-term. The lower interest rates that follow would induce an increase in fixed investment and also help firms to carry additional inventories, which would be favorable from the point of view of economic stability. If the volume of credit was fixed in such a situation, no such built-in stability effects in the credit market would help to restore the stability of output.

(4) A fourth criticism is, of course, that reliance on credit rationing rather than high interest rates will in the long run be disruptive to the allocation of resources. The idea is, of course, that in the allocation of credit, considerations of profitability are often replaced by other types of considerations, such as traditional relations between lenders and borrowers (for instance one firm lending directly to another) and, in the case of the control of bond issues, by the turn in the bond queue (at the Central Bank, or at the private banks when the Central Bank, as in Sweden, left them to administer the queue). There is also a severe risk of compartmentalization of the credit market into a number of submarkets with quite different interest rates and other credit conditions in each market, and also a risk that firms with large internal funds, due to a good *historic* profit record, would be induced to invest internally in low profit projects rather than supply the funds to the credit market [18].

(5) Credit rationing will also create a new type of uncertainty in the economy – uncertainty whether credit can at all be obtained in the future – in addition to uncertainty about interest rates, collateral, etc. [18]. This would mean that a new "irrelevant" influence on the allocation of investment would emerge – an influence distorting the pattern corresponding to economic efficiency.

Many Swedish economists have concluded that a flexible interest-rate policy is desirable both from the point of view of stabilization policy and from the point of view of allocation of resources. They often admit, however, that a sudden reduction in the volume of credit, or a credit freeze, may be efficient as a short-run brake on an acute investment boom, before other measures could be implemented, even if the connection between the level of credit and total expenditure is rather loose. The disadvantages of this method would, however, in most economists' opinion, increase with time.

> Whereas these critical points are arguments for a freer interest-rate policy *in general*, Guy Arvidsson developed in the fifties a proposal for reconciling controlled interest rates on "priority credit" (mainly government securities and housing loans) and free and flexible interest rates on other types of credit ("private loans") [2, pp. 123-27]. The technique – well known from discussions in other countries – would be to isolate the markets for government securities and mortgage bonds by portfolio rules for credit institutions. The original idea in Arvidsson's proposal was to create incentives for banks to charge "equilibrium" interest rates on other types of credit, either by high cash reserve requirements or by high interest rates on bank deposits, and possibly also by taxes on deposits. Such actions would also, if properly adjusted, keep down the profits of the banks, in spite of high interest rates on private loans.

General Lessons of Swedish Monetary Policy Experience

Besides the general problems connected with credit rationing, what are the main lessons to be learned from monetary policy experiments in Sweden?

(1) First of all, it has proved difficult to pursue an efficient monetary policy without *flexible interest rates.* This is presumably the reason why a flexible interest-rate policy has become more and more accepted. Of course, such difficulties are predicted already by theoretical considerations. The occurrence of queues, tendencies to "grey" markets and difficulties in finding efficient criteria for the distribution of credit are effects of price control and rationing that can be inferred from the simplest type of price theory.

(2) *Cash reserve requirements* and *liquid asset ratios* also give rise to obvious problems. As is well known, the effectiveness of cash reserve requirements is impaired if banks can go on expanding private loans by unloading their holdings of government securities. It was mainly this reason that induced the Swedish monetary authorities to rely on liquid asset ratios (secondary reserve requirements) rather than on cash requirements as a tool of monetary policy. However, secondary reserve requirements are also afflicted with severe problems. One such problem is that it is difficult to fix the ratios so that the bulk of banks' holdings of government securities is efficiently locked in. Because of the unevenness of holdings among different banks, some of them may have excess liquidity, and these will in fact be more willing to sell out when liquid asset ratios have been raised than if instead interest rates had been increased (as an increase in interest rates will increase the willingness of banks to hold such assets). Moreover, in a system with very few banks (branch-banking), such as that in Sweden, an individual bank can usually expect that at least part of the deposits created by purchases of government securities will wind up as deposits in the bank itself. This means that if the bank buys government securities, the capacity of the bank to increase its supply of *private* loans will in fact *increase* (as the amount of actual liquid assets will then increase by a larger amount than "required" liquid assets, the latter rising only by a fraction of the expanded asset holdings).

Thus, whereas a main problem with cash reserve requirements is that banks can avoid the intended consequences (on the supply of private loans) by *selling* government securities, they can avoid the consequences of liquid asset ratios by *buying* government securities instead. Theoretically these difficulties could be mitigated by successive increases in both cash reserve requirements and liquid asset ratios for banks. However, such policies require considerable skill to be successful.

If a successful monetary policy requires a *broadly* based control of the supply of finance, and if the development of the quantity of money is associated with such a control, measures such as loan ceilings, liquid asset ratios and portfolio regulations of banks are *not* appropriate, as they will be expected to have at most minor effects on the quantity of money. Open market operations, cash reserve requirements and discount policy then are relevant measures.

A special motive for secondary reserve requirements has been to induce banks to supply housing loans to an amount consistent with the housebuilding plans of the authorities. The government has not as a rule, particularly not in the fifties, accepted interest rates on housing loans high enough to induce capital market institutions to satisfy the demand for housing loans. Instead the monetary authorities have tried to guarantee credit to housing, by including mortgage bonds among legal secondary reserves, and also by "voluntary" agreements with credit institutions.

(3) Another experience of monetary policy in Sweden is that it indicates the limitations not only of credit rationing and quantitative controls of the credit supply, but of the reliance in general on *control of liquidity* rather than on interest rates. For if a very expansionary fiscal and monetary policy is pursued in a recession, firms, households and credit institutes will be "flooded" with liquid assets during such periods. This means that it may take a very long time before a restrictive monetary policy "bites" in the next boom, if the policy relies on the control of *liquidity* and *credit volume* rather than on heavy interest-rate fluctuations.

For if firms and households have experienced such quantitative credit regulations in previous booms, they will, during recessions when monetary policy is lax, increase their liquidity for the very purpose of being "immune" against quantitative credit restriction in the next boom. Thus, when firms have learned the "regular" policy pattern, a policy of quantitative liquidity control and credit rationing will induce firms to make *financial* investments rather than investments in real capital during recessions. These problems could at least partly be avoided if monetary policy instead relied more on heavy fluctuations in interest rates between booms and recessions, or on tax-subsidy programs in their attempts to influence investment.

(4) As credit supply rather than the quantity of money has been regarded as the strategic variable for monetary policy, the emphasis in monetary policy has been on *the asset side of the credit institutions' balance-sheets,* rather than on their liability side. Thus a "credit theory" – with interest rate and, above all, credit availability

effects on spending – seems to lie behind monetary and credit policy in Sweden [20A]. This is presumably a reason for the relative de-emphasis on open-market operations, and the emphasis on methods to control the level of credit more "directly", such as by loan ceiling, liquid asset ratios, and portfolio regulations. Even though there may be a correlation between, on the one hand, the credit volume extended by credit institutes, and, on the other, the quantity of money and other liquid assets, maybe we can say that the authorities have mainly pursued "credit policy" rather than "monetary policy". Because of the high substitutability between different kinds of financial assets and liabilities in a developed financial system, a policy that concentrates on *specific channels* in the credit market is probably bound to be of rather limited efficiency as a tool of stabilization policy [22A].

Comparison between Interest-Rate Policy, Investment Taxes, and Investment Funds Policy

Both investment taxes and investment-funds policy work somewhat similarly to monetary policy – via profitability as well as via liquidity. There are, however, some differences between the techniques worth noting. It is convenient to compare the two fiscal methods by contrasting each one with interest-rate policy.

(1) It is rather difficult to translate the *profitability* effects of investment taxation and investment-funds policy into "interest-rate equivalents" in a general way; the outcome of a translation of that kind depends *inter alia* on the durability of the investment project and the timing of the income generated. But it is obvious, as already pointed out (page 192), that investment taxes and investment-funds policy, such as have been implemented in Sweden, have profitability effects which are considerable compared to the effects of interest-rate variations of the magnitude usually practiced in Sweden (and other countries for that matter) during the postwar period; this is so in particular for short- and medium-term investment.

A removal of an investment tax of 12 percent is, in the context of a conventional investment calculation, equivalent to a 6 percent subsidy of the costs of investment (if the tax is deductible for tax purposes and the tax rate is 50 percent). A release of investment funds implies an even stronger subsidy. The present value of a fund release can, in rather "normal" cases, be estimated at the magnitude 10 percent for machine investments and 35-40 percent for building investment. Thus, investment fund releases may be regarded as subsidies of investment in machines by about 10 percent and in buildings by about 35-40 percent – for firms that invest by way of accumulated investment funds.

(2) As in the case of interest-rate policy, we would expect investment funds to have stronger effects on long- than on short-term investment, contrary to investment taxes. We would also expect the effects of investment taxes to be even stronger if the tax is expected to be *temporary,* as in this case there will be a "substitution effect" between periods, making it profitable to postpone a planned investment to a period free of investment taxes.

(3) When comparing with interest-rate policy it may also be worth noting that the cost-effects of an investment tax are obvious and easily detectable by the firm, irrespective of whether the investment is financed by internal or borrowed funds. By contrast, it is often asserted in monetary policy discussion that interest rate increases mainly influence investment with borrowed funds.

(4) It has often been argued in Sweden that the effects of investment funds policy are mainly confined to the recession periods, whereas the contractive effects in the boom, according to this view, are small. It is true, of course, that it may be difficult to induce firms to reduce their investment expenditures in booms via appropriations to investment funds. However, by inducing firms to draw on investment funds and invest them in recessions, there will be a change in the timing of investment, which will more or less automatically reduce it in the booms. Such effects may occur either because firms speed up investment expenditures in a recession because of an investment-funds release, or because firms postpone projects in a boom to take advantage of an expected release in the next recession.[13] An investment in a boom, rather than in a recession, will have an opportunity cost, due to the accelerated depreciation achieved by making appropriations to the investment funds in a boom and postponing the investment project to the next recession. These opportunity costs can be strengthened by certain special arrangements. An example is the specific tax concessions given in 1960/61 to firms which paid 100 percent of their deposition to investment funds to the blocked account in the Central Bank – a policy which resulted in a strong increase in deposition to investment funds. Through these special arrangements firms can, in principle, be offered such favorable concessions when postponing investment expenditures to recessions that they in fact cut down their investment expenditures during booms.

(5) It is also of interest to note that the investment funds system will increase the profitability of investment over the cycle as a whole, and hence increase the general level of investment over the cycle.

[13] The existence of a "speeding-up" effect is empirically fairly well established [3].

(6) Like interest-rate policy, both investment taxation and investment funds policy may be classified as rather *general* types of economic policy. Private firms are allowed to decide for themselves what type of investment they want to make; the government mainly influences the cost of choosing one timing rather than another. However, both methods can, if desired, easily be used in a selective way, by gearing the actions to particular types of investment, sectors and geographical areas. In Sweden, this possibility has been used by exempting investment in housebuilding and public investment from investment taxes (except for the selective investment tax, which covered investments by municipalities) for the reason that these sectors are regulated by other measures, mainly direct control and government credit. However, with regard to the private sector, the main releases of investment funds, in 1958/59, 1962/63 and 1967/68 were general, hence without *much* intended discrimination between firms and regions. The fund release in the recession of 1971 was *formally* selective in the sense that individual permission was required, and that the terms were not quite as favorable as in the case of general releases (there was no 10 percent extra deduction from profits as with general releases). However, everyone applying for a release seems to have received the required permission.

However, there has been a tendency to use "selective" investment funds releases during the late sixties and early seventies as a part of location policy. If this tendency continues, it may to some extent reduce the usefulness of investment funds policy as a stabilization policy tool. There has also been a differentiation with respect to construction and machinery. In 1961 the policy was used selectively between branches, by a specific release for the pulp industry, which had a recession in that period. There have also been some other minor selective releases of this type. And the 25 percent investment tax on investment in the service sector in 1967/68 and 1970/71 was designed to discriminate in favor of investment in the industrial sector – evidently to help restore balance in the current account. As the tax was not deductible for taxation purposes, it became in fact prohibitive, except for investors who could obtain dispensation after special application. This made the tax actually equivalent to a physical building regulation in the form of a licensing system. Thus, this measure was in reality a partial building regulation "masked" as a selective tax.

A rather natural reflection of the Swedish experiences of investment funds policy, and to a smaller extent also of investment taxes, is that these new tools have probably more and more "tempted" the authorities to engage themselves in selective, "mercantilist" and "protectionist" interventions in the allocation of new investments.

(7) A difference between investment taxes and investment funds, on the one hand, and interest-rate policy on the other, is that the former methods do not generate the same type of "undesirable" side effects as interest-rate policy. For instance, the market value of the outstanding stock of bonds will not be disturbed in the same way as in the case of substantial interest-rate changes. Moreover, no immediate problems will arise of changes in the cost of government debt, and of changes in the distribution of income and wealth between debtors and creditors. The fact that such side effects can largely be avoided is important as these effects in many countries have constituted basic arguments against a powerful monetary policy.[14] However, an income redistribution in favor of firms, is, of course, an unavoidable consequence of the investment-funds system, as well as for other methods to strengthen investment incentives in a profit-oriented economy.

(8) One of the reasons for relying more on investment-funds policy than on general investment taxes in recent years seems to be that the authorities have believed that investment-funds policy provides a closer administrative control of the timing of investment. It is rather easy for the labor market authorities, which administer the releases, to make sure that investments are in fact made during the period of release; this is especially so for investment in buildings. The investment-funds policy has also been closely synchronized with the Swedish system of building-start permits, practiced for seasonal adjustment reasons and administered by the labor market authorities. The timing of individual investment projects can in that way be easily adjusted according to local labor market conditions. In this connection a close cooperation between firms and local market authorities has been established.

(9) Moreover, as stressed by Wickman [23, pp. 8-13] and Eliasson [5, pp. 131-35], the ease of administration of the investment funds system makes it very flexible, so that the implementation can be changed rapidly, as new information about the economic situation is

[14] Investment taxes and investment-funds policy also have some credit-market effects. A payment of investment taxes reduces deposits and liquid assets of the banking system, as in Sweden the Treasury keeps its balances in the Central Bank rather than in the commercial banks. Similarly there was a tightening of the credit market when industrial firms in 1960/61 were induced by certain types of incentives to make 100 percent of their appropriations to investment funds as deposits on blocked accounts in the Central Bank. The reduction in deposits and liquid assets of the commercial banking system which then occurred was equivalent to the effects of considerable open-market sales. However, such credit-market effects are not an intrinsic part of investment taxes and investment-funds policy; the effects on the commercial banking system may be removed, if desired, by open-market operations.

obtained. Time lags in the policy can for this reason be kept relatively short. Investment taxes, on the other hand, have to be decided in advance for a certain period; in practice they have applied to the whole country and for a whole calendar year. These administrative advantages of investment funds perhaps explain why it was possible in the 1962/63 recession to get good timing of the effects. However, it is quite possible that the administrative system for investment taxes could also be constructed in such a way that these administrative advantages could be incorporated in that system as well.

(10) Obviously, the system of "payments to" and "release from" blocked accounts in the Central Bank is not a necessary part of the purpose of the investment-funds policy. About the same effect could *in principle* be achieved by a system of accelerated depreciation, confined to recessions, or simply by investment subsidies in recessions and investment taxes in booms provided the decision- and effect-lags can be cut as efficiently as in the Swedish investment-funds system.

(11) An obvious problem with investment-funds policy is that the system favors firms with high *past* profits. In comparison, variations in investment taxes, and general investment subsidies, have a more "neutral" effect on firms with different past profit records. In this sense, investment-funds policy imparts a "conservative" bias on the allocation of resources among firms, compared to general investment taxes and interest-rate policy. Investment tax/subsidy systems differ also from systems of "variable investment tax credit" a la the United States in the sense that the former measures will influence *all* investors whereas the latter will influence only firms with positive profits.

Moreover, the investment-funds system is "discontinuous": the funds are either released or not. The system would be a more flexible tool if the level of subsidies could be varied *continuously* so that there were, for instance, larger subsidies in deep recessions than in slight recessions. For instance, the extra deduction, at 10 percent, might be varied depending on the depth of a recession. Now the only way to make a *small* fund release is to make it *selective.* This is presumably one of the reasons why the releases in recent years have been more selective than earlier. Moreover, it may be easier to achieve a reduction of private investment in booms by an investment tax than by investment-funds policy.

All these problems of investment-funds policy can, in principle, easily be avoided if instead of investment-funds policy general investment taxes and investment subsidies are used. It is not completely obvious, however, that the previously mentioned administrative advantages of the investment-funds system can be "transplanted" to a system of general investment taxes and investment subsidies.

Lessons for Other Countries?

One of the main reasons for the present problems of stabilization policy is that politicians obviously do not fully understand that we cannot stabilize both the target variables and the policy instruments. If we want to stabilize the target variables, we have to accept a considerable instability of the policy instruments, such as interest rates, tax rates and subsidy rates.

However, let us also ask what are the more *specific* lessons for other countries of the Swedish experiences with short-run fiscal and monetary policy? Perhaps the following, rather brave, generalizations could be tried.

(1) It seems to be possible, at least in a parliamentary system where the government has a majority in parliament, to achieve countercyclical movements in *public investment,* provided the government has some discretionary powers to postpone and speed up spending, and incentives are created for various public administrative bodies to keep "a ready shelf of projects". Similar discretionary powers to the President are probably a prerequisite for a successful policy in these respects in the United States.

(2) To influence *private consumption,* very strong doses of income tax changes are necessary, particularly if the changes are expected to be temporary. Weaker doeses might suffice in the case of indirect taxes, if they are expected to be temporary. Again, some discretionary powers to the Administration might be necessary for an efficient policy in this field.

(3) *Reactions by organizations* must perhaps be considered when tax policy is used to influence private consumption. Perhaps a coordination of such tax policy with bargaining in the labor market ("incomes policy") is necessary for a successful policy program.

(4) Very high *progressive taxation,* though providing an "automatic stabilizer" on the demand side, may create automatic *de*stabilizing effects on the cost side.

(5) To influence *inventory investment very* strong doses of policy will probably be necessary, as compared to the monetary policy pursued so far in most (all?) countries.

(6) Fluctuations of interest rates by about 5-10 percentage points are probably necessary to stabilize *private fixed investment* around the trend. It is perhaps the *real* interest rate that matters.

(7) *Investment taxes and investment subsidies,* well timed during the business cycle, are probably feasible alternatives also for other countries to influence *private investment.* Several "undesirable" side effects of monetary policy (e.g. on financial markets, on the balance of payments, on the interest costs of the government, and on the income distribution) can then be avoided. Moreover, investment

spending is affected regardless of whether or not they are financed by borrowed funds. A third advantage of tax-subsidy programs is that they affect the capital cost of investment in physical assets exactly *when* we want to influence them, in contrast to monetary policy which does *not* necessarily raise the capital costs for physical investments *actually made* during boom periods, as firms may borrow during recessions and spend during booms. To generalize, investment taxes/subsidies and investment-funds policies, like various types of investment tax-credit systems, have the main influence on the *flow* of new physical investment, which is exactly what we want to affect rather than on the values of the *stocks* of already existing assets. Investment taxes/subsidies are also a more "market-conformed" type of economic policy than monetary policy, if the latter relies heavily on credit rationing. However, the incentive has to be very strong – perhaps subsidies of the investment costs during recessions of the magnitude 20-30 percent.

(8) *Investment funds policy* is an alternative, but in this case there are probably greater risks of unfavorable effects on the allocation of resources.

(9) *Labor market policy,* including retraining and mobility creating activities, is probably very important from the point of view of *social policy,* and hence "welfare"; it is less clear that such policies will also help to solve the stabilization policy problem, however. Perhaps the more heterogeneous labor market in the U.S. makes active labor market policy *potentially* more efficient in that country.

(10) Attempts to replace interest-rate flexibility with credit market regulations, i.e. attempts to pursue stabilization policy by way of *increasing the imperfections in the credit market,* have probably had some favorable stabilizing effects on investment spending in the very short run. However, the effects are counteracted after a while, due to the expansion of credit transactions *outside* the regulated institutes and over the national borders. Also the costs in terms of distortions of the allocation of resources would be expected to increase over time as long as the restrictions are kept.

(11) Some success in stabilizing fluctuations in *volume components* in the economy is no guarantee that the price trend will also be "stabilized", i.e. damped. The opposite might in fact be the case if the stabilization of the volume components is achieved at a very high level of "full employment".

(12) It makes good sense to use policy instruments that have *the main impact* on the sector where a "disturbance" actually originates – such as in exports, inventory investment, fixed private investment, etc. In this sense, differentiated (or selective) tools may be useful.

Perhaps also selective methods of demand management for separate branches and regions, as well as selective measures to increase labor mobility, are useful from the point of view of *stabilization policy alone.* However, the Swedish experience during the 1971-73 recession illustrates quite well the obvious fact that such selective policy measures are quite insufficient, even on a large scale, if *aggregate* demand is not allowed to expand at about the same rate as the growth rate for productive capacity. Hence, selective actions of this type can at most be a complement to, but certainly not a substitute for, *general* management of aggregate demand. Moreover, the more selective the tools are – whether quantitative credit controls or taxes/subsidies on lending, borrowing and spending – the greater the tendencies to "mercantilist" and protectionist effects will be on the allocation of resources, and thereby connected possible losses in economic efficiency.

(13) Another "normative" conclusion, based on a combination of the previous analysis and subjective judgments by the author is that taxes/subsidies on lending and borrowing is a more promising strategy than quantitative credit controls, but that taxes/subsidies directly on *spending* is a superior strategy, as it is extremely difficult to say to what particular kinds of expenditures a given type of borrowing is *in fact* going in an economy with a complex financial system. Moreover, taxes on lending/borrowing mean that investment on the basis of internal funds is favored as compared to investment on borrowed funds – without good reason.

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Discussion

PAUL A. SAMUELSON*

When a dog is given a good meat bone to chew on, it will take even a dog some considerable time to gnaw at it and get the full benefit of its substance. A professor, alas, is even more in need of time to digest a nutritious morsel like the one that Professor Lindbeck offered us. And, therefore, you must take the following reflections as preliminary impressions rather than as the well-digested conclusions that American economists will ultimately be able to derive from the Lindbeck bill of fare.

Preview

Clearly the Swedish experience will be of interest to Americans. For one thing, we've long realized the Swedes are much more clever at running a mixed economy than we Americans are. For another, they are also more lucky than we are in that theirs is a more homogeneous population of more manageable size than ours, and in addition they have a population with a tradition of compromise and consensus. Also, in terms of level of affluence, Sweden is the only country that can compare with the United States: despite the fact that the official statistics on per capita real GNP's show us still to be somewhat ahead of Sweden, it may well be that Myrdal and others are right in their contention that, when you take into account health and other public services, the average standard of life in Sweden may not be less than that in the United States.

Economics is not an experimental science. Therefore, the experiences of any other economy may add something to our knowledge about our own economy. So, even if Sweden used exactly the same budgetary fiscal methods as we do, and the same open-market monetary operations as our Federal Reserve, we could still benefit from seeing what their behavior equations can tell us about our own behavior equations and the degree of confidence that we can put in these patterns of experience worked out by economists.

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As an economist interested in improving our methodology, I was struck by the great reliance that Professor Lindbeck seems to place in the questionnaire as a method for arriving at economic truth. Is it that Swedish businessmen are so much better in taking written and oral examinations than American? Or that Swedish economists are so much lazier in performing econometric analyses? I shall not refuse help from any source, but I must register some skepticism concerning the survey and questionnaire as a model of learning the behavior equations of an economy. Thus, I recall talking many years ago in Stockholm to Professor Ragnar Benzel about the testimony that had been collected from Swedish industries about the rates of return that they required and earned. There were tremendous differentials between industries, as one might expect. Some rates of return reported were so low as to cause the commissioners taking testimony to ask the reporting businessmen: "If your profit rates are as low as you report, why in the world do you go on investing in your industry?" The usual answer must chill the blood of any enthusiast who thinks that interrogation is a great way of identifying an economy's investment equation: "Oh, if we did not reinvest, we would be losing tremendous amounts on our existing assets." So, although I share Professor Lindbeck's reservations about the conventional half-dozen different econometric investment equations, I feel that questionnaires simply give us a seventh inconclusive investment relation, and I would want eclectically to look at all seven in forming my own Bayesian probabilities about future investment.

Swedish Novelties

But, of course, Sweden does not confine her macroeconomic policies to those we are familiar with. For years we have heard about the Swedish *investment taxes,* which were used in the 1950s to try to put a damper on investment spending during boom times. And we have heard with envy about the Swedish experiment with *investment funds,* by which firms receive a tax-reduction bribe in good times for impounding funds that can be released in bad times when investment spending is more desperately needed. Professor Lindbeck's careful and unillusioned account of how these seem to have worked out must be of interest to anyone concerned with macroeconomic stabilization policies.

A third area of Swedish experimentation has been in the area of *labor market policy.* Almost 2 percent of Sweden's labor force (that would be almost 2 million people by American size standards) are

being employed on public works, or are in protected employment that involves a subsidy for handicapped workers or those in need of vocational rehabilitation, or are being retrained at public expense. And almost 2 percent of her GNP (that would be almost $25 billion by our standards) is being spent to improve their labor exchanges, promote labor mobility, retrain workers, and provide last-resort public employment designed for those who lack the skills and attributes that are needed to get private jobs. Since we actively debate how much of our own unemployment is *structural* and hard core, Lindbeck's testimony should be of value in our debates about the costs and benefits from greatly expanding our own manpower programs.

From the standpoint of this Conference, probably the most interesting part of Lindbeck's discussion has to do with his review of Swedish experience with investment taxes and investment funds. However, from the standpoint of long-run solution to the dilemma of creeping inflation, many Americans will find Sweden's experiments with labor market policy the most interesting. About it let me merely record my disappointment to learn of Professor Lindbeck's unflinching conclusion, in which he says:

> However, empirical studies of 'Phillips-curve'-type do not give much support for the hypothesis that labor mobility in Sweden has contributed to reducing the conflict between full employment and price stability.

If Sweden with its ethnically homogeneous population with fairly uniform education cannot improve its problem of stagflation by manpower policies, I despair that the much larger and more diverse United States can find a solution in this direction. But I join with Margaret Fuller, the nineteenth century Concord transcendentalist who said, "I accept the Universe." (Thomas Carlyle said, "By gad, she'd better!") But before I accept the sad fact of life, I would like to guard against possible overpessimism. When students of incomes policy abroad – I have Professor Lloyd Ullman of the University of California in mind as one of the best – arrive at the conclusion that such policies have not licked inflation in these countries, I have to agree. But I am left wondering whether those countries have not done better with such policies than they would have done without them. And I am struck by the fact that although Western Europe shows as much inflation as we do, they do manage to keep unemployment at lower levels for each rate of inflation than we do. So

I ask a question: "Is the evidence conclusive that, in the other things being equal sense, labor mobility problems have no perceptible effect upon the Phillips Curve tradeoff between unemployment and inflation?"

Conventional Macroeconomic Policies

Since time is scarce, let me be equally brief on the very interesting Lindbeck analysis on how conventional fiscal and monetary macropolicies have worked out in the Swedish case. On the whole, it looks to a foreigner as a much more commendable performance than perhaps it does to a Swedish economist cognizant of all the shortcomings and difficulties of public policy.

Example: As I study Lindbeck's diagrams on monetary policy, Charts 8, 9, 10, I find that in Sweden there has been a successful "lean against the wind" program pursued by the Central Bank. Growth in the money supply is lowered in the periods of boom; and in the periods of recessionary slowdown, M_1's growth rate is speeded up. This makes sense to me and I congratulate Sweden for being able to do what our Federal Reserve has not yet succeeded in doing. Moreover, according to some rough calculations that I made from the graph, it would be a tragedy if a persuasive Professor Friedman converted the Bank of Sweden to the doctrine of a steady rate of growth of the money supply through thick and thin, through expansion and recession. Rerunning Swedish history in terms of such a simulated monetarist's model gave me a more-destabilized rather than less-destabilized pattern. Without Central Bank offsets to the pro-cyclical fluctuations in the velocity of M, the total of MV would have increased in standard deviation around trend.

I also want to congratulate Sweden on its anti-cyclical public works profile. This is a subject that I led Presidential task forces on for both Kennedy and Johnson. Despite our urgings that Congress delegate some discretion to the executive in this matter in order to reduce the *decision lag* and that up-to-date shelves of plans for public works be maintained in readiness in order to reduce the *effect lag,* we could never in our wildest dreams hope to do as well in the American system as Sweden did up until recent times. I take it that the poorer performance of public works in Sweden's '71 and '72 recession must be laid at the door of balance of payments and inflation concerns.

Professor Lindbeck reveals that economists are much the same everywhere in the world. Training is more important than longitude. On the whole Lindbeck prefers rationing by price to rationing by

quantitative restrictions. And therefore he properly stresses for future policy programs taxes and subsidies of a stabilizing sort. I see much merit in this.

But once we begin to depend on price effects alone, we may find ourselves disappointed by the weakness of the elasticity of response to price changes. The untidy world of regulation and rationing that we have been living in has brought us gifts that we have not always been aware of while we had them. Thus, here in America, during the first post-World War decades, our interest rate ceilings on veterans and FHA mortgages, our usury laws, and our regulation ceilings on interest rates that banks and S&Ls could pay resulted in drying up of funds to the housing industry in periods of tight money. Therefore, interest rates did not have to harden as much as would have been necessary if we were to have depended on interest elasticity of demand alone. Suppose we run the system in the future along the lines favored by most economists, who dislike the inefficiencies, inequities, and general untidinesses of rationing. Suppose, for example, we ultimately introduce variability of interest rates on long-term mortgages by one or another of the devices ususally proposed? I know that only for a brief time will I have to pay the 12 percent high interest rate on my mortgage, that is certain to make my demand for housing more interest elastic — with the result that short term interest rates will have to oscillate with greater amplitude to get the same relative stabilizing effect.

In closing, let me say that the primary problem that the United States or Sweden faces does not seem to be that of greater cyclical stabilization. So I do not find our progress on this front particularly disappointing. This is not said in order to show how optimistic I am. For, the true reason why a present day economist's greatest concern need not go with the adequacy of conventional and novel stabilization policies must reside in the fact that the truly fundamental problem that confronts every mixed economy is the long-run inflation-unemployment dilemma and tradeoff. This will still remain even after we have learned to do a better job in warding off the ancient scourage of trade-cycle instability.

Discussion

GERARD M. BRANNON*

To make up one's mind on a specific stabilization technique, one must evaluate the method in relation to all the others and to combinations of the others. Professor Lindbeck's analysis of Swedish experience with regard to the whole range of stabilization weapons is, therefore, particularly valuable. I can only refer to a few of his cases, and of those I will concentrate on applicability to the United States.

Contracyclical Management of Government Expenditures

Lindbeck refers to formal enactment in Sweden of authority for executive discretion with regard to expenditure. Until now such authority was old hat in the United States, but we are now going through a crisis of executive-legislative relations on expenditure control. I think that there is a good chance that congressional and judicial action, related to expenditure ceilings and impoundment, will reduce the ability of government to manage a stabilizing fiscal policy. The April Report of the Joint Study Committee on Budget Control shows scant comprehension of stabilization problems.

Another aspect of this is that we still have (and are likely to go on having) a particularly insane form of expenditure control — the public debt limit. If this debt limit is continued, along with the new penchant of the Congress for an expenditure ceiling, the only function the debt limit will serve is to provide a *lower* expenditure ceiling when government revenues are lower than Treasury forecasts, i.e., in recession.

I think that both economists and bankers should take some interest in the current political operations on expenditure control.

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Contracyclical Management of Consumption

Lindbeck's catalog of problems with income tax flexibility, as a poor consumption regulator, is impressive and not inconsistent with our 1968 experience. I agree with Lindbeck's point that a variable consumption tax is more promising. The problem is that the United States does not have a Federal general consumption tax.

This raises an important issue of the interrelationship of policy objectives. Historically it is clear that the reason why we do not have a general Federal consumption tax is that these taxes are thought to be regressive, but the regressivity of a particular tax is not a crucial barrier to using it and still attaining whatever income distribution objectives the society desires. We could, for example, enact a value added tax (VAT) with a refund of the VAT paid on some basic level of expenditures; simultaneously income tax could be reduced in each bracket by an amount equal to the average VAT paid in that bracket. At a more sophisticated level we could shift some income tax into an expenditure tax.

There is a respectable case for some lower tax on savings and higher tax on consumption on allocation grounds as well as the stabilization case for consumption taxation. Since the regressivity-progressivity issue is not crucial to these matters, we should have some intelligent public dialogue on the allocation and stabilization aspects of consumption taxation. In fact we do not. VAT, for example, was debated mostly on the progressivity-regressivity issue.

I do not claim to know how to change things. At a minimum, advocates of structural tax changes for stabilization or allocation objectives should give more attention to separating these from income-distribution objectives. The point is broader than consumption taxes. A policy instrument to change the cost of investment differently in booms and recessions could be an investment tax or an investment tax credit. A distributionally neutral proposal would be to use both. The stabilization aspect of shifting from a 3½ percent tax to a 3½ percent credit should be the same as shifting from a zero to 7 percent credit. Unless we handle the income distribution consequences of our stabilization proposals, stabilization could get lost in the noise about these things being pro- or anti-business.

Contracyclical Management of Labor Mobility

I have little to add to Professor Samuelson's remarks about the long-run aspects of labor mobility measures. I would note that

Lindbeck's chart on Swedish experience in this field shows through 1970 a steady upward trend with only seasonal fluctuations (high in winter). There was growth above the trend and seasonals for the recession year 1971. There is really little evidence from the Swedish experience so far about the anti-cyclical use of this tool.

Contracyclical Management of Investment

I am quite unimpressed with the Swedish investment reserve system. The reasons will be clear if we look at these elements somewhat abstractly.

Assume that we have a 50 percent corporate tax rate and that a firm can take deductions for additions to a reserve *provided* 50 percent of the reserve is put in a blocked, non-interest bearing account. I argue that looking only at this part of the system the reserve is nothing. The firm whether it takes a reserve deduction or not has the use of only half of its income, and a blocked, non-interest bearing account is worthless.

Looking at this reserve deposit phase of the Swedish system, the basic tax rate is 52 percent while only 46 percent of the reserve need be put into the blocked account. This is plain tax reduction in the *boom* phase of the cycle.[1] There could be some technical complications. My brief reading of references to the Swedish system does not indicate whether there are any restrictions on a company's use of the 54 percent of the "reserve" that it is permitted to keep. Could it, for example, be distributed to stockholders on liquidation? I presume from my readings that the retained part of "reserves" are indistinguishable in practice from after-tax profits.

Let us turn now to unblocking. In my sequence of examining the investment reserve in steps, unblocking is equivalent to a refund of "tax". (I claimed the deposit in a blocked, non-interest account is really a tax.) If unblocking takes the form of current expensing of an investment, 100 percent first-year depreciation, then, in my initial model of a 50 percent tax and a 50 percent blocked deposit requirement, a company with adequate current income would be indifferent whether the 100 percent depreciation was taken against current income or the "reserve". Here the Swedish feature of only a 46 percent "tax" rate in the reserve is a slight nuisance because deduction against a 46 percent rate is less attractive than deduction against a 52 percent rate. This explains why the Swedish system allows 110 percent depreciation against the reserve.

[1]The effective tax rate falls from .52 to .52(.60) + .46(.40) or .494.

All this reserve business is useless paraphernalia. The meat of the system is the allowance of different depreciation systems between booms and recessions. If one wants to make depreciation so generous in recession that it would exceed the current income, then carrybacks or carryovers can be provided. The reserve primarily serves to limit the benefits of the generous depreciation to firms with income in the past. Lindbeck also dislikes this feature of the reserve, which he calls its conservative bias. I see no value in the reserve to offset this disadvantage.

The real purpose of all this activity could be better served by an investment credit which is turned off in a boom, or an investment tax which is turned off in a recession, or both. Credits and taxes do not have the strong bias that additional first-year depreciation has to favor very long-term investment. Favoring very long-term investment is allocatively unneutral, and it is contrary on stabilization grounds because long-term investments, mostly building, will take the longest time to plan and get under way.

This brings me to the remarkable claims of success for the Swedish system. I have little faith in results from surveys that ask businesses "What would you have done if. . . ?" The answer, strictly speaking, would call for a complete re-run of the firm's decision-making machinery under a new assumption. Off-hand guesses about what such an outcome would be are just that — guesses. Since they are guesses, they are likely to be influenced by what the respondent thinks the government should hear.

If we take seriously the survey results of high response to the release of investment reserves, what can be said? So far as Lindbeck reports these results, they simply report that more investment was being made during the release period. It is not clear to me that they are saying that the investments which were formally "charged to the reserve" involved in fact assets whose purchase was decided upon and executed in the release period. In all the references to use of reserve funds in the Swedish literature, I have found relatively little as to precisely when an investment must be made to qualify. I presume favorable treatment was extended to goods delivered after and ordered before the release period. (Each time the United States introduced the investment credit it covered such goods simply because old orders could be written.)

Lindbeck's reports of very prompt short-term response to an incentive which was loaded to favor building could be interpreted as consistent with a cash flow theory of investment.

The survey results that Lindbeck cites are particularly difficult to understand in the light of his concession that the immediate write-off

opportunity is loaded to favor buildings. It is not plausible that previously unplanned building investments suddenly were decided upon and came into being to a substantial extent in one year. If building investments were charged to the reserve within a year of the unblocking, these had to be building programs that were already underway before the release of reserves.

One could, nevertheless, reconcile charging building investments to the reserve along with the reserve leading to more total investment. If a firm has a building project underway and is suddenly told that it can expense the project for tax purposes, then it has cash flow to make or speed up other investments that have shorter delivery periods. If this is what runs the Swedish machine, you could get the same effect by a temporary cut in the tax rate with less distortion of allocations.

I am not able to add to the assessment of cash flow investment theories. I had assumed that Dale Jorgenson shot them down several years ago, but a recent article by Elliott claims that Jorgenson was firing blanks.

If the appropriate investment theory is a cost of capital one, there is no getting around the indication of very long lags of the type described by Professor Waud in this volume, which suggests that much of the effect will come in the next boom. In the United States, this delayed effect is aggravated by the rule followed both times the investment credit was terminated, that credit applies to deliveries contracted for prior to termination, plus contracts entered later to complete projects over 50 percent completed at the time of termination.

Finally, since this is a banking conference, I want to say more about the relation of investment incentives for interest rates. I take exception to Lindbeck's procedure for reducing the real interest rate for the effect of tax deductibility. A business firm borrows to earn money. If an 8 percent business return is taxed at 50 percent, then deduction of 8 percent interest is necessary to get the zero marginal profit condition. An 8 percent interest rate discourages ventures that do not yield 8 percent. I will also distinguish the case where interest is paid on borrowing to finance acquisition of tax-exempt income. This last point ties in with Marcus Miller's comment, earlier in this volume, on the United Kingdom's use of the instrument of disallowing consumer interest deductions. (Price inflation is a proper adjustment in describing real interest rates.)

Investment taxes or credits are alternatives to interest-rate changes and their enactment is likely to make interest rates different from

what they would have been. A strong application of investment incentives in a recession, for example, could be expected to foreclose a significant decline in, at least, long-term interest rates. This has distributional effects and shuts off some of the liquidity effect that might have been expected from a decline in interest rates as well as shutting off some of the housing starts that might have developed with lower interest rates.

A strong application of investment taxes (or cutback of investment incentives) in a boom should foreclose some rise in interest rates. Over time an active tax policy to stabilize investment, provided it is well timed, may tend to stabilize interest rates. My point is that this should not be described as having left interest rates alone. It is operating on interest rates indirectly rather than directly. One still has to ask about the consequences of these second level changes in interest rates.

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