ever admitted to a 'mistake.' Truth is the unfailling victim. Our chaotic economies bear testimony to the price being paid to save our ego.

Obviously, I think that our profession is loaded with sheep. If I have been a bit different, it is because intuitively I somehow borrowed from some passages in Jevons about The Noxious Influence of Authority. Jevons wrote: 5

"... authority has ever been the great opponent of truth. A despotism calm is usually the triumph of error. In the republic of sciences sedition and even anarchy are beneficial in the long run to the greatest happiness of the greatest number." 6

I think I have abided by this creed, writing, behaving, without intimidation. If I have often railed at the Establishment — which exists — I think the cause has been just, namely, to enhance the economic bounty and to iron out its division. The Keynesian complacency, and the monetarist failing, in the modern stagflation tango has only added zest to my own seditionist assaults.

The Future?

My life can be summed up as one of teaching, writing, writing, background music, tennis, golf, travelling, desserts, and many close associations, including a happy marriage. Would I do anything differently? Yes, on leave in 1997 I regret not spending the time with Joan Robinson and Nicky Kaldor, for I was doing some parallel work.

As I face retirement I still enjoy writing. I take comfort in an impression that my forthcoming book will be my best, regardless of how others ultimately receive it. Optimism costs no more, and is psychologically less of a strain on yourself and others, than pessimism.

Philadelphia

SIDNEY WEINTRAUB

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The Control of the Economy *

1. Instruments and Objectives

In an endeavour to formalise also applied economics the economists of the post-war decades have represented policy as a confrontation of objectives and instruments. 1 Typical objectives were full employment, growth, price stability, equilibrium of the foreign balance. The most frequently discussed instruments were fiscal policy, taxation, monetary policy, exchange rates, incomes policy. There are also forbidden instruments, black magic (import or exchange control). The number of instruments, we were told, has to equal the number of objectives.

It took some time, apparently, until it was generally recognised that most variables are both objectives and instruments, and the notion of intermediate targets was introduced, among them money volume and nominal GDP. 2 A rather naïve conception of one-to-one relations between certain instruments and certain targets is more influential than ever. Monetarists, for example, consider that money is only related to the price level and vice versa. For each particular ill there is a specific medicine. Disregard of the 'side effects' is characteristic of most misconceived policy prescriptions:

The tight money policy, prescribed for inflation, incidentally reduces business investment, house building and consumers' credit; consequently it creates or increases budget deficits via decreased GDP, re-inforced by the direct effect of interest rates on the budget.

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A devaluation, prescribed for a deficient foreign balance, will stimulate inflation. In unfavorable conditions, wages will rise until the effects of devaluation on the competitive position is nullified. (This is by no means confined to the case of full employment.) In the same way, an increase in indirect taxation, prescribed for budget deficit, will stimulate inflation, with ultimate feed back to the budget.

Fiscal (or monetary) retrenchment, prescribed for inflation, will not only dampen the growth of wages but at the same time also reduce the growth of productivity. If the second effect is stronger than the first, wage cost per unit will increase instead of falling, and stagflation will result.

2. The Endogenous Budget Deficit

The case of fiscal retrenchment will be analysed now in more detail from a different point of view. While it is possible, in principle, to control the volume of government spending or taxation, the same is not true for the budget deficit. This is determined by the level of GDP resulting from the interplay of lending and borrowing of the various sectors. Let me refer to the well-known identity

$$(I - S_0) + (X - M) + (G - T) = (S_H - H)$$

which says that the budget deficit $G - T$ together with the borrowing of business $I - S_0$ and of the outside world $X - M$ equals the lending $S_H - H$ of households.

Which of these sectors plays an active role depends on institutional circumstances. The budget deficit, in connection with Keynesian policies, used to be regarded as an active element, incurred on purpose by the government. In present circumstances it is more likely to play a passive role, and to be dominated by the other sectors. This is due to the large share of taxation in an additional GDP, to the strong and quick reactions of consumers to a change in income and to the fact that the foreign balance is more often dominated by outside influences than by domestic policy (by the GDP). In consequence attempts at reducing the budget deficit by retrenchment are mostly doomed to failure. This passive role of the budget deficit may become a little clearer in the scenario of reflation described further below.

If the foreign account is balanced, the budget deficit has simply to fill the gap between the household financial saving and the borrowing of business. This will apply to some approximation in countries where the role of the foreign balance is small compared with that of other sectors. It will fully apply to all countries taken together because they form a closed system. For them the budget deficit given the financial surplus of the households, will be largely settled by the amount of private investment. On the other hand, in countries where the foreign balance can take large values it will, together with private investment, dominate the size (and sign) of the budget deficit. In both cases the budget deficit is predominantly suffered rather than contrived.

The conclusion is not pleasant to contemplate for the treasurer, because it means that he can control the deficit, if at all, only by indirect routes: Business investment, and a fortiori the foreign balance, are not easy to control. Favorable conditions for the growth of investment are a satisfactory utilization of capacity and a growing market. On certain conditions it would seem therefore that the best way to combat a deficit is to increase spending. The conditions are that there are unemployed resources, and that the additional spending is not drained away by imports. In these circumstances a policy of “relatino” should have a good chance of succeeding without adding to the budget deficit at all. On the one hand the built-in stabilisers in a modern welfare state are very strong. About half of the additional spending will come back to the treasury. On the other hand we have a modern destabiliser in the form of consumer's credit and durable goods consumption which will prevent the multiplier from being all too low. This response of consumption will be very quick in contrast to the response of business investment which may take one or two years at least. In the interval business will merely accumulate additional saving. At the same time the consumers, owing to the expectation of a persistently higher level of income, will increase their spending on durables more than their disposable income has increased; they will therefore, taken all together, dissipate (borrow) on balance, at the margin. In an arbitrary, but not entirely implausible case you might assume that the marginal saving of business and households together is just zero; if then the foreign balance for some reason (say, on account of import restrictions of some sort) remains also unchanged, the additional...
government spending will expand GDP until it is balanced by an equal amount of additional revenue. This scenario will automatically apply to the world as a whole because here the foreign balance is necessarily zero. A lesson of this thought-experiment is that the foreign balance problem dominates all attempts at "reflation".  

3. A Mechanical Approach to Economic Policy

If the above analysis is taken as a recipe for policy it will be objected that many questions are left open. What about wages and prices, interest, exchange rates, capital flows? A whole family of policy models more or less is open to the same charge of incompleteness. But this only faintly touches the real weakness of the conventional policy models.

There is something altogether too mechanical about this working with various gadgets: You push buttons and it works. That there is a society with conflicting interests and conflicting expectations is hardly considered by the gadgeteers. It is a little unjust that these models should often be called Keynesian; surely neglect of expectations is not a thing which could be traced back to Keynes! Let us remind ourselves of the role which expectations play in his analysis of the investment process; of their importance in explaining price formation in the markets of stocks, commodities, foreign exchanges. And, most prominent, the role of expectations in the explanation of the interest rate. Let us dwell a little on this subject.

It is essential to assume a dispersion of expectations as to the future rate of interest: there will be those who expect it to rise and those who expect it to fall. The former will hold money (generally: A more liquid, more short term asset), the latter will hold bonds (the longer term asset). We may draw up a cumulative frequency curve of the number of people who expect no increase, given a certain rate of interest (i.e. the holders of bonds): It will be an S-curve, indicating the number of people willing to hold bonds at each actual rate of interest (under very special conditions this might become a demand curve for bonds). If liquidity is great, money is abundant, the market rate of interest will be low so as to increase the number of bears (expecting a fall in bond prices i.e. a rise in interest) at the expense of bulls.

The number of people expecting no rise in the rate of interest is increasing with the rate of interest: Evidently the basis of the theory is the idea that people have a vague feeling that there is a kind of normal rate or range to which the actual rate tends to return. The different opinions which different people have with regard to the future rate of interest makes it possible to turn bulls into bears or vice versa by a change in the rate of interest and in this way to find just the right amount of demand for liquidity to take up the existing money (liquidity).

In principle this pattern of explanation may also be applied to other speculative markets, for example to foreign exchange: If we restrict ourselves to two currencies, say $ and DM, we can again consider different expectations as to the future rate, and suppose again that there is an underlying feeling that rates too far away from a certain range are unlikely.

4. How Monetarism Changed Response Patterns

Let us turn now from Keynes to the present. This does not mean that I shall discuss rational expectations but rather the opposite, irrational expectations, or more precisely the principle, that anything can be true, provided only it is believed. This may be illustrated by examples from the daily news.  

In the old pre-Volkerian times it was generally assumed in the world of finance that an increased liquidity in the banking system would lead to a fall in interest rates. The Keynesian theory of interest, which I illustrated further above, in a way only paraphrases this hornily practical truth, such as it was: Because since Volker, our practical experience has become the opposite of what it used to be: When the

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4 It should be noted that the process of reflation will be impeded if there exist large inventories. In this case the government spending will in the first place absorb the excess inventories, and until this process is finished there will be a budget deficit corresponding to the spending, while GDP will not rise.

5 The following text refers to news items which were still fresh at the time this paper was read, but which have lost some, though not all of their actuality.
amount of money increases (beyond the monetary target) the rate of interest climbs up. People have learnt to expect that in these circumstances the Fed will tighten the reins. They therefore anticipate an increase in the rate of interest and refrain from committing their money; in this way they suck up the liquidity and bring about the expected rise of interest.

The story may be spun out a little further. All the world, friend and foe, is now completely agreed that big budget deficits increase the rate of interest.

There is no inherent logic in this. As long as there are unused resources (labour, materials and capacity) and no Volker to keep interest high, nobody prevents business from investing more: if they do it they will expand GDP and the investment will be financed in part out of additional saving, in part out of a reduction of budget deficit and a reduction of foreign balance. On the other hand, if business reduces its investment it will depress GDP and therefore increase the budget deficit. It follows that there can be no competition for funds (saving) between investment and government borrowing, because the latter merely fills up the gap left by the insufficient private investment. The idea that the government borrowing "crowds out" investment merely reverses cause and effect: Budget deficit is passively suffered rather than actively contrived.6

But what of it? All the world knows that the budget deficit will be financed via the banks (not necessarily, but we shall see in a moment how it works) it will therefore increase the volume of money. We are already there and need only repeat the earlier argument. The public, having learned their lesson about the Fed, rightly assumes that a large increase in money will lead to higher interest. You name it, you have it. Anticipating higher interest they will opt for liquidity, and they will certainly not buy the new issues of government paper, so it will be quite correct to say that the budget deficit can only be financed via the banks and not through the market. And the rate of interest will rise even before the Fed steps in because the public will expect it and act accordingly.

5. Response to Policy Measures

I turn now to another line of attack against the "gadgeteers". It is directed against "fine tuning" which somehow has become associated with Keynesian policies although it has nothing to do with Keynes. The

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6 In conditions of full employment, however, the budget will be a constraint on the alternative use of resources. An increased public spending will in the first place "crowd out" foreign investment (i.e. reduce the foreign balance) which may then lead to tightening of credit policy.


argument of Balogh runs as follows: The response to policy measures such as for example a credit crunch is psychological in nature. That means that over a certain range of intensity the measure will have no effect at all until at a certain point the reaction will be sudden, violent and unpredictable. It is difficult to guess where this point is. Balogh concludes that if such measures are meant to be effective at all they must aim at an overkill. "Monetary policy since the rise of modern banking and industry has invariably worked through psychological shock ... It either overstimulated the economy or else caused panic."

These remarks seem to be based on a good deal of observation and experience. It is tempting to try a (speculative) analysis of the underlying facts. May not the discontinuity of the response functions be due to a) the dominance of large decision units (firms etc.) and b) strong interdependence between the expectations of the various agents or a tendency to act together (united)

It should be noted that the concept of a response function as a cumulative frequency curve (probit function) in the analysis of interest rate and demand for cash, presented further above, was based on independent expectations of the various agents. If expectations tend to be tentative that destroys the nice continuity of the curve. It makes responses come in large jumps and after a period of hesitation. The role of imitation and mutual dependence of expectations has not found enough attention in economics (Veblen was not an economist).

As an illustration we may refer to a case of animal behaviour. A flock of crows feeding on a field after a time rises collectively to fly away. How is the uniform behaviour obtained? Some crows get impatient first, they flap their wings and rise tentatively into the air. In this way they stimulate others and the unrest spreads more and more until finally the whole flock departs. The problem of how a more or less uniform collective behaviour, for example an upswing or a recession, an investment boom or a strong reaction in a speculative market comes about is in principle similar.

A coordination of expectations will be very important in the pursuit of certain aims of economic policy, for example, initiating a recovery, and it will be essential to take special measures to bring it about. An example is "indicative planning" which has this function of coordination.


6. Inflation - an Unresolved Struggle for Income Shares

An all too mechanical approach, disregarding society and its conflicts and opinions, proves to be inadequate more clearly than anywhere else in the question of inflation.

The plan of Abba Lerner (it is one of a whole family of similar plans) is to ration the wage bill of the individual employer, so that he is allowed to increase it only by a certain percentage per year (a fixed rate which is negotiable and can be transferred between firms). Even though this scheme is ingenious, it does disregard the fact of wage conflicts, wage negotiations, trade unions. It is a typical gadget.

Inflation is the expression of an unresolved conflict between classes or groups in a society. In a rather formal way you might say that inflation is due to the fact that we do not have Walrasian general equilibrium in which all markets are cleared at the same time. This simultaneous concerted solution — in which the partners in all markets are satisfied (even though in a very special sense only) at the same time and nobody has any reason to revise his bargain — is only obtained with the help of an auctioneer who finds it by means of an infinity of trials and then executes clearing of all markets in one moment.

It is very difficult to see how this will work without auctioneer, especially if a new equilibrium is to be established every consecutive day.10

Oscar Lange 11 has described how a central planning authority in a socialist state could obtain an equilibrium solution exactly the same as Walras'. Since my early days I have considered Lange's idea to be really an interpretation, and the only interpretation of Walras which makes sense: All questions of conflicting expectations and aims are eliminated by the implicit postulate of a central decision maker.

In reality equilibrium can be reached only in one market separately. In other words, you have to conclude the bargains in one market after the other, always taking the results of bargains already obtained in other markets into account. When you come to the last market you will usually find that the results obtained there are incompatible with those of the first market. This is exactly what happens in inflation.

10 See R. Saul, Money and Inflation, Oxford 1952. Rational expectations have been inverted to show how the transition from to-day's to-morrow's equilibrium will work.

This can best be explained by a drastic simplification of the process which takes place in a modern economy. We consider only two markets, that of products and that of labour (foreign trade, government, flex-price commodities are assumed away here, but this happens only for the sake of brevity). On the labour market a certain percentage increase in wages is negotiated. The product prices are then (with a constant mark-up) increased in the same proportion in due course of time. At the next round of wage negotiations compensation for the price increase is demanded and conceded. In this way a one-time claim for an additional share in income is passed on, if nobody is prepared to carry this burden. This explains the persistence of an inflation which is inherited from the past. The burden might be absorbed by an extra dose of productivity growth, or by third parties not considered in the above picture: By the peasants, or by the outside world in the form of an improvement in the terms of trade. In this way a temporary inflationary shock may be digested, as it were, by the economic system.

Among the many possible shocks we note: A worsening of the terms of trade such as took place in 1973 with a surge in commodity prices, and the oil shocks of 1973 and 1979. There are numerous other shocks, but ordinarily there are also shock absorbers like productivity growth or some kind of wind falls such as the discovery of North Sea oil.

Contemporary wisdom, based on rather different views, offers only restriction of effective demand as an instrument to control inflation. The basis is either the Phillips curve which has been twisted so much that it is hardly of use even as a gadget, or the monetarist theory according to this you must fight inflation by busting the markets for assets (gold, real estate, shares etc.) in the first place. The tight policy works in reality by cutting severely the profits in industry and reducing many firms to a precarious position. In such a situation wage demands are very restrained while the resistance to them is very stiff; the unions themselves will hold back when it is a question of keeping the plant in operation or shutting it down partially or wholly.

To a greater or lesser extent the restraint on wages will be offset by the effects of recession on productivity growth. But even apart from that it is difficult to see how a lasting success against inflation can be based on such a policy: Whenever the profitability of industry recovers in a new upturn of business the wage claims and the tendency to inflation will come back. This may happen even while there is still considerable unemployment.

7. The Function of Incomes Policy

The preceding analysis is meant to contribute to an understanding of the role of incomes policy.

The aim of an incomes policy ought to be to establish the conditions for realising, as far as possible, the simultaneous concerted super-bargain which the Walras general equilibrium implies. That would evidently require: a coordination of expectations, a feed back of information from one market to the others, and a genuine compromise between all the interests, a general consensus. These conditions involve, before all, a broadening of each group's expectational field (or field of vision) to the whole economy.

This may be helped by economists who under the rather misleading title of 'prognosis' (a misnomer, really) try to pin together a reasonable estimate of the expectations in various sectors with regard to the next few quarters of a year (I am referring, for example, to the Austrian experience here). This is really a kind of indicative short term

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This view is confirmed by John T. DONLOP: Interview: "Working Toward Consensus", Challenge, July/August 1982.

13 "Genuine compromise" is meant to exclude the case where two partners conclude a bargain at the expense of a third who is not present.
plan which is discussed with the experts of the various interest groupings. It contains elements of prognosis as well as targets. Its essential function is to provide an agreed framework (benchmarks) for the path of the total economy in the next short period. In this way a coordination of expectations is obtained, and, in a quarterly rhythm, a feedback from each sector to the rest.

The policy of consensus is important also in relation to the wage differential between industries and occupations; we know what a great role these differentials play in the process of inflation. There is a tug of war between those who want to change them and those who want to maintain or restore them to conventional levels.

To conclude: Inflation is a conflict of interests and requires therefore political solutions. The policy of consensus demands suitable institutions and new attitudes which can be found only empirically. From the start it is constrained by the political background: It can not work if the various interests are not prepared for compromise. It is no patent medicine.

8. Long term problems

The neo-classical synthesis wants to confine Keynes to the short run policy. The long run is to be given over entirely to laissez-faire.

It is rather difficult to swallow that just the structural problems are to be solved by market forces and decision of individual firms. "Market" has a meaning for fish, for commodities, may be for slaves, but what can it mean for projects, factories, technologies, not yet existing new products? It is a case of analogies gone wild.

Long run (or "structural") economic problems are intimately connected with technology, which is why economists in general have not been very instructive about them. Structural changes come about largely through the development of technology. No doubt this is brought about in individual firms, but the technical development is a largely interconnected process of social learning; coordination between various developments which are closely dependent on each other can not be brought about by signals from the market. If it is not to be left to mere chance coordination has to be brought about by a technology policy which has to bring together and match complementary developments (innovations) and ensure that their products will find a ready market.

This coordinating function of long-term planning based on a study of existing possibilities, know-how and skills is the essence of planning in this field. It has apparently played a decisive role in the technology policy of Japan, and it has been an important element of the "indicative planning" in France.

9. International Relations

All domestic economic policies, especially full employment policies and stability, are constrained by consideration of the foreign balance and dependence on the outside world.

A good deal of our present troubles are due to the fact that the make-shift arrangements which passed for an international order in the post-war decades have broken down in the 1970's. They rested on the supply of dollars (by U.S. foreign investments and spending) and they worked as long as the supply of dollars was sufficient but not greater than the world was prepared to receive and to hold. After the gold-dollar standard broke down in 1971 there was even less chance than in 1944 to build up a viable system of international economic relations as originally envisaged by Keynes, because of the deep rifts between the powers. The exchange rates were abandoned to quite irrational fluctuations which encouraged speculation in commodities and strongly contributed to inflation.

Some countries obtained large surpluses in their foreign balance, in some cases due to their restrictive fiscal and monetary policies, and depressed in this way the demand in the other countries. The world had become profoundly adjusted to a system of free trade and payments, but it was deceived once the condition for the working of this system, the growth of demand, had stopped. The depressed trade situation has led not only to a revival of protectionism in new forms, practised, ironically enough, most successfully by large creditor countries and also through private arrangements between large concerns, but it has also increasingly favoured bilateral arrangement ("barter"). Bilateralism to-day takes

16 International Herald Tribune, April 15, 1983.
forms different from those of the days of Schacht. It is carried out piecemeal, partly on the initiative of firms, in cooperation between government and business. It is an act of self-help both for business and for governments intent on maintaining employment. There has apparently been no official opposition or complaint against it. The commonsense view seems to have prevailed that you can not very well block these attempts at self-help in the name of an ideology which purports to increase world trade.

Another kind of intervention, the control of capital movements, should not be open to any objection from the side of trade policy because it does not interfere with the current account of the balance of payments. It is a problem of administration, not a problem of free trade philosophy; it involves the relation of government with national and international banks and transnational concerns. It is no doubt the most sensitive and difficult problem of economic policy. Without control of capital movements a country cannot afford an autonomous policy dictated by its own interests, nor could the chaotic currency relations of the present time be mended without it.

If a number of like minded countries, intent on maintaining high employment, would coordinate their policies, this would increase their chances of success. They would practice bilateralism and control of capital movements in their relation with the rest of the world and could be largely free in their relations with each other. Today the political basis for such a solution in Europe is present only in some small countries, while the large surplus (creditor) countries on which they depend economically suffer from what you might call a structural anti-Keynesianism. 17

We must not suppose, however, that things always stay what they are. If the economic and financial troubles of our world persist, as I suspect they will, European countries will be forced by instinct of self-preservation to a coordinated full employment policy.

Wien

JOSEF STEINL

17 A group of 30 economists from various countries (Institute for International Economics, Washington D.C.) has recently been advocating cooperation by the large countries, U.S., Germany, Japan, U.K. and France (see International Herald Tribune, April 22, 1980). To the observer the proceedings of this group are strongly reminiscent of international disarmament conferences which were the subject of a cartoon by Herbet Daumier with the caption "Apres vous Monsieur!".

Foreign Trade Elasticities in Centre-Periphery Models of Growth and Development *

The question of 'why growth rates differ' between countries continues to preoccupy and fascinate economists. In this paper I want to argue that at the heart of differences in growth performance is the strength of the balance of payments position of countries, determined largely by the propensity to export relative to the propensity to import, as distinct from movements in the terms of trade (except in dramatic cases such as oil and the oil producing countries). This may sound trivial, but I believe it is a profound insight; unfortunately not discovered by me! It is not a mercantilist argument (there is no virtue in balance of payments surpluses as such), but an insight into the process of income determination in open economies when relative prices in international trade are sticky for whatever reason, which they may be under a variety of market structures and different exchange rate regimes. The insight is in Harrod (1933), but more frequently crops up in the literature on economic development and the relationship between developed and developing countries; in so-called centre-periphery models of growth and development. Models of this genre now abound, but the essential truths about the nature of trade and the balance of payments difficulties of slow growing countries are all contained in the early classic papers. I shall concentrate on three of these important papers and demonstrate that although on the surface they may look different, fundamentally they all boil down to the simple rule that one country's growth rate (g,) relative to other countries (g) can be approximated by the ratio of the income elasticity of demand for its exports (e) to its income elasticity of demand for imports (π), i.e.

$$\frac{g_1}{g_2} \approx \frac{e}{\pi}$$

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