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Winkler, Diana; Lefeldt, Mathias

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LOCOMOTIVE THEORY

The Basic Ideas and Prospects

by Diana Winkler and Mathias Lefeldt, Hamburg *

The locomotive theory is likely to come up again for discussion at the next summit of the major industrial nations in Bonn in July. What are the basic ideas behind this theory? And what are its chances of success if adopted as an economic policy?

Although the low mark of what was the biggest worldwide recession since the second world war lies behind us, the recovery does not gather momentum. High unemployment, low investment, unsatisfactory inflation rates and balance of payments deficits with their concomitant currency problems are still persistent features of the Western industrialized economies. There are however great differences between individual countries in the way in which they manage to cope with these problems.

The USA and Japan have achieved higher growth rates which give satisfaction, and the Federal Republic of Germany can point to successes in dampening down inflation and running down its large balance of payments surplus. In contrast, the USA has to fight a balance of payments deficit, and so have France, Italy and Great Britain. Persistently high unemployment and an unsatisfactory level of investment activity are common features of all countries. State programmes to boost economic activity have so far failed to spark a self-sustaining recovery distinguished by an increasing propensity to invest. As the reduction of the worldwide unemployment is the prime objective of economic policy at present, the discussion has for some time been concerned with strategies for an international rather than national approach.

The great mutual dependence of the industrialized countries of the West on each other's economic progress came up for discussion at the economic summit in London in 1977 already. It is due to their increasing external economic interdependence. The resulting international parallelity of economic cycles is a new phenomenon which manifested itself only in the early seventies, and it is the point of departure for an economic

policy thesis being discussed of late: pump-priming measures in the three most important Western economies — the USA, the Federal Republic and Japan — could spark off a worldwide upswing. The economic potential of the mentioned countries, it is argued, is so great that growth impulses emanating from them could trigger analogous reactions in the countries linked with them through their external economic relations. The West European partners of the Federal Republic in particular could hope for political stabilization effects beyond the purely economic impact.

The Federal Republic and also Japan have so far resisted the demand for stimulatory measures on the ground that they involve a risk of reviving or aggravating the inflation, for it cannot be ruled out that the inflation is one of the causes of underemployment. The principal supporters of the locomotive theory beside the USA are Italy, Great Britain and France. They are addressing their demand for stimulatory measures primarily to the Federal Republic and Japan because these two countries alone are regarded as predestined to turn on the ignition. The theorem is based on the expectation that the balance of payments of the pace-setter will tend to worsen as a result of expansionary activities because an increase in final-stage demand will at first cause the imports alone to rise. Only countries with definite balance of payments surpluses - that means, the Federal Republic and Japan - could be expected to invite such an increase in imports. Besides, it is pointed out that the Federal Republic especially had the capacity to cope with price rises of a few per cent without incurring a risk of inflation.

Basic Concepts

The locomotive theorem is based on a line of argument which cannot be rejected out of hand.

^{*} HWWA-Institut für Wirtschaftsforschung-Hamburg.

According to Keynes' multiplier theory it is the state which must spark off an economic recovery. The first step towards the desired expansion of domestic demand must be additional public spending involving deficit financing. In other words, the additional expenditure must not be financed by tax increases, and tax reductions must not be offset by spending cuts. Moreover, it was essential that the credit markets should not be overburdened by deficit spending in such a way that planned private spending, for instance on investments, was hampered.

It is crucial in this context that on the one hand a multiplier process is set in motion which proliferates the impulse and on the other hand that there should be a noticeable effect on the trend of imports into the country, e.g. the Federal Republic. Assuming that the marginal import propensity is constant, imports could in this case be expected to increase by a margin above the original cyclical impulse. For the "carriages" of this forward-moving train, e.g. the West European countries, this import effect alone is of importance because it increases their exports according to their share of the "locomotive" market. Such export gains by the trading partners of the Federal Republic can be of twofold significance:

The increase of exports from these countries in turn sets off a multiplier process which in certain circumstances leads to a many times larger growth than experienced by the exports.

☐ The increase of exports has the *a priori* effect of improving the balance of payments situation of these countries to an extent which is ultimately not fully compensated by the increase of imports to be expected as a result of demand expansion. This could give the trading partners of the Federal Republic monetary scope for stimulatory economic policy measures of their own. This is an aspect which is of special importance for countries with limited foreign currency resources, for instance for Great Britain and Italy, but also for France.

The primary effects on the economies of the Federal Republic and its major trading partners are not necessarily the whole overall effect. The ensuing feed-back effects must also be taken into account. They are repercussions of the reactions to the import increases following in the partner countries through the multiplier and their own economic policy initiatives. Varying according to the share in these imports of e.g. the Federal Republic and other countries, there will be export increases which can in turn trigger multiplier

processes. The *international* multiplier triggered in this way can add greatly to the force of the original national multipliers.

Doubts are however thrown on the effectivity of the locomotive theory by an examination of its empirical relevance. Empirical collation and computation of such effects is extremely difficult. It is not possible to obtain more than approximate results and this only by the use of very complex and wide-ranging models 1. Such calculations as have been made in connection with this problem, e.g. by the Citibank of New York and the US Treasury, largely neglect the feed-back effects. On the assumption of a 1% rise of the national product of the Federal Republic they arrived at a growth effect of, for instance, 0.07 and 0.08% respectively for France². However, even if the trend effects are underestimated in these calculations, it is unlikely that the maximum attainable overall effect is significantly greater.

It follows clearly that the effects of pump-priming in one country cannot be more than marginal on the world scale. Only concerted action by several countries would have a material impact. Acting by itself a country like the Federal Republic or Japan — or even the USA 3 — carries far too little weight in the world economy.

Heavy State Indebtedness

Irrespective of the relatively slight effects on the world economy if the Federal Republic for instance provided a boost for its economy, it has not really much scope for increase in public expenditure as demanded by the advocates of the locomotive theory. In the last four years the public budgets in the Federal Republic included over DM 100 bn of deficit spending. In relation to the GNP the total indebtedness rose from 18% in 1973 to 26% in 1976. In many other countries – e.g. Italy, Great Britain and the USA - the corresponding ratio is admittedly far higher but in international public debt comparisons it is often ignored that the Federal Republic - unlike many other countries - has no old (pre-war) debts. Besides, owing to events of recent history, public debts mean much more in the Federal Republic in political terms. The debt policy of the state still carries the stigma of imprudence.

The Federal Government will also be reluctant to add to the public debts because the recent experience with such programmes gives cause for

¹ Cf. M. Lefeldt, Grundmodelle der Außenhandelsprognose (Basic models for foreign trade forecasting), HWWA-Report No. 30, Hamburg 1975, p. 105 ff.

 $^{^2}$ Cf. Jes R a $\rm u$, Streit der Lok-Führer (Quarrel of the loc drivers), in: Die Zeit, Feb. 10, 1978.

 $^{^{3}}$ Admittedly this is to no small part due to the relatively low foreign trade involvement of the USA.

⁴ In 1976: Great Britain 65 %, Italy 50 %, USA 53 %. Cf. Finanzbericht 1976 and 1977, published by the Federal Ministry of Finance, Bonn.

misgivings about their success. None of them had the desired result of a cyclical break-through; at best they prevented a further downslide of the economic development. The aimed-at internal upswing, the prerequisite to fulfilment of a locomotive function, failed to materialize.

Unsuccessful Stimulatory Programmes

Not the least important reason for this was the fact that the measures which were taken — investment grants, concessions for depreciation, tax relief for households and enterprises, etc. —, were in the main programmes for the stimulation of private initiative. The expected result cannot ensue if the created opportunities are not used as anticipated.

There are many reasons for this unexpected lack of response by private business and households. State encouragement of investment projects for instance comes up against obstacles in the shape of licensing requirements, environmental regulations and planning time-limits which may cause delays or even thwart initiatives. Court injunctions against investment projects in response to citizens' initiatives have been of increasing importance lately. According to an as yet unpublished study for the Federal Government investments totalling DM 26.6 bn are at present blocked by such administrative and juridical restraints 5. This affects not only the allocation of funds by the public agencies promoting investment but in much greater measure the readiness of private firms to make investments, and this in turn affects the time-scale of the multiplier process.

Besides, it has for quite some time been a moot point whether investors go entirely by the general incomes trend and rate of interest. Profit and sales expectations are proving increasingly important, and they cannot be influenced by the means of investment promotion. This applies in particular to industries which depend in large measure on exports. They base their investment decisions overwhelmingly on their assessment of the sales opportunities in foreign markets. It is therefore generally doubtful whether investment promotion can boost the economy as desired.

On the side of the private households exist similar obstacles obstructing the smooth running of the multiplier process. Tax cuts, whether direct or indirect (e.g. increased child allowances) have a greater effect on saving than on consumption because not only investors but consumers are anticipating expected economic developments to an increasing extent by not spending money as intended. One of the reasons for the accumulation of large savings since 1973 is uncertainty about the economic future and fear of labour lay-offs.

Lack of Objects for Promotion

If a multiplier process generating the effects required to perform its locomotive function, i.e. which brings about a significant increase in imports, is to be set in motion in the Federal Republic, the state must therefore take *directly* operating measures and not measures which are merely conducive to an increase of demand. It would have to be examined in which sphere the state can become active. In the event of consumptive use, e.g. by additional recruitment in the public services, the consequential costs and the requirements would have to be considered. For investment expenditure on the other hand

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⁵ Cf. Dieter Piel, Beklemmender Stau (An embarrassing backlog), in: Die Zeit, March 3, 1978. According to a Federation of German Industry (BDI) enquiry among members the total is as high as DM 54 bn. Cf. Investitionsstau noch höher (Investment backlog even higher), no indication of author, Frankfurter Rundschau, March 21, 1978.

there is little scope left. The major investment areas of the state were already covered in recent years, e.g. by the building of hospitals, schools and universities. The only investment fields left, apart from purely infrastructural measures, concern the protection of the environment, safeguarding of energy supplies and promotion of research and technology, especially for mediumsized and smaller enterprises. Promotional measures of this kind are already envisaged under the programme for the promotion of future investments passed in late 1977 for which DM 16 bn, to be spent by 1981, have been earmarked. The only point which could be discussed is an increase of finance for this purpose, and this would again be a more indirect measure and have the drawbacks which have been described.

Beside the question how to give an impetus which could perform a locomotive function for the West European economies there is the problem of determining to what extent the present situation — not only in the Federal Republic — is cyclical and therefore amenable to such a global economic policy. As far as the Federal Republic is concerned, it must be borne in mind that the nature of the economic problems suggests that they have in part structural causes.

Structural Distortions

The delay of the D-Mark revaluation is considered to be one of the possible causes of the structural problems in the Federal Republic. It made jobs safe which had lost their competitiveness long ago. When the revaluation eventually took place, unemployment therefore rose rapidly. The competitiveness of German industry was also impaired by the level to which the wages had in the meantime risen. Drastic structural changes in the world economy caused by mounting competition by products from developing and low-wage countries which have gradually secured a firm place in the international division of labour are another factor. The growing dependence on raw materials is gaining economic as well as political importance for the Federal Republic just as for other industrialized Western countries. The demand for a New International Economic Order foreshadows further adjustment processes all over the world. In this situation the state must take measures designed for the medium-term future which allow for structural changes with as little friction as possible. These problems cannot be solved but at best only temporarily hidden by global stimulatory measures.

Supposing that similar problems exist in other industrialized countries — e.g. in Great Britain — there is a danger that the international multiplier will not come into full play. An intensification of

foreign trade flows may, besides, conceivably work in favour of industries which have no cause to complain about their economic fortunes. As a result it may happen that structural disequilibria are — and this not in the Federal Republic alone — reinforced rather than moderated. Any economic upward tendencies would therefore probably subside fairly quickly for want of the crucial secondary effects.

Smooth operation of the multiplier depends also upon other aspects of a more international character. There are uncertainties in the monetary sphere which can cause substantial disturbances. It is really impossible to appraise the quantitative effect of the primary ignition needed for the locomotive to fulfil its function except on the assumption of fixed exchange rates, constant prices and payments balances in equilibrium. None of these three prerequisites exists in reality. It is for instance impossible to foresee the effect of the weakness of the dollar or answer the question whether a boost for the German economy could influence future developments in the foreign exchange markets.

As far as an overall assessment of the possible effects of a locomotive strategy for German economic policy is concerned, three aspects must therefore be given general consideration:

- ☐ The quantitative extent of any transmission effects of a boost for the German economy must not be overrated even if it is assumed that the multiplier processes will operate smoothly.
- Further, there are grounds for assuming that the conditions for the primary ignition and for secondary (multiplier) effects are unlikely to be such as to justify the expectation of smooth operations. On the contrary, if a cyclical impetus is applied successfully, it must be feared that the overall effect will not be secured because the multiplier process would be interrupted. The reason for this is that the present problems are not so much of a cyclical as of a structural nature.
- ☐ The risks attending such a policy in the Federal Republic they could affect the stability of the value of money in particular and in the medium term in certain circumstances also the labour market situation are of greater importance than the possible chances of an upswing of the international trade cycle.

It must be said for these reasons that the locomotive concept under discussion has at present little prospect of success. Consideration should rather be given — not only by the Federal Republic but by all industrialized countries in the West — to a growth policy designed for the medium term with special regard for structural problem areas.