

International Stagflation and the 'Locomotive Hypothesis'

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I. Introduction

After the 1973/74 oil shock, the downturn and then the recovery rates of economic activity among the western industrialized countries (among which Japan is conventionally included) proceeded along different paths. In an attempt to accelerate recovery and distribute growth more evenly among countries, the 'locomotive' hypothesis was promoted. The idea was that the stronger countries would engage in intensified expansionary economic policies thereby pulling the more slowly growing or stagnating countries along with them.

Current economic developments are reminiscent of the first oil shock. This justifies further discussion and illumination of the locomotive argument. Rising inflation rates in the western industrialized nations, combined with and partly caused by fuel price increases, as well as increases in the prices of other raw materials raise the distinct possibility, if not probability, that the recession which the United States experienced in the first half of 1980 may not yet have been fully vanquished and that a world-wide recession will develop in 1981. The specter has become visible, even though the combination of recession with inflation — the so-called stagflation — might turn out to be less severe and of shorter duration than the downturn experienced after the oil shock of 1973. The 1974/75 international recession, the worst in the post-World War II period, came in the wake of *OPEC's* quadrupling of the oil price within a very short time span, and this at a time when the underlying strength of the economies was already fading. While the more recent price increases, amounting to about 150 percent so far have not yet been of the same magnitude, this fact alone is no guarantee that the effect will be less severe. For the base from which the price hikes have taken off is substantially above the former one. Secondly, inflation and unemployment rates are worse now than in 1973. Thirdly,

fuel supply has become rather more unstable in spite, or even because of higher fuel prices, and supplies may become ever more unpredictable as a consequence of political and economic instability within OPEC. And last but not least, more price increases and possible cut-backs in supply are pending.¹

Business cycle history and theory instruct us that no two cycles are identical in their causation, amplitude or duration. This observation pertains both to cycles which remain confined within a nation and to those which cross national boundaries. Thus, we need not envision the inevitability of a repeat performance of the previous recession.

Similarities with the onset of the previous downturn do exist, such as the rapid increase in import prices and deterioration in the terms of trade for industrialized nations. But some of the dissimilarities with the previous peak of the cyclical expansion may be cause for more rather than less concern. The external disequilibria, i.e., balance-of-payments imbalances among the western industrialized nations, are distributed differently from what they were at the onset of the last recession. However, the international disequilibria — inflationary pressures and unemployment — are more pronounced nowadays. In the months preceding the downturn in the 1970s, inflationary pressures had been combined with high employment and capacity utilization levels in an internationally synchronized expansion. This time, however, unemployment is still at uncomfortably high levels in many countries, and capacity utilization seems to be below normal, growth rates have dropped substantially from their level during the decade antedating the first oil shock, while inflation has been accelerating.

At first blush, one might conclude that the previous general downturn was accompanied by a policy dilemma of internal versus external goals — how to lower the unemployment rate under severe balance-of-payments constraints — while we are now faced with an internal policy dilemma in the countries afflicted with high inflation and unemployment rates. However, this difference between the two periods is more apparent than real, for two reasons: first, we have learned, or should have learned, from observations of the past that the inflation-unemployment trade-off presents itself to policy makers under very limited pre-conditions, and then only in the short run. Secondly, with inflation rates diverging at an accelerating rate, we can expect balance-of-pay-

¹ The OECD estimates that the initial impact of each 10 percent increase in oil prices reduces the growth in GNP by 0.3 percentage points.

ments disequilibria to mount again, thereby worsening the external policy options.

Consequently, we have to reckon with the possibility that future problems will resemble those after the first oil shock, and that suggestions for coping with them will move along similar tracks. The *International Monetary Fund (IMF)* proposed that "each country should contribute to world economic growth in relation to the strength of its external position and to its price performance."² The *Organization for Economic Cooperation and Development (OECD)* made similar statements in the past. But individual countries may be tempted to call for a different path of action, assigning the responsibility for adjustment to the so-called locomotive countries, Germany and Japan.

My presentation focuses on several aspects of the locomotive argument. First, I shall investigate the idea itself and its foundation. Second I shall ask whether the various theoretical underpinnings of this hypothesis were well taken and whether the argument could be supported in light of the existing international monetary and exchange rate system. The question whether the 'locomotives' could have acceded to other countries' demands in view of the locomotives' own internal economic and political constraints has been dealt with on a different occasion.³

II. The 'Locomotive' Hypothesis

1. The 'Locomotive' Hypothesis Per Se

Since the oil shock of 1973, the western industrialized nations have experienced, in the aggregate, considerably lower growth rates than during the preceding ten to fifteen years. Coinciding with the poor performance of the growth rates, and not unrelated to it, internal imbalances increased: inflation rates accelerated considerably and unemployment rates settled on a higher plateau, even during expansionary phases, than many countries had deemed acceptable in the preceding decade; employment grew, but productivity gains dropped sharply;⁴

² IMF, Annual Report 1979, p. 31.

³ Hugo M. Kaufmann, "Germany's Option to be a Mini-Locomotive: A Reassessment of 1977," *Economia Internazionale*, 31 (3 - 4), August - November 1978, pp. 196 - 211.

⁴ The overall gain for the seven major industrial countries amounted to only 1 - 1/2 % per annum from 1973 to 1978, compared with an average increase of 3 - 3/4 percent for the 1960 - 1973 period. (Productivity measured by real GNP per person employed.) IMF, Annual Report 1979, p. 7. Employment may have grown at the expense of productivity gains.

and the external accounts, measured on the current account basis, exhibited greater imbalances than before. In other words, internal as well as external imbalances in the 1970s exceeded those of the 1960s.

The 1974/75 recession was synchronized among *OECD* countries, but the internal-external disequilibria were distributed unequally among them, in the wake of different policy responses to the oil shock. Countries which were, for historical reasons, more fearful of inflation, e.g., Germany and Switzerland (the former having experienced the disastrous consequences of rampant inflation twice within a quarter century), concentrated their attention to the inflationary effect of the oil price increase. Others, such as France, Italy, the United Kingdom, and the United States, were more concerned about the deflationary impact. Initial policy responses reflected national preference functions. The former group of countries engaged in less accommodating monetary and fiscal policies, more or less accepting *OPEC's* oil price increases for what they really were — a transfer tax from oil importing to oil exporting countries, requiring intercountry income transfers. As such, oil price increases were bound to have some deflationary effects in the oil importing countries. The second group of countries, in their attempt at evading the real transfer cost, engaged in expansionary economic policies, thereby fueling the inflationary forces, without ultimately escaping the adjustment burden imposed by the oil tax. The difference was that an inflation tax (“hidden tax”) was substituted for an outright admission, but politically less popular stance, that an oil tax had been imposed from the outside. This latter group of countries ended up not merely with greater external imbalances as they resisted the required adjustments; their internal imbalances grew worse as well, as inflationary distortions compounded the adjustment costs connected with the oil tax.

Like the disequilibria, the adjustment burden was unequally distributed in the end. It was thus not too surprising that countries with larger disequilibria and adjustment problems, i.e., those which had started from an unfavorable internal-external position and those which engaged in the wrong policy response,⁵ would engage in a campaign to get the more successful ones to assume also part of the adjustment burden of the countries with the larger disequilibria.

⁵ This includes those which started from relatively favorable positions, e. g., the United States, and the not so favorably positioned ones, e. g., Italy and the United Kingdom.

To prepare the ground for this proposal, countries were classified as 'weak' and 'strong' based, with dubious justification, upon their external account positions, primarily their trade or current account balances. This dichotomy was the foundation of the 'locomotive' hypothesis, which the *OECD*, too, used in its recommendations of anti-recessionary policies. Accordingly, the 'strong' countries had the potential as well as the obligation to lead the way out of the recession, pulling the 'weak' *OECD* countries in tow. The potential was said to be there, because the external surpluses of the locomotive countries allowed them to conduct expansionary economic policies unhampered by external constraints.⁶

Moreover, it was supposed to be also in the locomotive countries' very own interest to accelerate domestic expansion to reduce their internal disequilibria, i.e., unemployment; inflationary pressures would not be rekindled as long as they operated substantially below capacity limits.

Put succinctly, the proposal was that at little cost to themselves, the 'strong' countries would not only contribute to solving the others' economic problems, but could reap substantial benefits themselves by accepting the locomotive role.

2. *The Theoretical Framework and Its Evaluation*

a) The Theoretical Framework

At the base of the locomotive argument lay the assumption that discretionary, activist government intervention — primarily in the form of monetary and fiscal policy, but also of incomes policy, if need be — would be efficient in achieving policy goals. The theoretical framework within which the advocates of the locomotive hypothesis operated was, implicitly rather than explicitly, essentially *Keynesian*. It consisted of four assumptions: the existence of a multiplier effect (if not also accelerator and multiplier-accelerator interaction); the existence of an international transmission mechanism of domestic economic activity, i.e., an international multiplier, befitting a system of fixed exchange rates; an environment of money illusion, i.e., of price stability, where changes in money incomes were perceived as changes in real incomes. Finally, all would fall into proper place because of the continued existence of an inflation-unemployment trade-off, that could be ob-

⁶ As used to be the case with England's 'stop and go' policies during much of the 1960s.

served since the late 19th century — the so-called *Phillips* curve phenomenon.

Under these perceived preconditions it became incumbent upon the stronger countries to set into motion accelerated domestic growth by engaging in expansionary demand policies. Policy-induced budgetary deficits (fiscal policy, the *Keynesian* policy tool *par excellence*) were prescribed, which were to be assisted by accommodating monetary policy. With this policy-induced accelerated growth the international multiplier would be triggered as increased domestic economic activity spilled over into the weaker countries via the marginal propensity to import.

Consistent with *Keynesian* doctrine was the perception of current account surpluses (deficits) as evidence of deficient (excessive) domestic absorption. What seemed to be substantial unused productive capacity in surplus countries after 1974, lent added support to such an interpretation of current account surpluses. Thus, increased domestic absorption would reduce excess capacity in the home country and, through the marginal propensity to import, reduce the external imbalances of surplus and deficit countries alike. This, in turn, would reduce the external constraints to expansionary policies in the weaker countries, facilitating their domestic recovery. These countries were presumed unable to engage in expansionary policies without simultaneously worsening their already precarious internal-inflationary and external — balance of payments — position.

b) Evaluation of the Theoretical Framework

(1) *Effectiveness of Economic Policy*

The assumption that (governmental) discretionary policies could be effective has been challenged on several fronts. The earlier attack centered on the relative efficiency of monetary policy versus fiscal policy along the lines of monetarists versus *Keynesians*. Later the question arose as to their relative efficiency under a system of fixed (or pegged) exchange rates compared to that under a regime of flexible exchange rates. More recently, all forms of discretionary policies came under the scrutiny of the 'rational expectations' theory, according to which properly anticipated policies of the economic authorities have no impact on economic activity.⁷

⁷ For a convenient summary of the more important criticisms that have been launched against the efficacy of activist policy measures, see *Robert J.*

Even without going to the extreme of the rational expectationists, we now know that the confidence in the success of discretionary economic policies, the so-called 'fine-tuning', prevalent in the early 1960s, had been overdone and was rapidly waning in the late 1960s. Some of the doubts in the success of fine-tuning had to do with the existence and unpredictable variability of time lags — the inside and outside lags — as well as with their impact upon the variables and their incidence.⁸ It became evident that the (expansionary or contractionary) policies might become effective just at the time when opposite policies would be called for. Thus, both the lags and the rational expectations arguments support the recommendation to rely on rules rather than on activist policies.

Moreover, it has been shown that there is the constant danger of overshooting when — with uncertain domestic and foreign-trade multipliers — expansionary (contractionary) policy is adopted to close a deflationary (inflationary) gap.⁹ If such a danger exists for the closed economy, it is even more likely to be present in exaggregated form for the open economy, depending on the exchange rate regime. Under fixed exchange rates, this danger for the domestic economy is reduced. The international spillover effect (which, in the locomotive argument is desired and counted upon) moves into other countries some of the 'exaggerations'. Nevertheless, the correct magnitude and the distribution of the impact of policies between the real and the monetary sectors are still uncertain, and with them the feedback from and upon locomotive countries.

Aside from the shortcomings connected with these more recent findings concerning the efficacy of discretionary policies, there are other

Gordon, "What Can Stabilization Policy Achieve?" *American Economic Review*, 68 (2), Papers and Proceedings, May, 1978, pp. 335 - 338.

⁸ The recognition lag has to be divided into two parts, the recognition that, say, a downturn has started, and secondly, whether it is cyclical or structural in nature. This is the closed-economy equivalent of the question in international economics where balance of payments had to be classified as temporary-random, cyclical or 'fundamental', under the Bretton Woods system. Only the latter disequilibrium would have justified (or required) exchange rate changes. Of course, conflicts arose among countries in the interpretation of their disequilibria: what one country saw as its own random or cyclical external disequilibrium was frequently seen as 'fundamental' by the outsiders.

⁹ *William C. Brainard*, "Uncertainty and the Effectiveness of Policy," *American Economic Review* 57, May 1967, pp. 411 - 425.

fundamental misgivings one can express with the basis of the locomotive hypothesis. I shall now turn to the more significant ones.

(2) *Money Illusion*

It is strange that money illusion, which presupposes a period of price stability, was still assumed in the mid-1970s. For one, the condition of the preceding decade hardly warrants such an assumption. While we are not in the extreme classical world of perfect foresight regarding price changes, and some money illusion exists in the short run, it does not fit the world of the 1970s. Since price expectations are formed on past price performance, inflation expectations are built into the short run behavior, too, after the learning process has occurred. Inflation expectations are incorporated not only in form of 'indexing,' but also in other forms of cost of living adjustments, leapfrogging, and by shortening the duration of labor contracts, to reduce the time lag between price changes and wage adjustments. This being the case, we move further away from the *Keynesian* realm and might be in the 'long run' by now. As labor is expected to reduce its real income, the *Phillips* curve phenomenon depends entirely on labor's pliability.

Another reason for money illusion to be a rather curious assumption in the special situation under review has to do with the locomotive hypothesis itself. If countries are encouraged to stimulate economic activity even with the likelihood that the inflation rates would re-accelerate, then money illusion could no longer be counted on; the nation, and with it the contracting parties, have been forewarned that inflation which still had not been brought under control, would be re-kindled — at best, only slightly. The more recent discussion of the *Phillips* curve phenomenon has clearly established that the inflation unemployment trade-off, if it ever existed as a policy instrument, was operative only in the short run, and as long as price stability was assumed by wage earners.

A theme related to the '*Keynesian*' that employment can be stimulated without much inflationary impact until an economy reaches the capacity output level is that this also holds irrespective of the speed with which capacity output is being approached.¹⁰

¹⁰ This can be found in arguments of the Joint Economic Committee, e. g., in its 1976 Economic Report (pp. 41 - 42) and its 1976 Mid-Year Review of the Economy (p. 20), where it has been stated that "at a time when every major sector of the economy is operating far below capacity, rapid growth

Price stability, or at least the expectation of price stability during the contract period is a necessary, if not sufficient precondition for the *Phillips* curve trade-off to work. Or, if neither can be safely assumed, the trade-off could still be invoked as long as the actual inflation rate exceeds the anticipated inflation rate, i.e., in an environment of unanticipated accelerating inflation. This may occur if inflation is expected to be brought under control. But, as I have argued, expectations that inflation would be brought under control will be vitiated by official insistence that the strong countries could afford to tolerate higher inflation rates. Official pronouncements, thus, eliminated that last one of the potential preconditions for the possible working of the unemployment-inflation trade-off.

Experience with the domestic price effects of a flexible exchange rate system has been that depreciation of one's currency (erosion of the external purchasing power) leads to further erosion of internal purchasing power, provided that the monetary authorities don't engage in contractionary domestic policies (as they normally do not). This behavior eliminates another form of money illusion: an exchange rate illusion. The exchange rate illusion can be thought of as the failure of linking external to internal loss of purchasing power. No longer can one ignore the impact of exchange rate changes upon the domestic price level. The elimination of exchange rate illusion produces a 'vicious circle' hypothesis, according to which countries experiencing a depreciation of their currencies also suffer from inflation, as external-internal purchasing-power erodes, as long as monetary policy is accommodative. It is not surprising, therefore, that this vicious circle experience and the ensuing elimination of the foreign exchange illusion entered wage negotiations. This greater interaction between depreciation of one's own currency, the potential inflationary impact, and the incorporation of the 'vicious circle' in price-setting are a direct consequence of the system of greater exchange rate flexibility. Under the pegged rate system this relation was less direct, and accommodating domestic policy could show up in continued external imbalances (balance of payments deficits). This is one more way in which, under the flexible exchange rate regime, domestic economic policies are bottled up within the country in which the policy actions originate.

can actually reduce inflationary pressure," Quoted in *David Laidler*, "Recent Macroeconomic Policy Proposals of the Joint Economic Committee of the U.S. Congress: A Critique," *Journal of Monetary Economics*, 5 (1979), p. 403, footnote 11.

With this elimination of exchange rate illusion an important adjustment element of the flexible exchange rate system has been lost. In essence, exchange rate flexibility was supposed to introduce real factor price flexibility and thus overcome the inflexibility of domestic price and money wage levels in a downward direction. Money illusion implied that the economic agents were more amenable to accept a change in real income through inflation (diminishing purchasing power) than through a reduction in nominal wages; and exchange rate illusion implied a deterioration with less resistance in real income through variations in the exchange rate.¹¹ But the presence of money (and exchange rate) illusion is not required for exchange rate changes to influence real variables. The wealth effects, which follow currency exchange rate changes, will remain operative even if factor prices adjust to restore real income.¹²

When in the wage negotiations of 1974 and 1975 it was widely ignored that the worsening terms of trade of the oil importing countries had reduced the leeway for nominal wage increases, and that an actual decrease in real wages was required, those countries which paid the least heed were the ones which experienced the gravest unemployment problem. The same danger again was prevalent in the negotiations of 1979 - 1980 in the wake of yet another major oil price hike. Since escalator clauses made this reduction in real wages difficult it may have prompted some countries to seek an overvaluation for their currencies and thus to alleviate somewhat the real wage problem.¹³

(3) The Unemployment Rate and Productive Capacity

Even if we assume for the moment that the short-run Phillips curve is still alive and well, there have been two recent important theoretical developments which indicate that the latitude for policy options has shrunk over the years.

The natural rate of unemployment (NUR) hypothesis reasons that there exists a unique unemployment rate at any time, given the structure of an economy. This rate may be, market-clearing equilibrium,

¹¹ *Harvey A. Poniachek*, *Monetary Independence under Flexible Exchange Rates*. Lexington, Mass.: Lexington Books, 1979, p. 15.

¹² *Poniachek*, *ibid.*, and *R. N. Cooper*, "Monetary Theory and Policy in an Open Economy," *Scandinavian Journal of Economics*, 78 (2), 1976.

¹³ *A. Ahnefeld et al.*, "Weltkonjunktur im Abschwung," *Weltwirtschaft*, 1979 (vol. 2), p. 10, No. 23.

but the assumption of equilibrium is not necessary for NUR to hold.¹⁴ This NUR is compatible with any constant inflation rate. Consequently, any attempt to reduce the unemployment rate below that critical level will cause inflation to accelerate and will have only a transitory effect on the unemployment rate, unless inflation continues to accelerate at a higher than expected rate. (By the same token, with any attempt to reduce the rate of inflation, unemployment will have to exceed the NUR for the duration of the effort to lower the inflation rate.)

The stable *Phillips* curve trade-off presumed that the policy trade-off between unemployment and inflation was not affected by past and current monetary and fiscal policies. The NUR hypothesis on the other hand, postulates a fixed relation, "not between economic aggregates and the rate of inflation, but between these aggregates and the difference between the actual rate of inflation and expectations about the rate of inflation."¹⁵

On the macro-economic level, estimates of the loss of aggregate output have to be downscaled with the institutionalized reduction in the number of hours worked and the more recent increased cost of fuel input. The upshot is that 'potential' output has shrunk and with it the deflationary gap.

Lately, the *Phillips* curve discussion received a new twist, when the *International Monetary Fund* recommended that industrial countries reduce the rate of monetary expansion: "Particularly in countries with a margin of unused resources, a reduction in the rate of monetary expansion could — through its impact on expectations — have beneficial effects on inflation without marked effects on employment, although it is admittedly difficult."¹⁶

¹⁴ For NUR being a market-clearing equilibrium rate see e. g., *Edmund S. Phelps*, "Phillips Curves, Expectations of Inflation, and Optimal Unemployment over Time," *Economica*, 34 (1967), 254 - 281, and *Milton Friedman*, "The Role of Monetary Policy," *American Economic Review*, 58 (1968). For the latter view, see *Herschel I. Grossman*, "Rational Expectations, Business Cycles, and Government Behavior," in *Rational Expectations and Economic Policy. A Conference Report*, National Bureau of Economic Research. Chicago: University of Chicago Press, 1980, p. 8.

¹⁵ *Grossman*, "Rational Expectations . . .," loc. cit., pp. 6 - 7.

¹⁶ *International Monetary Fund*, Annual Report 1979, p. 8.

(4) *Demand Versus Supply Policy*

The locomotive hypothesis is couched in an essentially Keynesian framework with the implication that the national and international problems were those of insufficient demand, and that the creation of additional demand in one or more countries of sufficient economic weight would spill over to other countries. But in a world of high unemployment with high inflation rates, the macro-economic policy instruments or macro-economic policy orientation of creating additional demand will not suffice. Demand stimulation would bring down unemployment below NUR in the short run only. The *Bank for International Settlements (BIS)* presents the demand orientation in a more moderate form than certain other international institutions, such as the *Organization for Economic Cooperation and Development (OECD)*, and thus is considerably more cautious in its policy recommendations. Nevertheless, the *BIS* stresses that the main cause for the slow international growth rates was slack on the demand side, stemming from (a) deficits of oil importers vis-à-vis the oil exporting countries, (b) severe balance of payments imbalances among oil importers (ignoring the question of balance of payments constraints under a flexible exchange rate system), and (c) persistent inflationary problems, dating back to the late 'sixties', and being reinforced in the 'seventies'. On the basis of this interpretation of the causes of stagflation, the *BIS* recommended expansionary demand management policies, especially by the countries with external surpluses.¹⁷

The search for a solution to what appears to be a problem of relative recent vintage — international stagflation — has led to greater emphasis of the supply side of the equation.¹⁸

The shift to the supply side economies got its impetus from the singular absence of success to use the *Phillips* curve and from analytical insight into the 'working' of the *Phillips* curve. As demand management resulted in the combination of higher inflation rates combined with higher instead of lower unemployment rates, attention shifted from macro- to micro-economic issues, such as the cost of production, of inputs (labor and raw materials), the reasons for low investment rates

¹⁷ *Bank for International Settlements*, Forty-Eighth Annual Report, Basel, Switzerland, 1978.

¹⁸ *Lawrence R. Klein*, "The Supply Side." Presidential address. *American Economic Review*, 68 (1), March 1978, p. 3.

in the recent past, as well as the possibility of the existence of bottlenecks in some industries — all contributory factors to stagflation.

It may have to be recognized by policy makers in the non-locomotive countries, that past production levels and rates of growth may be misleading as indicators of present potential output and output growth¹⁹ — and with it the 'deflationary gap'. The reason for these changes are to be seen on the supply side, and besides the factors already listed, cost of extended unemployment and wage benefits and various forms of tax increases (e.g., for environmental protection) have been mentioned. In a few passages, the *Bank for International Settlements* notices the existence of shifts on the supply side and speaks of the possibility that capacity output has declined as did its rate of growth in the 1970s when compared to the 1960s.²⁰ Nevertheless, the Bank's recommendations for policy actions resembles the *OECD's* 'convoi approach' and thus aligns itself again with the demand management approach which is based on the assumption that there exists large unused productive capacity.²¹

While the demand shortfall may not have been unrelated to an attempt by deficit and high-inflation countries to reduce or eliminate their imbalances, increases in production costs shifted the aggregate supply curve leftwards and upward; with these developments, the long-run potential output line shifted leftward as well.

The factors that have contributed to the decline in the long run growth potential have been related to a "trend of increasing limitations on property rights" in the form of increased profit taxes, increased government regulations on the operations of business firms. Moreover, the "uncertain and arbitrary political process by which new regulations are imposed" affect negatively the perception of risk and future profitability, and thus, investment decisions.²² Under conditions like these, demand management cannot provide the solution to the stagflation problem.

¹⁹ See *Rasche and Tatom*, "Energy Resources and Potential GNP," Federal Reserve Bank of St. Louis, Review, 59, June 1977, pp. 10 - 24. Quoted by *Ernst Baltensperger*, "The 1978 Annual Report of the Bank for International Settlements: An examination of its economic analysis and policy recommendations." *Journal of Monetary Economics*, 5 (3), July 1979, p. 433.

²⁰ Forty-Eighth Annual Report, 1978, pp. 8 and 153.

²¹ *Ibid.*, pp. 152 - 156. See also *Baltensperger*, loc. cit., pp. 432 - 433.

²² This is based on *Paul De Grauwe*, "The 1978 Annual Report of the Bank for International Settlements: The Economics of International Fine Tuning," *Journal of Monetary Economics*, 5 (3), July 1979, pp. 450 - 452.

The emphasis of the supply side has important implications for the assessment of the locomotive argument. Independent of whether the locomotive argument is tenable on other grounds, once we are on the supply side of the equation, primary responsibility in dealing with the inflation-unemployment problems are squarely back in the domain of the national economic policy makers rather than the responsibility of the strong countries. Moreover, macroeconomic 'fine-tuning' does not seem appropriate any longer and aggregate monetary and/or fiscal policy alone can no longer be relied on, and with it the 'assignment' problem moves backstage. Instead, micro-economic policy comes into its own.

(5) *The Weaker Countries and Stagflation*

One of the reasons why the weaker countries were thought to be unable to initiate expansionary economic policies themselves, was that they were already plagued by excessive inflationary and balance of payments pressures. In this argument it has not become clear, however, why and how the inflationary impact of accelerated domestic expansion would be less pronounced as long as the impulse to increased demand originated abroad. For that to be the case it would have been necessary to demonstrate that the export sector could expand its activity without intensifying inflationary pressures, or, even better, that a more rapidly expanding export sector would have deflationary consequences, while no such tendencies could be expected from accelerated activity in the nontradable goods and import-competing sectors.

Another constraint, not connected with the type of exchange rate regime, is the possibility that 'crowding out' will occur, i.e., that public spending would replace private spending, and that no net increase in domestic absorption would occur. But this argument holds equally for the strong countries, for those who were to perform the locomotive function.²³

²³ Not everyone would agree with that symmetry. *Stützel* did not envision the danger of the crowding out effect for either Germany or Switzerland. According to him the frontiers for deficit financing are far from being reached in these two countries as long as they end up with large balance of payments surpluses. Only deficits in the balance of payments signal that the beneficiaries of the fiscal deficit no longer consider the receipts spent at home better than abroad. Accordingly, England and Italy lacked the leeway which Germany, Switzerland, and Japan had in the mid-1970s. See *Wolfgang Stützel*, "Ober- und Untergrenzen der öffentlichen Verschuldung," *Kredit und Kapital*, 11 (4), 1978, pp. 447 - 448.

The balance of payments implications for the weaker countries, however, were different from the inflationary ones. Expansionary policies by the weaker countries would further the precariousness of their external position, increase the loss of international reserves, which may have been low to begin with. This line of reasoning disregards one of the fundamental differences between a system of fixed (or intermittently pegged) exchange rates and one in which the balance of payments impact can be absorbed by changes in the exchange rates. Under the former system, severe restrictions — especially on capital transactions, but also on merchandise trade — were often introduced as the balance of payments deficit countries lost international reserves to maintain the pegged exchange rates. But a system of freely fluctuating exchange rates would not encounter any reserve losses at all. As a matter of fact, reserve changes are an indicator of the absence of freely floating exchange rates and of the degree of official intervention.

(6) *Exchange Rate Flexibility and Policy Options*

Also overlooked was the potential impact of a floating exchange rate system upon the locomotives themselves and upon their influence on the weaker countries. There seems to be an internal inconsistency in having locomotives attached to a flexible exchange rate system: countries have opted for a system of greater exchange rate flexibility to give the participants in the floating system an additional degree of freedom, i.e., an added policy instrument which would be unfettered by external-account considerations. One can, therefore, reason that the decision to add this tool expresses a social preference function — the other option being to participate in the — then already existing — European Joint Float System. I am not ignoring the fact that we are dealing with an exchange rate system of 'managed' float rather than with one in which exchange rates are left to reflect market forces exclusively. What does matter, however, is that some countries — England, France, and Italy, to mention the major West-European countries only — opted to float independent of the joint float. This loose joint float agreement lasted till March 1979, when the European Monetary System (EMS) came into force.

Exchange rate movements under the floating exchange rate system had increased the external values of the strong countries, thus increasing the foreign-currency prices of their exportables and decreasing the Deutsche Mark (DM), Swiss frank (Sfr.) or yen prices of importables. The

exchange rate movement, in turn, weakened the strong countries' import-competing goods sector. Moreover, the appreciation of their currencies made them less competitive in third markets as well. Even if the monetarist argument is correct and exchange rate movements have no lasting effect on relative prices and employment, but only on price levels, in the short run the outcome is different. Thus, if the strong countries' monetary and fiscal authorities engaged in expansionary policies beyond the range chosen by them in 1976 - 1978, they might have forced the external values of their currencies down and enhanced their international competitive position — at least in the short run. Would this action have won the approval of the weaker countries?

(7) International Capital Mobility

Monetary disturbances and capital movements which would be set into motion by these disturbances were as much as ignored as the locomotive argument concentrated on the real sector. Under conditions in which large scale capital flows are highly interest elastic, and with the existence of a well developed Euro-currency market, the failure to include the monetary sector must be curious — and this not only to 'extreme monetarists'. The assumed framework would not have been much more appropriate for a system of pegged exchange rates, but certainly was not for the international monetary system as it evolved since 1973. The foundation for a smoothly functioning pegged exchange rate system — i.e., one in which no trade nor capital flow barriers are introduced merely to perpetuate a 'fundamental disequilibrium' — is that the central bank renders foreign currency a perfect substitute for domestic currency on the supply side.²⁴ The nominal money supply becomes thus an endogenous variable, which no longer is under the policy control of the central bank. To increase or re-establish monetary control under the pegged-rate system at a time of disequilibrium in the foreign exchange market — when the demand for foreign balances exceeds what the monetary authorities deem desirable or tolerable, and when the central bank is losing internationally acceptable reserves — the supply substitutability is discontinued. Barriers to exchange convertibility are introduced, i.e., some form of non-price rationing to maintain pegged rates.

²⁴ Through its intervention the central bank creates an infinitely elastic supply of foreign currency, i.e., an infinitely elastic demand for the home currency.

On the other hand, it seems that perfectly flexible exchange rates do not guarantee complete independence for monetary policy, where currency substitutability exists.²⁵ Risk of exchange control, of freezing of foreign-held assets or their nationalization reduces the degree of substitutability of foreign for domestic assets. But as long as the positive risk differential does not become prohibitive, capital movements cannot be ignored in policy recommendations.

True, in the short run, where stock analysis of assets is more appropriate than flow analysis²⁶ and under perfectly flexible exchange rates and frictionless markets, portfolio disequilibria (owing to changes in the real money supply or interest rates) would be corrected by exchange rate changes rather than capital flows. But in the longer run, capital flows would take place. Unless capital movements are prohibited, we must expect higher incomes (and thus savings) to increase demand not only for additional domestic but also foreign securities.²⁷

The relative better price performance in Germany and Switzerland made the strong countries' currencies more attractive as a store of value; the DM, moreover, became also an attractive transactions currency. Thus, portfolios included assets in the denomination of those currencies.

(8) *Country Classification*

So far we have adopted the commonly used terms 'strong' and 'weak' countries, as they were categorized by the proponents of the locomotive hypothesis. We now have to evaluate the validity of this country classification. Grave doubts arise with respect to the classification of countries into strong and weak ones according to their external balances, for which the trade or current account balance served as yardstick. But neither the trade balance, which is closely linked to the national income account, nor the current account transactions include capital movements. Little inference can be drawn from the trade or the current account about a country's external position, and certainly not about its

²⁵ *Marc A. Miles*, "Currency Substitution, Flexible Exchange Rates, and Monetary Independence," *American Economic Review*, 68 (3), June 1978, p. 429.

²⁶ This is so because the role of domestically held securities is large relative to the flow demand for changes in that stock. See *John B. Beare*, *Macroeconomics: Cycles, Growth, and Policy in a Monetary Economy*. New York: Macmillan, 1978, pp. 329 f.

²⁷ *Beare*, *ibid.*, pp. 328 f., footnote 23.

relative strength or weakness, either over time or in comparison to other countries, and thus no policy measures ought to be based or suggested by referring to what might turn out to be misleading indicators. Yet trade- or current-account surplus countries have been accused of being 'bad creditors' by restraining domestic demand, thus creating deficits in other countries. Implicit in this judgment is the assumption that surplus is an indication of running one's own economy below productive capacity, so that the size of the surpluses becomes an indicator of the potential output gap. While cyclical variations affect the current account, other determinants, such as secular changes or changes in technology and taste or differences in inflation rates are other determinants; some of these changes create excess capacity, while others have reduced it.

The by now familiar J-curve phenomenon, according to which revaluations and appreciations (devaluations and depreciations) first increase balance of payments surpluses (deficits) further complicates short-run interpretations of balance of payments accounts.

Under a truly flexible exchange rate system, balance of payments disequilibria in the conventional sense do not occur. The *BIS* and other official institutions treat disequilibria in the same fashion as if they had occurred under the pegged rate system of *Bretton Woods*. Thus, the *BIS* concluded that international adjustments for balance of payments deficit countries remained as burdensome under the flexible rate system as it was under the fixed rate system. It disregards the possibility that elimination of disequilibria may disrupt the economies of surplus countries as well, when a currency tends to appreciate too rapidly.

It has been even claimed that there is no reason why a flexible exchange rate regime should make the adjustment in the current account automatic. Such imbalances are part and parcel of a stock adjustment process. They reflect the surplus (deficit) countries' desire to accumulate (decumulate) a particular form of wealth, namely foreign monetary assets, and as such are not, *per se*, something to be condemned or criticized, nor is there a need to eliminate them through government policies.²⁸

As the 'monetarist' interpretation of balance of payments is different from the *Keynesian*, which emphasizes national income, so is the monetarist interpretation of exchange rate determination. Concentration

²⁸ See *Baltensperger*, "The 1978 Annual Report . . .," loc. cit., p. 434.

on current account disequilibria of the balance of payments betrays the attachment to the traditional approach according to which exchange rates are determined by imbalances in the current accounts. Specifically, according to the *Keynesian* interpretation, the sign, magnitude and persistence of current account imbalances point in the direction of over- or undervaluation of a currency. According to the monetarist approach, on the other hand, the current account is only one of the determinants of exchange rates. To the monetarist, exchange rates are determined in the market for assets, denominated in various national currencies. Expectational factors play an important role in the asset distribution and with it in the demand and supply conditions of the various currencies. Current account surpluses or deficits, thus, are endogenous to the adjustment process and are determined jointly with the exchange rate.

Official balance of payments interpretations have generally paid no attention to these interactions between the various subaccounts of the balance of payments. In contrast to the 1940s and 1950s, when the capital account was assumed to accommodate the current account, the modern version (e.g., *Kouri, Mussa*) assumes that the current account adjusts over time to the exchange rate which is determined in the asset market. We have "a recursive interaction over time between exchange rates, balance of payments, and net financial wealth" which are also influenced by exchange rate expectations.²⁹

Current account imbalances in this view do not 'cause' exchange rate movements, and they may not be linked to each other in a "unique and unambiguous way."³⁰ If this is the case, then current account surpluses no longer are evidence of undervalued currencies. On the political plane two sets of charges, which were inconsistent with each other, have been levelled at the strong countries: they have been accused of maintaining undervalued currencies — running current account surpluses. Then, as their currencies appreciated, they were said to drive the price of their currencies up artificially in order to get on the 'virtuous' circle.

In 1965, the *Bernstein* Committee had warned that no single balance of payments measure should be used alone to assess a country's international strength. This judgment was later reaffirmed by the Advisory

²⁹ *Assar Lindbeck*, "Approaches to Exchange Rate Analysis — An Introduction," *Scandinavian Journal of Economics*, 78 (2) 1976, p. 142.

³⁰ *Baltensperger*, "The 1978 Annual Report . . .," loc. cit., pp. 439 - 440.

Committee on the Presentation of Balance of Payments Statistics, which consequently recommended the abolition of reporting subaccounts.³¹

Furthermore, the trade balance only reflects the value, not the volume of trade, and this fact plays an important role for assessing countries under a system of flexible exchange rates. Between 1977 and 1978 trade surpluses of Germany rose, though the volume of imports into Germany increased, too, and exports fell significantly. It was the terms of trade effect which swamped what otherwise would have amounted to a deterioration in the trade balance.

Some other fundamental questions regarding balance of payments interpretation and analysis can be raised in connection with national economic policy objectives. It can be argued that in the ranking of priorities of macroeconomic goals — price stability, full employment, satisfactory growth rate, and balance of payments equilibrium — the external equilibrium goal hardly ever ranks on top, nor would it be considered an independent goal, independent of other countries' actions. Rather, it is the result of the pursuit of other policy objectives of the country under investigation as well as of 'the rest of the world.' As such, it is not the balance of payments or exchange rate movements *per se* which manifest social preference functions, but the balance of payments is the residual, as it were, of all the other objectives in interdependent and interacting economies. Since the balance of payments reflects the totality and interaction of all the decisions which are made by the nationals and their governments, it is well nigh impossible to prevent policy actions and reactions from aiming at goals which are irreconcilable. To smoothen things, exchange rate flexibility provides a better framework than the *Bretton Woods* system would have.

We must conclude that building a case on spurious balance of payments interpretation is a poor starting point for assessing countries' relative strengths and for the locomotive argument.

³¹ See the Report of the Review Committee for Balance of Payments Statistics to the Bureau of the Budget (*Bernstein* Committee), *The Balance of Payments Statistics of the United States: A Review and Appraisal*, April 1965; and the "Report of the Advisory Committee on the Presentation of Balance of Payments Statistics," in the *Statistical Reporter*, Washington: Office of Management and Budget, June 1976. Consult further *Robert M. Stern et al., The Presentation of the U.S. Balance of Payments: A Symposium. Essays in International Finance*, No. 123, August 1977. Princeton, N. J.: International Finance Section, Princeton University.

III. Conclusion

Upon closer inspection of the more important arguments of the locomotive hypothesis, which were designed to induce the stronger countries to expand their activities for their own as well as the weaker countries' benefit, we find that all of them show weaknesses or inconsistencies or both. The countries of whom greater assistance was expected did not point to these aspects; rather they took refuge in stressing their own internal constraints on both economic and political grounds.³²

With the locomotive road to rekindling economic activity on an international scale as good as closed, international economic policy coordination presents itself as a viable alternative. Coordination would have to consist of mutually agreed upon and consistent economic policy actions. Countries may have to opt for shock treatment with shorter time lags rather than for gradualism with longer time lags until the adjustments work themselves through. While such a policy choice is likely to be resisted by some countries, it would contain the following major advantages: it would increase credibility of the seriousness of the policy makers.

Moreover, practical men and the foreign exchange markets have a short rather than a long time horizon. Thus, to reduce the excessive currency fluctuations with the concomitant loss in social welfare, fast-acting policy intervention is preferable to gradualism.

We have experienced in the past that gradualism works very slowly, even imperceptibly — at least in the beginning. Thus, the determination of policy makers may be doubted at home and abroad. The credibility of policy actions and the willingness and ability of policy makers to persevere, when policy measures are unpopular, may be questioned, especially as the political cycle approaches election time. At such time, unpopular but necessary actions may be abandoned or even supplanted by opposite policies.

Simultaneously, the temptation of shifting into other countries the responsibility for proper policy actions or one's own lack of success

³² See *Hugo M. Kaufmann*, "Germany's Option to be a Mini-Locomotive: A Reassessment of 1977," *Economia Internazionale*, 31 (3-4), August-November 1978, pp. 196-211; and "From the 'Locomotive Hypothesis' to 'Concerted Action' — The Metamorphosis of an Idea," *Economia Internazionale*, 32 (2-3), May-August 1979, pp. 267-282.

in the adjustment process would be heightened. We would then be back at the 'locomotive' argument with its limitations and doubtful relevance.

Zusammenfassung

Die Internationale Stagflation und die „Lokomotiv-Hypothese“

Der 1978 - 1979 stattgefundenen zweite „Ölschock“ gab uns die Möglichkeit, die wirtschaftlichen Folgen des 1973 - 1974 erfolgten ersten Ölschocks erneut durchzuspielen, wenn auch eine Vorhersage der genauen Auswirkungen der zweiten Ölpreiserhöhung oder der dadurch hervorgerufenen Reaktionen unmöglich war.

Daher ist es von Interesse, die am Anfang der von der Angebotsseite ausgelösten Erschütterungen in den großen westlichen Industrieländern (einschließlich Japan) herrschenden konjunkturellen Verhältnisse zu vergleichen, sowie die politische Kurse und politischen Fehler zu analysieren, die der erste Schock nach sich zog. Unter den als Richtlinien für eine Lösungsfindung dienenden irrtümlichen Vorstellungen stand an erster Stelle die „Lokomotiv-Hypothese“, wonach die als „stark“ bezeichneten Staaten sowohl die eigenen wirtschaftlichen Probleme als auch die der schwächeren Staaten dadurch lösen sollten, daß sie eine expansionistische binnenwirtschaftliche Politik verfolgen. Es wurde behauptet, daß eine in den „starken“ Staaten betriebene expansionistische Politik kaum zu einer zusätzlichen Inflation führen würde, da auch sie — und nicht nur die schwachen Staaten — mit einer Kapazitätsauslastung arbeiteten, die erheblich unter dem Maximum lag.

Nach Hervorhebung der Hauptthesen der Lokomotiv-Hypothese, stellt dieser Beitrag die Gültigkeit ihrer theoretischen Grundlagen in Frage.

Die theoretische Grundlage des „Lokomotiven-Arguments“ basierte auf *Keynes'schen* Überlegungen und auf dem Vertrauen in die volkswirtschaftliche Feinsteuerung. Der Beitrag untersucht, ob angesichts der Entwicklungen in der realen Welt und auf Grund der Wirtschaftstheorie diese Prämissen gerechtfertigt waren. Was geschah mit der Wirksamkeit von Wirtschaftspolitik bei unterschiedlichen Wechselkurssystemen, mit der Geldillusion, mit der Substitution zwischen Arbeitslosigkeit und Inflation, mit Schätzungen der unausgenutzten Produktionskapazitäten, und mit der Bevorzugung einer Nachfragebelebung statt einer Angebotsstimulierung? Die Feststellung, ob die Nachfrage oder das Angebot angeregt werden müßte, beeinflußt die Erwartungen, die in nationale und internationale politische Entscheidungen gesetzt werden.

Das Lokomotiven-Argument schenkte im Rahmen eines flexiblen Wechselkurssystems dem Einfluß von Wechselkurseffekten auf nationale Politiken, Kapitalbewegungen und auf die internationalen Auswirkungen von nationalen Politiken zu wenig Aufmerksamkeit. Die Basis für die Einstufung in schwache und starke Länder ist fragwürdig und eine Klassifizierung wird durch das J-Kurven-Phänomen noch mehr kompliziert. Unausgeglichenere

Leistungsbilanzen müssen vielmehr im Lichte von Bestandsänderungen betrachtet werden. Ferner können Wechselkurse und Zahlungsbilanzen nicht nur in einer Richtung ermittelt werden — eine Tatsache, die bei der Interpretation von Zahlungsbilanzen zu leicht vernachlässigt wird.

Summary

International Stagflation and the 'Locomotive Hypothesis'

The second 'oil shock' of 1978 - 1979 made a replay of the economic consequences of the first oil shock of 1973 - 1974 possible, even though it was not possible to predict the exact impact of and reactions to the second oil price hike.

It is thus of interest to compare the cyclical conditions of the major Western industrialized countries (plus Japan) at the beginning of the supply shocks and to analyse policies and policy mistakes in the wake of the first external shock. Foremost among the mistaken ideas, which served as guidance to a solution was the 'locomotive argument' according to which countries, which were designated as 'strong' countries, were expected to solve their own and the weaker countries' economic woes by engaging in expansionary domestic economic policies. It was argued that expansionary policies in the former group of countries would hardly lead to additional inflation, since, they too, not only the weak countries, operated substantially below capacity levels.

After having highlighted the main features of the locomotive argument, this study questions the validity of the theoretical underpinnings of that hypothesis.

The theoretical basis of the 'locomotive argument' was *Keynesian* and confidence in fine-tuning economies prevailed. The study investigates whether the premises were justified in light of developments in the real world and economic theories. What happened to the effectiveness of economic policy under different exchange rate regimes, to money illusion, to the unemployment-inflation trade-off, to estimations of unused productive capacity, and to the emphasis on demand rather than supply creation? The determination of whether demand or supply ought to be stimulated has implications on what can be expected to evolve from national and international policy decisions.

The locomotive argument paid too little attention to the implications of the flexible exchange rate system upon exchange rate effects of domestic policies, capital movements, and the international transmission of domestic economic policies. The basis for country classification into weak and strong ones is of dubious validity, and the J-curve phenomenon further complicates categorization. Current account imbalances may have to be seen in light of stock adjustments. Moreover, exchange-rate and current-account determination are not unidirectional — a fact too easily ignored in balance of payments interpretations.

Résumé

La stagflation internationale et l'“hypothèse des locomotives”

Fut-il impossible d'en prévoir les effets précis ou les réactions engendrées, le deuxième choc pétrolier des années 1978 - 1979 nous a permis d'observer à nouveau les conséquences économiques du premier choc des années 1973 - 1974.

Il était donc intéressant de comparer les situations conjoncturelles des grands pays industrialisés occidentaux (Japon inclus) au début des bouleversements provoqués du côté de l'offre et d'analyser les orientations et les erreurs politiques qu'entraîna le premier choc.

Parmi les erreurs de conception au service de la recherche de solutions, l'on rangera en première place l'“hypothèse des locomotives” qui voulait que les Etats qualifiés de “forts” résolvent leurs problèmes économiques propres et ceux des Etats faibles en pratiquant une politique intérieure expansionniste. Et l'on a prétendu que pareille politique de croissance des Etats forts ne produirait pas un surcroît d'inflation, car ces Etats aussi — et pas seulement les Etats faibles — travaillaient largement en-des-sous de leurs capacités d'utilisation de l'outil.

Après avoir mis l'accent sur les thèses principales de l'hypothèse des locomotives, l'auteur s'interroge sur la validité de leurs fondements théoriques.

La base théorique de l'“argument des locomotives” repose sur les idées de *Keynes* et sur la foi en une conduite de précision de l'économie. L'étude examine la justesse de ces prémisses en se fondant sur les développements du monde réel et sur la théorie économique. Qu'en fut-il de l'efficacité de la politique économique sous la coupe de systèmes différents de taux de change, de l'illusion monétaire, de la substitution entre chômage et inflation, des estimations des capacités de production inexploitées, et de la préférence accordée à la relance de la demande sur la stimulation de l'offre? La constatation que la demande ou l'offre doit être stimulée influence les anticipations placées dans les décisions politiques nationales et internationales.

Dans un régime de taux de change variables, l'argument des locomotives octroie trop peu d'attention à l'influence des effets des cours de change sur les politiques nationales, les mouvements de capitaux et les répercussions internationales des politiques nationales.

La base de la classification en pays forts et faibles est problématique, et le phénomène des courbes *y* complique encore la classification. Les déséquilibres des balances des opérations courantes doivent plutôt être examinés dans l'optique d'un redressement des mouvements. Au surplus, les investigations sur les taux de change et les balances de paiements ne peuvent s'opérer dans une seule direction, circonstance trop souvent négligée dans l'interprétation des balances de paiements.