ISSN 0265-8003

EXCHANGE RATE POLICY, INFLATION AND UNEMPLOYMENT: THE EXPERIENCE OF THE NORDIC EFTA COUNTRIES

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Discussion Paper No. 377
February 1990

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CEPR Discussion Paper No. 377

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ABSTRACT

Exchange Rate Policy, Inflation and Unemployment: The Experience of the Nordic EFTA Countries*

This paper reviews the exchange rate policy experience of the Nordic EFTA countries (Finland, Iceland, Norway and Sweden) since the early 1970s, and then attempts to weigh the principal pros and cons of these and alternative arrangements from the Nordic point of view. The paper also tries to evaluate macroeconomic performance in these countries since the early 1970s in view of the exchange rate policies and other policies that have been followed, with special emphasis on their devaluation record during 1976-82 and the credibility of current policies. In particular, the Nordic EFTA countries have experienced considerably less unemployment (as intended) at the cost of more inflation and, to a lesser extent, a weaker external position than other industrial countries on average in recent years. The paper concludes with a brief discussion of the implications of current developments in the EC as 1992 approaches for the viability of existing exchange rate policies in the Nordic EFTA countries and other options.

JEL classification: 431
Keywords: exchange rates, devaluation, Nordic countries

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*This paper was prepared for a seminar on 'Exchange Rate Policy in Selected Industrial Countries', co-sponsored by Macquarie University, Katholieke Universiteit Leuven and the International Monetary Fund, and held in Brussels on 12-14 October 1989. This paper is produced as part of a CEPR research programme on International Macroeconomics, supported by grants from the Ford Foundation (no. 890-0404) and the Alfred P Sloan Foundation (no. 88-4-23), whose help is gratefully acknowledged.

Submitted January 1990.

NON-TECHNICAL SUMMARY

Since the early 1970s, the governments of the Nordic member countries of EFTA (Finland, Iceland, Norway and Sweden) have followed a policy of essentially fixed exchange rates. Their declared purpose has been to stabilize foreign trade, on which they are so heavily dependent, and more recently, to restrain inflation. They have decided against free floating mainly out of fear for the potentially destabilizing effects of excessive volatility of exchange rates on trade, investment and employment, as well as on inflation. Thus far, they have also decided against participation in the EMS or other international exchange rate arrangements, primarily in an endeavour to preserve the ultimate independence of their monetary and fiscal policies and their freedom of choice of macroeconomic objectives.

Instead, they have chosen to peg the exchange rates of their currencies individually to different trade-weighted or payments-weighted baskets of foreign currencies. Indeed, they have reserved and periodically exercised the right to devalue (or revalue) their currencies unilaterally, usually in order to enhance or restore external competitiveness when domestic wage increases have jeopardized their market shares abroad. At the same time, they have maintained a fairly restrictive regime of foreign exchange control of capital transactions which, however, has recently been significantly relaxed in Finland, Norway and Sweden. Partly as a result of this common strategy, it is argued in this paper, the Nordic EFTA countries have experienced considerably less unemployment at the cost of more inflation and, to a lesser extent, a weaker external position than other industrial countries on average in recent years.

This paper reviews the exchange rate policy experience of the Nordic EFTA countries since the early 1970s. The paper briefly describes the main features of the national economies of the Nordic EFTA countries in an international perspective and their exchange rate arrangements in particular. The numbers suggest that the Nordic group has been able to combine less unemployment with more inflation and larger current account deficits than other OECD member countries over a period of almost two decades without much effect on Okun's misery index and without inflation or external debt getting out of hand. This outcome may substantially be the intended result of judicious monetary, fiscal, exchange rate and incomes policies, even though some serious problems of insufficient domestic policy coordination as well as structural maladjustment in particular areas remain unresolved.

The paper then attempts to weigh the principal pros and cons of current exchange rate arrangements from the Nordic standpoint. In view of the persistent inflation problem in the Nordic EFTA countries, fixed exchange rates have several

desirable properties. They contribute to overall price stability, both directly by containing import prices and indirectly by necessitating strict monetary and fiscal discipline. They also partially absolve the government of direct responsibility for the macroeconomic consequences of wage negotiations among labour unions and employer associations. Their realization of their own responsibility for their actions is meant to ensure moderate wage and price inflation domestically, in keeping with the development of labour productivity and world market prices of exports, so as not to endanger employment at home. Problems arise, however, as soon as wage costs outpace the ability of firms to pay, given the government's commitment to fixed exchange rates. If the authorities strive to contain labour costs by insisting that devaluation is out of the question, should they execute the threat if wages rise excessively nevertheless? That is an old problem. It is especially difficult in the Nordic countries, where the organization of labour unions along occupational as well as industry lines rather than firm by firm (as, for example, in Switzerland and Japan) permits wage increases negotiated by one group of workers to threaten the jobs of other groups as well. Under such circumstances the pressure on the government to accommodate the wage increases tends to be particularly strong and difficult to resist. This has been an important element of the wage/exchange rate spiral observed in Finland and also to some extent in Norway and Sweden during 1977-82, and especially in Iceland ever since the late 1960s at least.

The paper also tries to evaluate macroeconomic performance in these countries since the early 1970s in view of the exchange rate policies and other policies that have been followed, with special emphasis on their devaluation record during 1976-82 and the credibility of current policies. It is argued that, by and large, the devaluation strategy appears to have met with some success in all three countries. In each country, each round of devaluation was followed by a significant improvement of the current account position, for a time at least. This general pattern is confirmed for the short to medium term by econometric simulation studies of the effects of devaluation in these countries. There was a general strengthening of the current account in the short to medium term, without a substantial increase in unemployment, in the wake of the devaluations in Finland, Norway and Sweden during 1976-82. This suggests that trade flows responded favourably to relative price changes and that the intended effects of the devaluations on the current account were not eroded by accommodative monetary expansion or wage inflation, at least not immediately. This impression is supported by econometric evidence of substantial relative price elasticities of exports and imports in all three countries, and also in Iceland, as well as by the results of numerical simulations of simple analytical models of the macroeconomic effects of devaluation.

But while the exchange rate policy strategy of the Nordic EFTA countries seems to have worked reasonably well so far, its very success in the past may carry the

seeds of its own destruction. The problem has to do with reputation and credibility. Repeated devaluation of the currency may signal to employers and wage earners that excessive wage increases are unlikely to jeopardize profitability, export revenues or employment because the government will devalue again if pressed. Under these circumstances, a government commitment to a fixed exchange rate may not be credible. Demands for devaluation may prove increasingly difficult to resist with the resulting inflation triggering new demands for devaluation after a while, and so on. This is the driving force behind the Finnish devaluation cycle.

The paper concludes with a brief discussion of the implications of current developments in the EC as 1992 approaches for the viability of existing exchange rate policies in the Nordic EFTA countries and other options.

EXCHANGE RATE POLICY, INFLATION, AND UNEMPLOYMENT: THE EXPERIENCE OF THE NORDIC EFTA COUNTRIES

I. Introduction

Since the breakdown of the Bretton Woods system in 1971 and the subsequent Smithsonian agreement in 1973, the governments of the Nordic member countries of EFTA (Finland, Iceland, Norway, and Sweden) have followed a policy of essentially fixed exchange rates for the declared purpose of stabilizing foreign trade on which they are so heavily dependent and also, more recently, of restraining inflation. They have decided against free floating mainly out of fear for the potentially destabilizing effects of excessive volatility of exchange rates on trade, investment, and employment as well as on inflation. Thus far, they have also decided against participation in the EMS or other international exchange rate arrangements primarily in an endeavor to preserve the ultimate independence of their monetary and fiscal policies and their freedom of choice of macroeconomic objectives. Instead, they have chosen to peg the exchange rates of their currencies individually to different trade-weighted or payments-weighted baskets of foreign currencies. Indeed, they have reserved and periodically exercised the right to devalue (or revalue) their currencies unilaterally, usually in order to enhance or restore external competitiveness when domestic wage increases have jeopardized their market shares abroad, while at the same time maintaining a fairly restrictive regime of foreign exchange control of capital transactions which, however, has recently been relaxed to a sustantial degree in Finland, Norway, and Sweden. Partly as a result of this common strategy, it is argued in this paper, the Nordic EFTA countries have experienced considerably less unemployment at the cost of

more inflation and, to a lesser extent, a weaker external position than other industrial countries on average in recent years.

This paper reviews the exchange rate policy experience of the Nordic EFTA countries since the early 1970s.[2] The paper briefly describes the main features of the national economies of the Nordic EFTA countries in an international perspective and their exchange rate arrangements in particular (Section II), and then attempts to weigh the principal pros and cons of these and alternative arrangements from the Nordic point of view (Section III). The paper also tries to evaluate macroeconomic performance in these countries since the early 1970s in view of the exchange rate policies and other policies that have been followed, with special emphasis on their devaluation record during 1976-82 and the credibility of current policies (Section IV). The paper concludes with a brief discussion of the implications of current developments in the EC as 1992 approaches for the viability of unchanged exchange rate policies in the Nordic EFTA countries and other options (Section V).

II. The Nordic EFTA economies in a nutshell

In the world community of nations, the Nordic EFTA countries are but a small entity. Their total population is less than 18 million. Even with Denmark (as well as the Faroe Islands and Greenland) included, the Nordic countries are inhabited by fewer than 23 million people in total, and thus are less populous than California or Romania.

a. Overview

The combined gross domestic product of Finland, Iceland, Norway, and Sweden amounted to less than 3 per cent of the total for the industrial

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[2] The experience of the other two members of EFTA, Austria and Switzerland, is reviewed in the paper prepared for the seminar by Hans Genberg, whereas Denmark is dealt with in the paper by Paul de Grauwe.

OECD countries as a whole in 1987 (Table 1, column 1). But their income per head is high by international standards: their average GDP per capita was 27 per cent above the OECD average in 1987 compared with 12 per cent in 1970, indicating a slightly higher than average rate of growth of GDP per capita in the Nordic group since 1970 (columns 2 and 3). The dependence of the Nordic EFTA countries on international trade is also greater than that of the industrial countries in general. The sum of exports and imports of goods and services accounted for 64 per cent of GNP in the Nordic EFTA countries on average in 1987 compared with 46 per cent in the OECD countries as a whole (column 4). Also, the public sector is larger and the tax burden is heavier in the Nordic countries, especially in Norway and Sweden, than elsewhere in the OECD area on average: total government expenditures and current tax receipts accounted for 53 per cent and 54 per cent, respectively, of GNP in the Nordic EFTA countries on average in 1987 compared with 41 per cent and 37 per cent for the OECD as a whole (columns 5 and 6). Finally, the Nordic countries have been more prone to inflation than other OECD countries in recent times, with consumer prices rising by 8 to 9 per cent a year on average in Finland, Norway, and Sweden during 1970-88 compared with 7 per cent on average in the OECD countries (column 7).[3] On the other hand, open unemployment has been considerably lower in the Nordic group than in the OECD area in general, or 2.5 per cent of the labor force on average during 1970-88 compared with 6 per cent for the OECD as a whole (column 8), while current account deficits have been consideraby higher relative to GNP in the Nordic countries than in the OECD region as a whole (column 9). It needs to be stressed, however,

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[3] With annual average inflation of 35 per cent during this period, Iceland is an outlier in the sample, and is excluded from these averages.

that open unemployment in Sweden in particular has been artificially low because of the relatively large number of workers employed directly by the government; recently, about 4 per cent of the Swedish labor force were occupied through various public employment schemes.

TABLE 1 HERE

In sum, these numbers appear to indicate that the Nordic group has been able to combine less unemployment with more inflation and larger current account deficits than other OECD member countries over a period of almost two decades without much effect on Okun's misery index and without inflation or external debt getting out of hand. It will be suggested below that this outcome may to an important extent be the intended result of judicious monetary, fiscal, exchange rate, and incomes policies, even though some serious problems of insufficient domestic policy coordination as well as structural maladjustment in some areas remain unresolved.

b. *Exchange rate practices*

Following the breakdown of the Bretton Woods system in 1971, the Nordic EFTA countries adopted similar exchange rate policy strategies. Norway and Sweden joined the European snake arrangement in 1972 and 1973, respectively, thus effectively tying their currencies within narrow margins to those of the EEC where the German mark played a dominant role. As time passed, however, the restrictiveness of German monetary policy aimed at restraining inflation in Germany and perhaps elsewhere as well came to be regarded as incompatible with the overriding objective of high employment in Norway and Sweden, prompting them to leave the snake in 1978 and 1977, respectively, and to peg their currencies instead to their own baskets of foreign currencies, a policy that they have followed since. The Bank of Finland made internal use of

a foreign currency basket already in 1972. However, the Finnish mark was officially tied to gold until 1977 as required by law, but in the wake of a change in the currency law that year the mark was pegged to the currency basket, and still is. Iceland, which unlike the other three countries is currently classified by the IMF under managed floating, determined the exchange rate of the Icelandic krona with reference to the US dollar from 1973 to 1978, and then adopted a foreign currency basket with respect to which the krona has been devalued many times since primarily in order to prevent the profitability of the export industries from being unduly eroded by inflation. Denmark, on the other hand, left EFTA to join the EEC and hence also the snake in 1972, and subsequently entered the EMS at its inception in 1979.

The Nordic EFTA countries have composed their foreign currency baskets in roughly the same way, which is not surprising in view of their shared goal of stabilizing real exchange rates and thus external trade and production.[4] Finland has used bilateral trade weights reflecting all currencies accounting for more than 1 per cent of her foreign trade. Since 1984, however, nonconvertible currencies, the Soviet ruble in particular, have been excluded from the Finnish basket. Moreover, a fixed base year was replaced by a sliding reference period, geometric averages were substituted for arithmetic ones, and the Bank of Finland began publishing the composition of the basket daily. Currently, the exchange rate of the Finnish mark must be kept within margins of 6 per cent of the basket index.

Norway initially adopted a similar system of bilateral export trade weights except the US dollar was assigned a heavier weight (25 per cent)

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[4] See John Williamson (1982), "A survey of the literature on the optimal peg", Journal of Development Economics 11, August, pp. 39-61.

sterling and 15.4 for the US dollar during 1978-88, for example. The fluctuations of the real effective exchange rates of all four Nordic EFTA currencies would have been considerably larger had they been pegged to either, say, the US dollar or the German mark during this period, other things being equal. For comparison, the real effective MERM rate of the Danish krona remained within 9 per cent of its average during 1980-88, with a standard deviation of 6.4. Hence, EMS membership notwithstanding, the Danish krona has been about as stable in real terms as the four Nordic EFTA currencies on average in the 1980s.

FIGURE 1 HERE

It is interesting to note that the three Scandinavian currencies: the Danish krona, the Norwegian krona, and the Swedish krona, now have by and large the same value vis-a-vis other currencies as was also the case under the Scandinavian Currency Union before the first world war as well as under the reinstated gold standard of the late 1920s. The exchange rates among the three currencies have thus remained essentially unchanged for more than a century despite quite different economic conditions in many respects--Sweden being neutral and unoccupied during the second world war, Norway being an oil exporter, and Denmark being tightly connected with the European continent through EC membership since 1972. Following substantial devaluation of the Finnish mark and the Icelandic krona in the late 1950s and mid-1960s, Finland has followed a similar path as the Scandinavian countries with the mark developing roughly in parallel with their currencies since the late 1960s. Iceland, on the other hand, has failed to break the persistent inflation spiral for various reasons, with consumer prices rising by 35 per cent a year on average during 1970-88 compared with an annual average of 9 per cent in the other four Nordic countries. The nominal

effective MERM exchange rate of the Icelandic krona fell by 98 per cent during 1970-88, whereas the corresponding nominal rates of the Norwegian, Swedish, and Finnish currencies fell by 12 per cent, 25 per cent, and 20 per cent, respectively, during the same period (Figure 2). Over the last decade, however, the Finnish mark has been by far the strongest of these currencies.

FIGURE 2 HERE

III. The pros and cons of the Nordic strategy

According to the conventional view that is largely derived from the original Mundell-Fleming model and its more recent extensions,[5] the optimal choice between fixed and floating exchange rates for a small open economy should depend to some extent at least--and in a complicated way--on various structural characteristics of the economy in question, including the degree of financial capital mobility and real wage flexibility as well as the nature or origin of the exogenous disturbances to which the economy is primarily exposed and possibly also the relative political or administrative feasibility of monetary and fiscal policy actions. This is not a simple matter, however, because both the insulation properties of different exchange rate systems and the relative efficacy of monetary and fiscal policies within different systems have proved to be less robust with respect to underlying assumptions than was thought initially, as demonstrated by Argy among

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[5] See Robert Mundell (1963), "Capital mobility and stabilization policy under fixed and flexible exchange rates", Canadian Journal of Economics 29, November, pp. 475-485; John Fleming (1962), "Domestic financial policies under fixed and under floating exchange rates", IMF Staff Papers 9, November, pp. 369-379; and Richard Marston (1985), "Stabilization policies in open economies", in Ronald Jones and Peter Kenen (eds.), Handbook of International Economics, Vol. 2, North-Holland, pp. 859-916.

others.[6] More importantly, perhaps, it is not necessarily very useful to think of the optimal choice of an exchange rate regime as being made on the basis of, say, the prevailing extent of capital mobility and so on rather than the other way around, because both the exchange rate arrangement and the exchange control regime are policy parameters that can be determined simultaneously by the government in view of external shocks and other truly exogenous phenomena over which the government has no direct control. Moreover, in the Nordic countries and elsewhere in Europe where incomes policies have been resorted to time and again over the years in an attempt to stem the escalation of wages in centralized bargaining among labor unions and employer associations and where wage indexation has occasionally been written into law or abolished by law, the degree of wage flexibility is also to some extent a policy parameter, further complicating the optimal choice of an exchange rate regime. In view of all this complexity, the choice of an exchange rate system generally has tended to be made on pragmatic grounds in practice rather than on the basis of explicit optimality considerations.

a. How others choose

But even though there exists no generally valid principle based on which one can judge once and for all how small open economies such as the Nordic ones should determine the exchange rates of their currencies, it can be useful to ascertain how other nations have chosen between fixed and flexible rates and among alternative ways of fixing or floating over the years. According to Heller, who used discriminant analysis to study the determinants of exchange rate practices, fixed exchange rates have typically been favored by (a) small countries (i.e.,

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[6] See Victor Argy (1986), "Exchange rate policy for a small open economy", Seminar Paper No. 369, Institute for International Economic Studies, University of Stockholm, October.

countries with low incomes, albeit not necessarily low incomes per capita); (b) countries that are heavily dependent on foreign trade; (c) countries with relatively low inflation; (d) countries with limited capital mobility; and (e) countries with relatively few trading partners.[7] Thus, with the exception of the low inflation criterion, the Nordic countries are typical fixed exchange rate countries according to this classification, whereas the US and Japan are typical floaters. There is no evidence, however, of a link between the revealed preference of policy makers for an exchange rate regime and the nature or origin of the exogenous shocks that impinge on the economy in question as might have been expected based on the somewhat different insulation properties of fixed and floating exchange rates. For the record, one third of the roughly 150 member countries of the IMF operates a floating exchange rate system, while two thirds have opted for fixed exchange rates, with the floating exchange rate group approximately evenly divided between pure and managed floating and the fixed exchange rate group also almost evenly divided between pegging to a single currency and to a currency basket, including the SDR.[8]

In this connection, it is interesting to note that several developing countries have moved in recent years from fixed to flexible exchange rates in close consultation with the IMF in an attempt to reduce balance of payments deficits, foreign debt accumulation, and black market trade, but then it needs to be kept in mind that inflation

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[7] See Robert Heller (1978), "Determinants of exchange rate practices", Journal of Money, Credit, and Banking 10, August, pp. 308-321.

[8] See the Annual Report of the IMF, 1987.

has not been a serious problem in most of these countries.[9] Even though financial markets are underdeveloped in most of them, the experience thus far seems to indicate that flexible rates can suit these countries fairly well, provided that the floating rate policy is accompanied by appropriate and credible fiscal and monetary restraint as well as by wage moderation and adequate efficency in production. A floating exchange rate regime cannot, of course, be viewed as a substitute for responsible aggregate demand management or necessary structural adjustment.

b. The Nordic strategy

A pragmatic choice between fixed and floating exchange rates cannot be made in a vaccuum or once and for all, but must almost by definition depend on prevailing circumstances to some extent, in the Nordic EFTA countries and elsewhere. When inflation is a serious concern--as it is now, for example, in Iceland and also to some extent in Finland, Norway, and Sweden--a fixed exchange rate regime is generally a prerequisite for lasting success in the battle against the inflation unless there is scope for very substantial monetary, fiscal, and wage restraint. This has been a major consideration in the Nordic EFTA countries' decision to fix the exchange rates of their currencies. No nation has succeeded in eliminating substantial inflation without a fixed exchange rate.[10]

But if, say, a radical structural change toward liberalization of foreign trade is the government's main objective of economic policy, as was the case in Iceland after 1960, then a floating exchange rate or a

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[9] See "Floating exchange rates in developing countries", Occasional Paper No. 53, International Monetary Fund, Washington, DC, May 1987.

[10] See Rudiger Dornbusch and Stanley Fischer (1986), "Stopping hyperinflations past and present", Weltwirtschaftliches Archiv 122, No. 1, pp. 1-47. In particular, see table 17, pp. 41-42.

substantial devaluation, once or more often, can make a significant contribution to the success of the strategy by reducing pressures on the government to revert to import controls and multiple currency practices in order to strengthen the balance of payments position at a later stage, even though such a liberalization strategy generally entails increased inflation for a while at least if not accompanied by sufficient domestic demand restraint. This problem is akin to that currently confronting some of the economies of Eastern Europe where sudden liberalization of domestic markets under conditions of suppressed inflation and severe macroeconomic imbalance must inevitably bring the inflation into the open. In either case, successful liberalization must be accompanied by necessary macroeconomic and structural reforms in order to keep inflation under control. In the Nordic EFTA countries in particular, substantial fiscal reform including increased efficiency in the public sector in order to remove an important underlying source of inflation would be a prerequisite for the adoption of a more flexible exchange rate regime. Indeed, floating exchange rates (or repeated adjustment of fixed rates) may be deemed necessary if inflation is considered to be beyond control, as is the case presently in some Latin American countries (but not in the Nordic countries!), or if the authorities consider it desirable or necessary for some reason to accept more inflation at home than abroad, as may be said with some justification to apply to some or all of the Nordic EFTA countries under review. This line of argument, it should be added, is not necessarily contradicted by the view that fixed rules, laws, or even constitutional clauses are needed to prevent excessive and ultimately harmful application of economic policy instruments and to restrain inflation in

the long run, because the money supply can in principle serve as the economy's nominal anchor under a floating exchange rate regime.

c. Benefits and costs

In view of the various and well known advantages and disadvantages of fixed and floating exchange rates, it is not surprising that different nations have chosen one system or the other or something in between or changed from one system to the other over the years.[11] Fixed exchange rates under the Bretton Woods system probably contributed to price stability and steady growth in the world economy during 1945-71 as intended. On the other hand, flexible exchange rates of the currencies of the major industrial countries since 1973 seem likely to have had something to do with the increase in world inflation following the oil shocks of 1973-74 and 1979-81, even though such a relationship has not been conclusively established by statistical research.[12] This supposition, of course, was an important catalyst to the establishment of the EMS in 1979. Thereafter, inflation in EMS countries declined from a peak of 11 per cent on average in 1980 to an average of 2 per cent in 1988, while unemployment rose from 5 per cent to 10 per cent of the labor force in these countries. These developments have been attributed in part to the existence of the EMS by many observers,

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[11] See Jacques Artus and John Young (1979), "Fixed and flexible exchange rates: A renewal of the debate", IMF Staff Papers 26, December, pp. 654-698.

[12] See Morris Goldstein (1980), "Have flexible exchange rates handicapped macroeconomic policy?", Special Papers in International Economics No. 14, International Finance Section, Princeton University, June.

although econometric studies thus far have been inconclusive on this point.[13]

From the point of view of the Nordic EFTA countries, fixed exchange rates have the desirable property that they not only contribute to overall price stability both directly by containing import prices and indirectly by necessitating strict monetary and fiscal discipline, but also by being partially intended to absolve the government of direct responsibility for the macroeconomic consequences of wage negotiations among labor unions and employer associations. Their realization of their own responsibility for their actions is meant to ensure moderate wage and price inflation domestically in keeping with the development of labor productivity and world market prices of exports so as not to endanger employment at home. Problems arise, however, as soon as wage costs outpace the ability of firms to pay given the government's commitment to fixed exchange rates. If the authorities strive to contain labor costs by insisting that devaluation is out of the question, should they execute the threat if wages rise excessively nevertheless? That is an old problem and an especially difficult one in the Nordic countries where the organization of labor unions along occupational as well as industry lines rather than firm by firm (as, for example, in Switzerland and Japan) permits wage increases negotiated by one group of workers to threaten the jobs of other groups as well. Under such circumstances the pressure on the government to accommodate the wage increases tends to be particularly strong and difficult to resist. This has been an important element of the wage/exchange rate

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[13] See Paul de Grauwe (1989), "The cost of disinflation and the European Monetary System", Discussion Paper No. 326, Center for Economic Policy Research, July, and also Francesco Giavazzi, S. Micossi, and Marcus Miller (eds.), The European Monetary System, Cambridge University Press, 1988.

spiral observed in Finland and also to some extent in Norway and Sweden during 1977-82 and especially in Iceland ever since the late 1960s at least.

The above considerations also explain why floating exchange rates would probably not suit the Nordic EFTA countries well presently. The main concern here is two-sided: (a) that the general volatility of flexible exchange rates and the resulting uncertainty about the future may harm the efficiency of production, investment, and international trade and (b) that exchange rate flexibility in itself may be an independent source of inflation. The first point reflects the widely held view that uncertainty generally inhibits economic activity. This seems likely to be the case, although the available econometric evidence of a statistically significant link between exchange rate variability and trade is mixed.[14] The second point rests in part on the notion that price and wage rigidities in the markets for goods, services, and labor cause currency appreciation to lower prices less in general than depreciation raises prices, thus imparting an inflationary bias to individual flexible exchange rate countries as well as to the world economy as a whole. Despite strong evidence of wage and price rigidities, however, there is not much empirical support for the hypothesis of inherent inflationary bias.[15] On the other hand, flexible exchange rates clearly require less discipline in monetary and fiscal affairs and in wage negotiations, and may thus induce the government to

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[14] See "Exchange rate volatility and world trade", Occasional Paper No. 28, International Monetary Fund, Washington, DC, July 1984, and Eric Perée and Alfred Steinherr (1989), "Exchange rate uncertainty and foreign trade", European Economic Review 33, July, pp. 1241-1264.

[15] See Morris Goldstein (1977), "Downward price inflexibility, ratchet effects, and the inflationary impact of import price changes: Some empirical tests", IMF Staff Papers 24, November, pp. 569-612, and Andrew Crockett and Morris Goldstein (1976), "Inflation under fixed and flexible exchange rates", IMF Staff Papers 23, November, pp. 509-544.

adopt a more expansionary or accommodative policy stance and the labor market organizations to feel less restrained at the bargaining table under fixed than under floating exchange rates, but then the unsatisfactory monetary, fiscal, and wage policies are to blame for the inflation rather than the flexibile exchange rate per se except perhaps indirectly.

IV. Macroeconomic performance

A reasonable judgement of the success or failure of macroeconomic policies and policy regimes must ultimately rest on their actual contribution to macroeconomic performance. This section selectively reviews the experience of the Nordic EFTA countries in the macroeconomic arena since 1970 with special emphasis their inflation record, economic growth, and unemployment and their relationship to the conduct of exchange rate policy and the current account.

a. Inflation

Until the late the 1970s, inflation in the Nordic EFTA countries was not markedly different from that in the OECD area in general (Figures 3 and 4). On the other hand, consumer prices have risen more rapidly in each of the Nordic EFTA countries than in the OECD area on average every year since 1980. The close relationship among general price level movements in Finland, Norway, and Sweden during this period is also remarkable. The simple correlation between the rates of inflation in Finland and Norway during 1970-88 is 0.50; Finland and Sweden, 0.71; and Norway and Sweden, 0.59. Iceland, however, is an outlier on the inflation front: the correlations between the inflation rates in Iceland and in Finland, Norway, and Sweden are generally lower and less significant (0.43, 0.37, and 0.59, respectively).

FIGURES 3 AND 4 HERE

The inflation record of Finland, Norway, and Sweden in this period is characterized by two separate bulges, first during 1974-78 following the first oil price increase, substantial wage increases everywhere, and devaluation of all three currencies (as well as the Danish krona), and then again during 1980-82 following the second oil shock and another round of exchange rate adjustments. It is interesting to note the resemblance between the experience of Norway, a significant oil exporter since the mid-1970s, and that of Sweden and Finland which have imported oil all along. The first oil price hike in world markets in 1973-74 contributed to increased inflation in Norway in much the same way as in Finland and Sweden and many other oil importing countries, that is, through inflated oil import prices and production costs and induced wage increases as well as accommodative aggregate demand management by the government. On the other hand, the second oil shock in 1979-81 was inflationary in Norway primarily through an upswing in oil export earnings. In 1972, just before the first oil price increase, petroleum exports comprised only about 2 per cent of Norwegian merchandise exports. Ten years later, shortly after the second oil price hike, exports of petroleum and natural gas from Norway accounted for more than one half of her total merchandise export earnings and one sixth of GNP. Norway's total export revenues doubled in nominal terms between 1978 and 1982, while private consumption rose by less than 60 per cent. It is also interesting to note in this context that Finland's bilateral trade arrangement with the Soviet Union reduced the adverse effects of the oil shocks of the 1970s on the current account and also, presumably, on economic activity in Finland. As elsewhere in the OECD area, the wave of inflation has gradually subsided in all three countries since the

early 1980s, especially in Finland and Sweden, whereas Norway has experienced a rebound of high single digit inflation over the last three years with wages outpacing prices by a substantial margin. Iceland, on the other hand, did not manage to reverse the inflationary upsurge following the first oil shock and saw the rate of inflation reach new and unprecedented heights in the aftermath of the second oil shock for a variety of reasons of domestic origin, including the unfortunate combination of lax financial policies, full indexation of wages, and a freely floating exchange rate of the krona until 1983.

It is not easy to distinguish the independent contributions of wage hikes, monetary expansion, and currency devaluation to inflation in the Nordic EFTA countries in recent years and the relevant leads and lags involved with any degree of accuracy. Nonetheless, it is possible to identify certain episodes where the origin of an extended inflationary impulse can be traced primarily to a given event. The wage explosion in Norway, Sweden, and Finland during 1973-75 is a case in point. Hourly earnings increased by more than 40 percent during this two year period coinciding with and immediately following the first oil shock, while consumer prices rose much less rapidly, or by just over 20 per cent in Norway and Sweden and by 37 per cent in Finland. As a result of this substantial overcompensation for the oil price increases at a time when real wages should have been allowed to fall to preserve domestic production and jobs, real wage costs rose to unsustainable levels, thus paving the way for the repeated devaluation of all three currencies during 1976-82. Iceland had a similar experience during 1976-78 when hourly wages rose by 117 per cent and consumer prices by 88 per cent over the two year period, triggering a new burst of currency depreciation, monetary expansion, and rapid inflation which culminated

at 86 per cent in 1983 when wages were temporarily frozen by law. In this context, it must be kept in mind that the organization of labor markets in the Nordic countries where nation-wide labor unions and employer associations play an important macroeconomic role through centralized bargaining causes nominal wages to become a kind of policy instrument which the labor market organizations wield in order to reach their own economic objectives in much the same way as the government determines monetary and fiscal policy.[16] Viewed in this way, nominal wages move not only atomistically along Phillips curves in response to tightness or slack in labor markets as well as expected inflation, but also for other reasons, including rivalry among different labor unions.[17]

In the inflationary episodes reviewed above, monetary policy has played a largely accommodative role as is to be expected under fixed exchange rates, at least in the medium term. Exogenous monetary expansion has not been a primary source of demand inflation in the Nordic EFTA countries in recent years. On the contrary, a gradual deregulation and internationalization of credit markets in all four countries, including the adoption of fairly widespread indexation of financial obligations in Iceland since 1979, has made a substantial contribution to increased price stability in this decade by permitting interest rates to adjust closer to their equilibrium values, thus ensuring positive real interest rates (before tax, at least) in wide segments of the financial markets in the 1980s in contradistinction to

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[16] See Thorvaldur Gylfason and Assar Lindbeck (1986), "Endogenous unions and governments: A game-theoretic approach", European Economic Review 30, February, pp. 5-26.

[17] See Thorvaldur Gylfason and Assar Lindbeck (1984), "Competing wage claims, cost inflation, and capacity utilization", European Economic Review 24, February, pp. 1-21.

the negative real interest rates generally prevalent throughout the 1960s and 1970s. This development has tended *per se* to restrain private expenditure by stimulating financial saving, and thus has had a generally stabilizing influence on prices. With declining rates of inflation, the income velocity of money, broadly defined, has also fallen substantially in Finland and Iceland in the 1980s, and also in Norway, but not in Sweden.

b. Economic growth and unemployment

The growth performance of the Nordic EFTA countries since 1970 has been favorable in general compared with the experience of the rest of the OECD countries, with the exception of Sweden where real GDP per capita has increased by 2 per cent a year on average over this period (Figure 5). All four countries suffered significant backlashes in the wake of the two oil shocks, but recovered before long. The advent of oil production for export in Norway fostered more rapid growth there than Finland and especially Sweden experienced after the mid-1970s. Moreover, the devaluations during 1976-82 restored external competitiveness and thus increased the foreign market shares of Finland and Sweden as well as Norway after a while as intended and consequently stimulated output growth in all three countries, at least temporarily. The growth performance of the Swedish economy in the 1980s may have been hampered, however, by the gradual and successful elimination of the substantial government budget deficit inherited from earlier years as well as by declining work incentives due to high marginal tax rates and mounting inefficiency in the public sector. The impressive growth record of the Icelandic economy during most of the period since 1970 rests to a large extent on favorable external conditions, including rapidly increasing fish catches--and, indeed, extensive overfishing--

except for a dramatic downturn in fisheries during 1981-83, but the deliberate and extended overheating of the economy also contributed to this outcome at the cost of increasingly distorting the use of financial and productive resources with macroeconomic consequences that recently have begun to be felt in a significant deceleration of economic activity despite continuing favorable external conditions. Also, with fisheries contributing more than one half of total export earnings and about one fifth of GNP, the rate of growth of the Icelandic economy has been much more volatile than that of the other three: the standard deviation of the growth rate of GNP in Iceland during 1970-88 is 3.8 compared with 2.3, 1.6, and 1.7 for Finland, Norway, and Sweden.

FIGURE 5 HERE

Figures on unemployment in the Nordic EFTA countries convey a similar picture of relatively brisk economic activity by international standards (Figure 6). In all four countries registered open unemployment has been much lower in general than in the OECD area on average over the period under review as a whole, and unemployment has also been below the OECD average in each of the four countries every single year since 1980, even though they have all experienced or at least felt the general international tendency toward higher and more persistent unemployment following the supply shocks of the 1970s that were subsequently exacerbated by increasing structural rigidities in labor markets. In addition, regional policy considerations weigh heavily on the political agenda in all four countries. Compared with Switzerland, for example, the structure of employment and industry in the Nordic EFTA countries is not well diversified geographically. Therefore, labor mobility is relatively costly. Under strong political pressure from local interest groups, the Nordic governments have

frequently met economic difficulties in individual areas with direct or indirect subsidies rather than by encouraging interregional labor mobility.

In Norway and Sweden unemployment has hovered around 2 per cent of the labor force on average since the early 1970s, never exceeding 3 per cent in either country except in Norway in 1983-84 and again in 1988 (and 1989). The situation of the two countries is quite different, however, in that the supply of labor has grown by about 20 per cent or so in Sweden since 1960, but by almost 50 per cent in Norway. The sluggish rate of growth of labor supply in Sweden over this period, equivalent to about 0.7 per cent per year on average, presumably made it easier for employers in the private sector as well as the government to keep unemployment in check than otherwise would have been the case following the two oil shocks and the wage explosions of the 1970s, not least in view of the additional stagflationary impetus brought about by steadily increasing payroll taxes in Sweden in this period. Moreover, the Swedish government has fought incipient unemployment by expanding public employment as well as expenditure and gradually also taxes, running large budget deficits and accumulating substantial external debt in the process. Indeed, one major reason for the persistent expansion of the public sector in Sweden and also in Norway over the years has been the government's reliance on expansionary fiscal policy (as well as currency devaluation during 1976-82) in order to prevent adverse supply shocks and excessive domestic wage increases from increasing unemployment. On the other hand, the rapid rate of growth of the supply of labor in Norway, equivalent to about 1.6 per cent per year on average since 1960, has also been accommodated to a large extent by the quickly

expanding oil sector without the emergence of increasing unemployment, at least until very recently.

FIGURE 6 HERE

In Finland, unemployment has been much higher than in Norway and Sweden every year since the mid-1970s, even though labor supply in Finland has risen at about the same rate as in Sweden and hence much more slowly than in Norway over the years. One reason for the relative increase in unemployment in Finland during this period appears to be that the public sector there has not been expanded nearly as much or as rapidly as in Sweden and Norway for accommodative or other purposes (Figure 7). The ratio of total government expenditure to GDP in Finland rose from 30 per cent to 42 per cent between 1970 and 1987, thus following closely the average for the OECD area as a whole. The Finnish government's general financial position weakened correspondingly during this period. For comparison, the ratio of total government expenditure to GDP in Sweden increased from 43 per cent to 67 per cent between 1970 and 1982 when the trend was reversed, with a corresponding weakening and then recuperation of the general government financial position. In Norway this ratio rose from 41 per cent to 52 per cent between 1970 and 1978 when the trend was turned around temporarily. Iceland is an outlier in this field, with job vacancies as a rule outnumbering the unemployed by a wide margin in a grossly overheated labor market, despite an increase in labor supply of almost 70 per cent since 1960 partly due to the increased labor force participation of women. Thus, the Icelandic government has felt no need to expand the public sector in order to stimulate employment: the ratio of total government expenditure to GDP in Iceland has remained close to one third since the early 1970s without a detectable tendency to increase over time.

FIGURE 7 HERE

At the risk of oversimplification, it thus seems reasonable to conclude that while Finland (like Denmark and most other European countries) has accepted a substantial increase in unemployment in recent years, Norway, Sweden, and Iceland have largely managed to avoid a comparable increase in joblessness thus far--Norway and Sweden to some extent through public sector expansion and Iceland mainly via monetary expansion, devaluation, and inflation. During 1987-89, it should be added, registered unemployment doubled in Norway (from 2 per cent to 4 per cent) and also in Iceland (from 0.5 per cent to 1 per cent). It is too early, however, to interpret these developments as an indication of the insustainability of the policies of previous years. The long term consequences of the different strategies of accommodation of the four countries under review remain to be seen.

c. Exchange rate policy and the current account

The current account of the balance of payments of the four countries under review has been consistently in deficit since 1970 with the exception of Sweden during 1971-73 and Norway during 1980-85 (Figure 8). On average, the ratio of the current account deficit to GNP or GDP during 1970-88 was 1 per cent in Sweden, 2 per cent in Finland, almost 3 per cent in Norway, and nearly 4 per cent in Iceland compared with 0.3 per cent in the OECD area as a whole. These figures imply a gradually increasing ratio of external debt to output as well as increasing debt service ratios in all four countries during this period despite fairly rapid growth of output. At the end of 1987, net foreign long term debt was in the neighborhood of 20 per cent of GNP in Finland, Norway, and Sweden and about 40 per cent of GNP in Iceland.

FIGURE 8 HERE

Following the first oil price increase in 1973-74 the current account position of all four countries deteriorated considerably, and again during and after the second oil shock in 1979-81 in all except Norway which had become an oil exporter in the meantime. With a view to facilitating macroeconomic adjustment to such disturbances, keeping open the option of a unilateral currency devaluation (or, occasionally, revaluation) has been an essential ingredient of the exchange rate policy strategy of the Nordic EFTA countries in recent years. This option was, indeed, exercised repeatedly during 1976-82 when Finland, Norway, and Sweden devalued their currencies several times each (Table 2). While the devaluation of the Finnish mark and the Norwegian krona by about a quarter during this period was aimed primarily at gradually restoring external competitiveness and thus strengthening the current account following the two oil shocks, the cumulative devaluation of the Swedish krona by more than one half over the same period was apparently intended to improve competitiveness and raise international market shares beyond the levels prevailing before the oil shocks.[18]

TABLE 2 HERE

By and large, the devaluation strategy appears to have met with some success in all three countries. In each country, each round of devaluation was followed by a significant improvement of the current account position, for a time at least. In Sweden, for example, the current account deficit was reduced from an average of 2.1 per cent of GDP during 1974-82 to 0.6 per cent of GDP on average in 1983-88. In Finland, the improvement of the current account between these two

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[18] See Johan A. Lybeck, Devalveringar, Liber Förlag, Stockholm, 1985, Chapter 2.

periods was less marked than in Sweden. This general pattern is confirmed for the short to medium term by econometric simulation studies of the effects of devaluation in these countries.[19] In both countries, a concurrent slowdown of economic activity and imports also contributed to the strengthening of the current account. Without devaluation, a bigger downturn of activity and less inflation would no doubt have been necessary to ensure a similar improvement in the external position, other things being equal. In Norway, the link between devaluation and the current account over this period is more difficult to deal with because of the advent of oil production for export in the interim which led to a substantial strengthening of the external accounts of Norway until the collapse of oil prices in 1986. In Iceland, the stance of exchange rate policy has been defensive rather than offensive: in general, its main aim has been to strike a balance between the need (a) to ensure satisfactory profitability in the fisheries sector and (b) to restrain inflation. The inflation record of Iceland as well as her persistent accumulation of foreign debt in recent years indicates strongly that these two objectives are incompatible without a major structural reform of the fisheries.

A successful devaluation requires not only sufficient responsiveness of exports and imports to relative price changes, but also fiscal and monetary discipline as well as moderation in wage settlements. Financial discipline is required to ensure that devaluation moves the

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[19] See Johan A. Lybeck et al (1984), "A comparison of the dynamic properties of five Nordic macroeconometric models", Scandinavian Journal of Economics 1, pp. 35-51. See also H. Haltunen (1980), "Exchange rate flexibility and macroeconomic policy in Finland", B:35, Bank of Finland, Helsinki, and H. Haltunen and Sixten Korkman (1984), "External shocks and adjustment policies in Finland", in M. de Ceclo (ed.), International Ecnomic Adjustment: Small Countries and the Europoean Monetary System, Basil Blackwell, Oxford.

real exchange rate and hence trade and expenditure flows, whereas wage restraint is necessary to prevent devaluation from resulting in stagflation. The general strengthening of the current account that occurred in the short to medium term without a substantial increase in unemployment in the wake of the devaluations in Finland, Norway, and Sweden during 1976-82 provides an indication (a) that trade flows responded favorably to relative price changes and (b) that the intended effects of the devaluations on the current account were not eroded by accommodative monetary expansion or wage inflation, at least not immediately. This impression is supported by econometric evidence of substantial relative price elasticities of exports and imports in all three countries, and also in Iceland, as well as by the results of numerical simulations of simple analytical models of the macroeconomic effects of devaluation. Specifically, typical estimates of the medium term elasticities of aggregate exports and imports with respect to relative prices in the four countries generally lie between 0.8 and 2.3, thus easily satisfying the simple or extended Marshall-Lerner conditions necessary for devaluation to improve the current account over a period of about two to three years. Moreover, numerical calibrations based on these elasticities and other estimates indicate (a) that a ten per cent devaluation with given money supply and flexible prices improves the current account in Finland, Iceland, and Sweden by the equivalent of 2 to 3 per cent of GNP over a two to three year horizon almost independently of the response of wages, and (b) that real GNP generally rises if money wages are held fixed, but falls if wages are fully indexed to consumer prices (Table 3).[20] In the long run, however,

[20] These models are designed for oil importing countries, and thus do not lend themselves without modification to an application to Norway.

devaluation *per se* is neutral in these models unless it raises profitability, investment, and potential output.[21]

TABLE 3 HERE

But while the exchange rate policy strategy of the Nordic EFTA countries seems to have worked reasonably well so far, its very success in the past may carry the seeds of its own destruction. The problem has to do with reputation and credibility. Repeated devaluation of the currency may signal to employers and wage earners that excessive wage increases are unlikely to jeopardize profitability, export revenues, or employment because the government will devalue again if pressed. Under these circumstances, a government commitment to a fixed exchange rate may not be credible. Demands for devaluation may prove increasingly difficult to resist with the resulting inflation triggering new demands for devaluation after a while, and so on. This is the driving force behind the Finnish devaluation cycle as has been emphasized by Korkman.[22] With the average annual rate of inflation in Finland exceeding the OECD average since 1970 by less than two percentage points, it seems safe to conclude, however, that the inflationary consequences of the Finnish strategy have been less serious thus far at least than was feared by some economists critical of the strategy, especially in the 1970s when the inflation differential between Finland and the OECD average was considerably larger. Moreover, with the annual growth rate of GNP per capita in Finland having exceeded the OECD average by one percentage point during 1970-88 without the benefit of a

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[21] See Ole Risager (1988), "Devaluation, profitability, and investment", Scandinavian Journal of Economics 90, no. 2, pp. 125-140, and Johan A. Lybeck *et al* (1984), "A comparison of the dynamic properties of five Nordic macroeconometric models", Scandinavian Journal of Economics 1, pp. 35-51.

[22] See, for example, Sixten Korkman (1978), "The devaluation cycle", Oxford Economic Papers 30, November, pp. 357-366.

natural resource boom (compare Norwegian oil and Icelandic fish), it does not seem likely that the devaluation cycle has been detrimental to growth in the Finnish economy over this period.

In Iceland, on the other hand, where a formal devaluation of the krona has taken place more than twenty times since 1970, the devaluation cycle has been more pronounced and more persistent than in Finland, which is not surprising in view of the Icelandic government's deliberate policy of monetary accommodation aimed explicitly at maintaining full (or overfull) employment at the cost of high inflation. Indeed, a serious attempt to bring inflation down by maintaining a fixed exchange rate of the Icelandic krona during 1985-87 was abandoned in early 1988 in the face of substantial real appreciation resulting from ongoing fiscal and monetary expansion as well as excessive wage increases. In retrospect, it seems clear that the Icelandic devaluation strategy has been taken too far, resulting not only in the highest rate of inflation in Western Europe, but also raising serious questions about its role in delaying necessary structural reforms in the export industries and thus in reducing properly measured economic growth (i.e., growth without depletion of fish stocks) over time. This problem has been rendered more difficult by the government's unwillingness either to revalue the krona in good years to restrain inflation (two small devaluations in 1973 are an exception) or to establish export revenue stabilization funds for the purpose of reducing the swings in export earnings and hence the pressure on the exchange rate in bad years. In order to be credible, a fixed exchange rate must not always be adjusted in the same direction.

V. Conclusion

As 1992 approaches and the Nordic EFTA countries, Norway and Sweden in particular, contemplate the benefits and costs of potential entry into the EC after 1992 with increasing seriousness, their current exchange rate policy stance must also be reconsidered.[23] One of the most important questions here is this: would participation in the European Monetary System (EMS) help bring inflation in the Nordic countries down gradually to EC levels by enhancing the credibility of their fixed exchange rate policy and, if so, would unemployment in the Nordic countries then have to rise to EC levels in the process?

The answer to the first part of the question seems fairly clear: a commitment to a fixed exchange rate that can be changed beyond accepted margins only with the approval of other EMS participants should be more credible than the current regime in which the Nordic currencies can be devalued unilaterally. On the other hand, if one or more of the Nordic countries were to enter the EMS, their entry would probably not be considered to be irreversible for all time. For that reason, the answer to the second part of the above question, about unemployment, is much less certain. If an exit from the EMS were not considered to be out of the question in an emergency despite the considerable costs involved, including discontinued access to credit to support the currency, the effect of EMS participation on unemployment and growth performance in the Nordic countries would depend to an important extent on the stance of accompanying fiscal and monetary policies as well as on wage developments. The existence of an emergency exit would probably tend to

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[23] See Lars E. O. Svensson (1989), "Financiell integration, resursfördelning och penningpolitik: Avveckiad valutaregiering och medlemskap i EMS", in Svensk ekonomi och Europa-integrationen, Langtidsutredningen 1990 (Bilaga 5), pp. 229-280.

reduce the perceived need for financial discipline and prudence in wage settlements. The history of Norwegian and Swedish entry into the European snake arrangement in the 1970s and their subsequent exit from it could repeat itself. In view of this, the potential restraining influence of EMS participation on labor unions and employers' associations as well as, indeed, on the Nordic governments themselves is an open question, and so is the likely reaction of government policy to excessive wage increases in defiance of EMS membership.

TABLE 1

The Nordic EFTA Countries: Overview

	(1) GDP 1987[1)]	(2) GDP Per capita 1987[2)]	(3) Growth of GDP Per capita 1970-88[3)]	(4) Trade/GNP ratio 1987[3)]	(5) Government spending/GNP 1987[3)]	(6) Taxes/GNP 1987[3)]	(7) Inflation 1970-88[3)]	(8) Unemployment 1970-88[3)]	(9) Current deficit/GNP 1970-88[3)]
Finland	89.5	18,200	3.2	50.2	42.0	39.6	9.0	4.1	2.0
Iceland	5.3	21,800	3.8	74.3	33.3	32.2	35.2	0.6	3.5
Norway	82.7	19,800	3.5	73.9	51.6	54.2	8.6	2.1	2.6
Sweden	158.5	18,900	2.0	63.5	59.9	62.7	8.4	1.9	0.9
Total/ Weighted average	336.0	18,900	2.7	63.5	52.7	53.9	9.0	2.5	1.6
Total OECD/ Weighted average	2,530.0	14,900	2.3	46.3	40.9	37.2	7.3	6.1	0.3

1) In billions of US dollars.
2) In US dollars.
3) In per cent.
Sources: OECD and IMF.

FIGURE 1

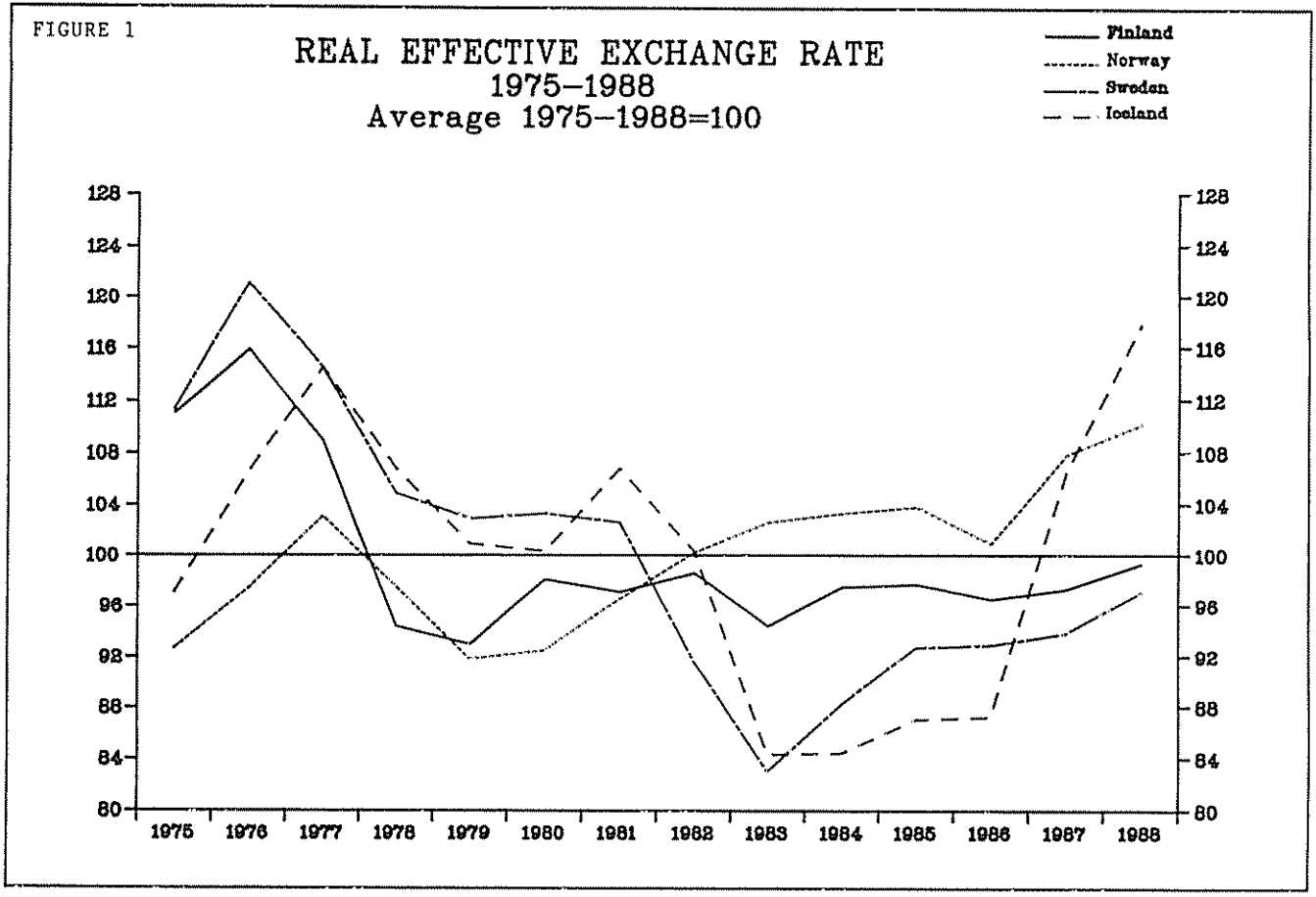
REAL EFFECTIVE EXCHANGE RATE
1975–1988
Average 1975–1988=100
Finland
Norway
Sweden
Iceland
128
124
120
116
112
108
104
100
96
92
88
84
80
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988

FIGURE 2

NOMINAL EFFECTIVE EXCHANGE RATE (MERM)
1970–1988, 1970=100

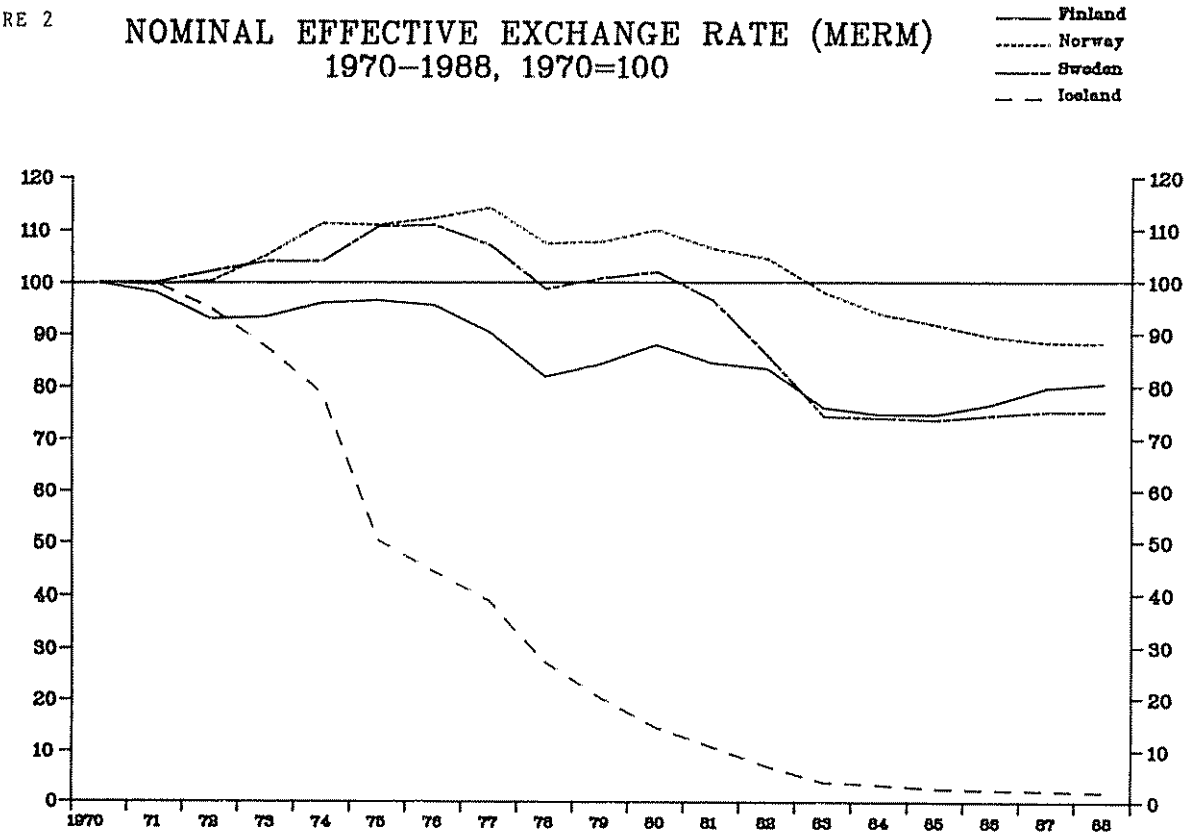

FIGURE 3

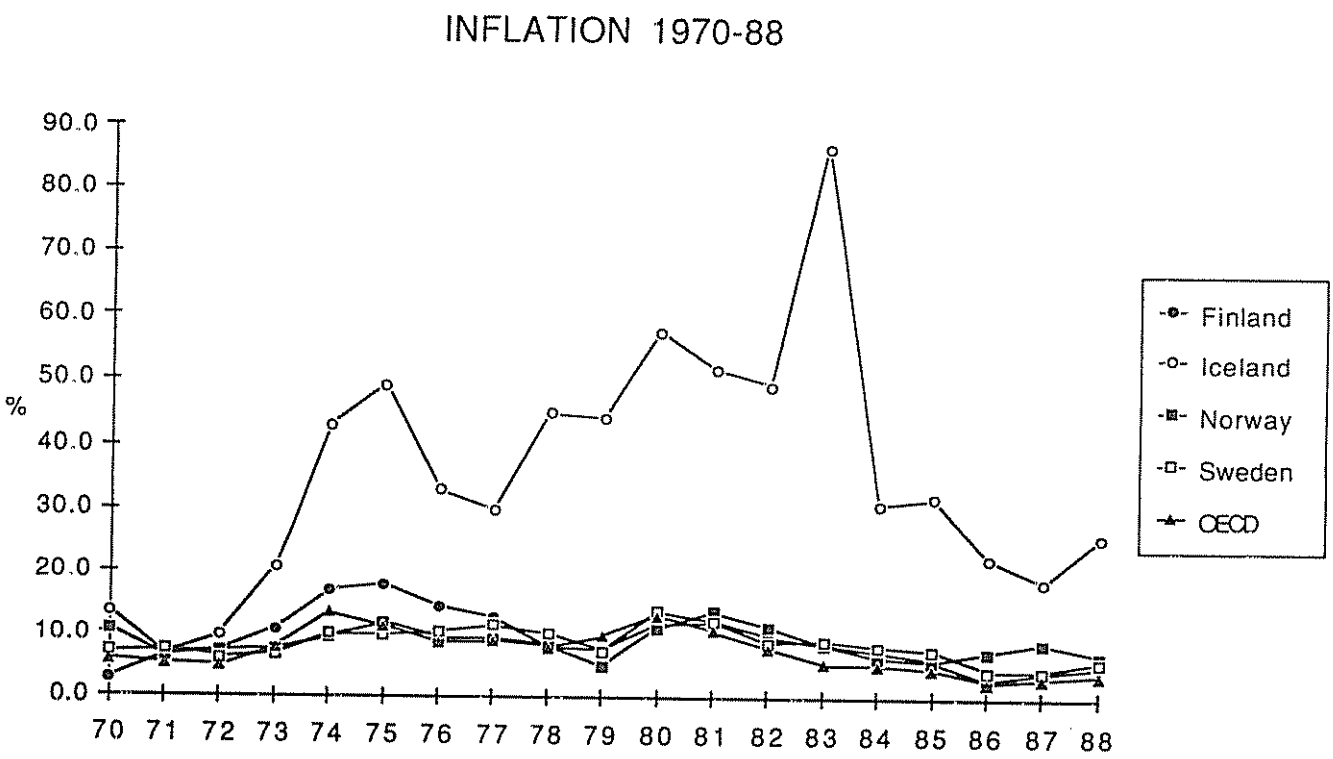
INFLATION 1970-88
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
%
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
Finland
Iceland
Norway
Sweden
OECD

FIGURE 4

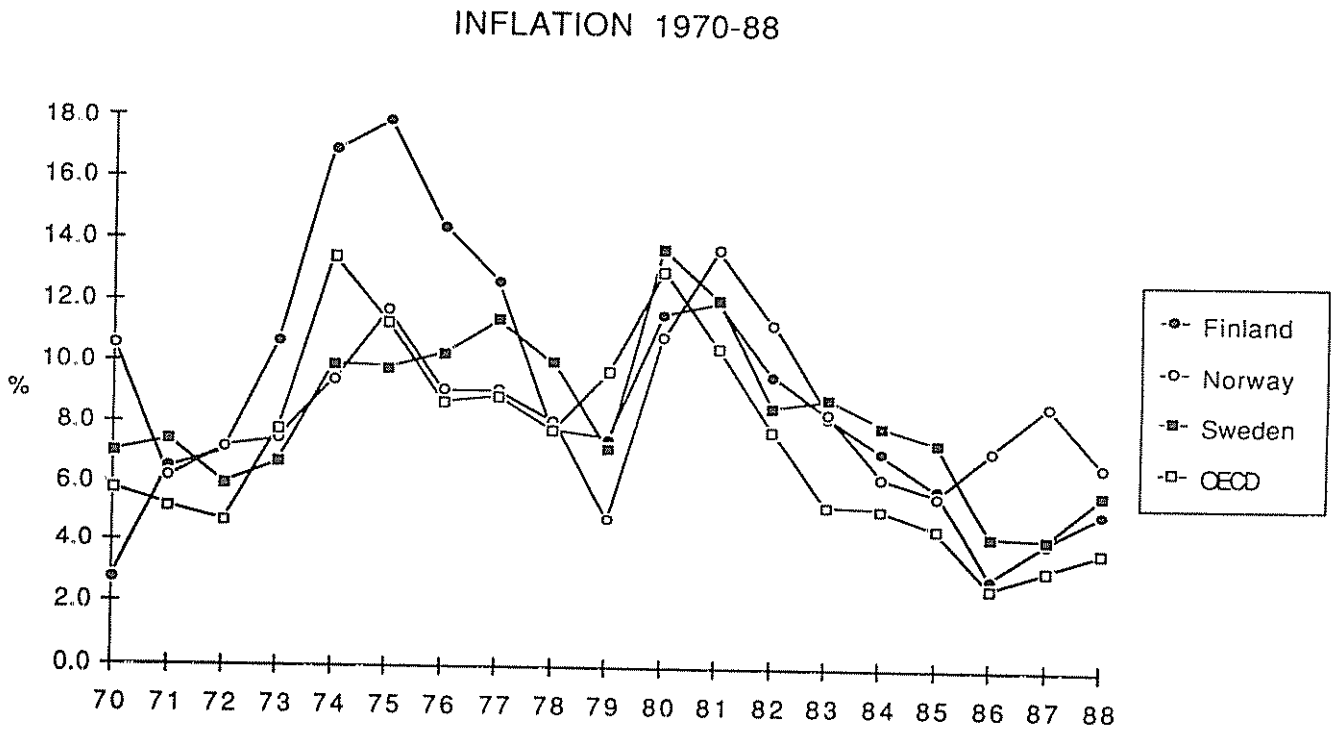
INFLATION 1970-88
%
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
Finland
Norway
Sweden
OECD

FIGURE 5

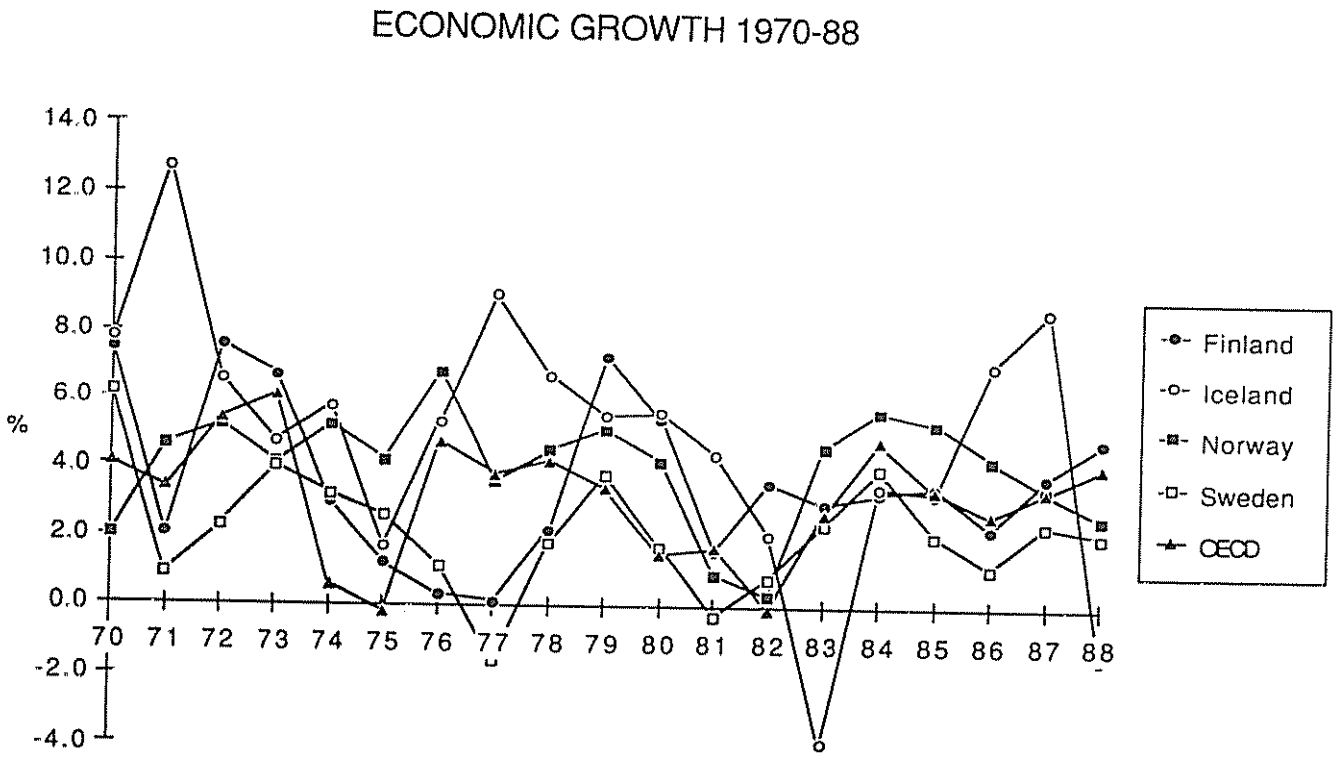
ECONOMIC GROWTH 1970-88
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
-4.0
%
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
Finland
Iceland
Norway
Sweden
OECD

FIGURE 6

UNEMPLOYMENT 1970-88

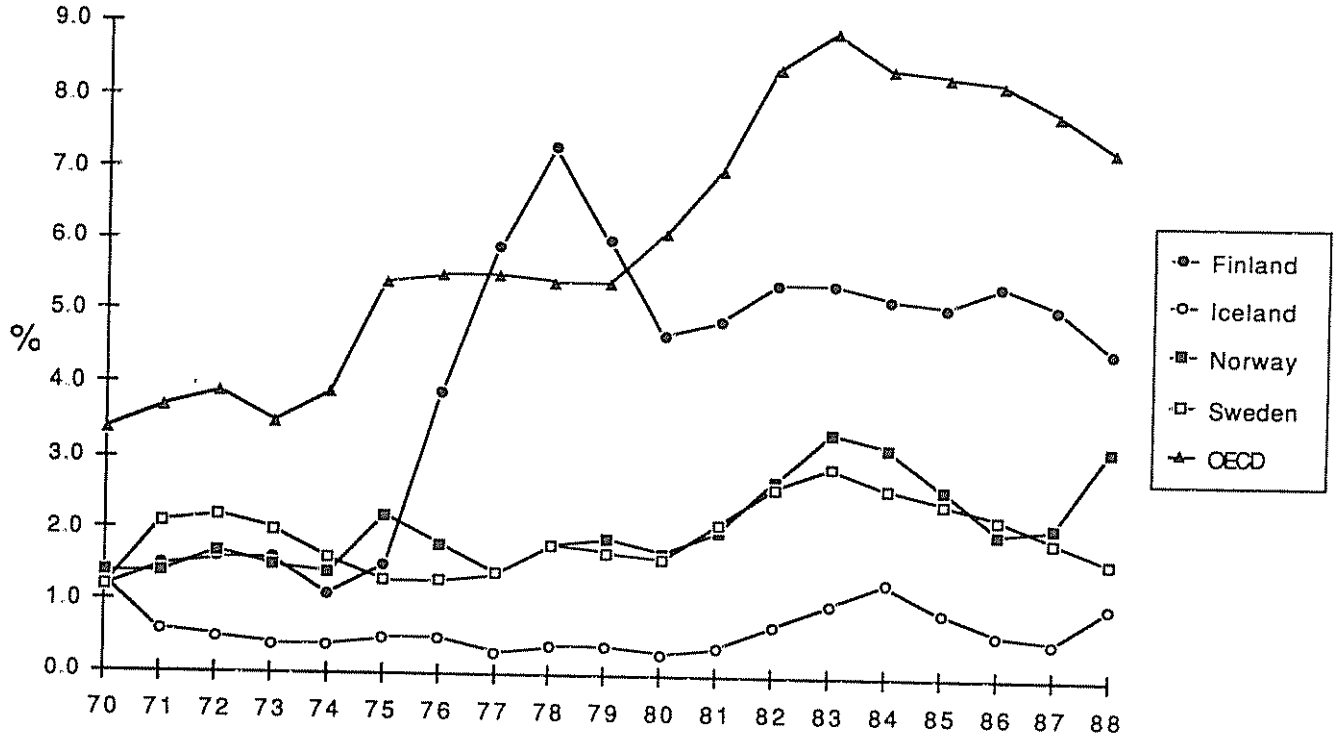

FIGURE 7

SIZE OF GOVERNMENT 1970-88
TOTAL GOVERNMENT OUTLAYS AS PERCENTAGE OF GDP

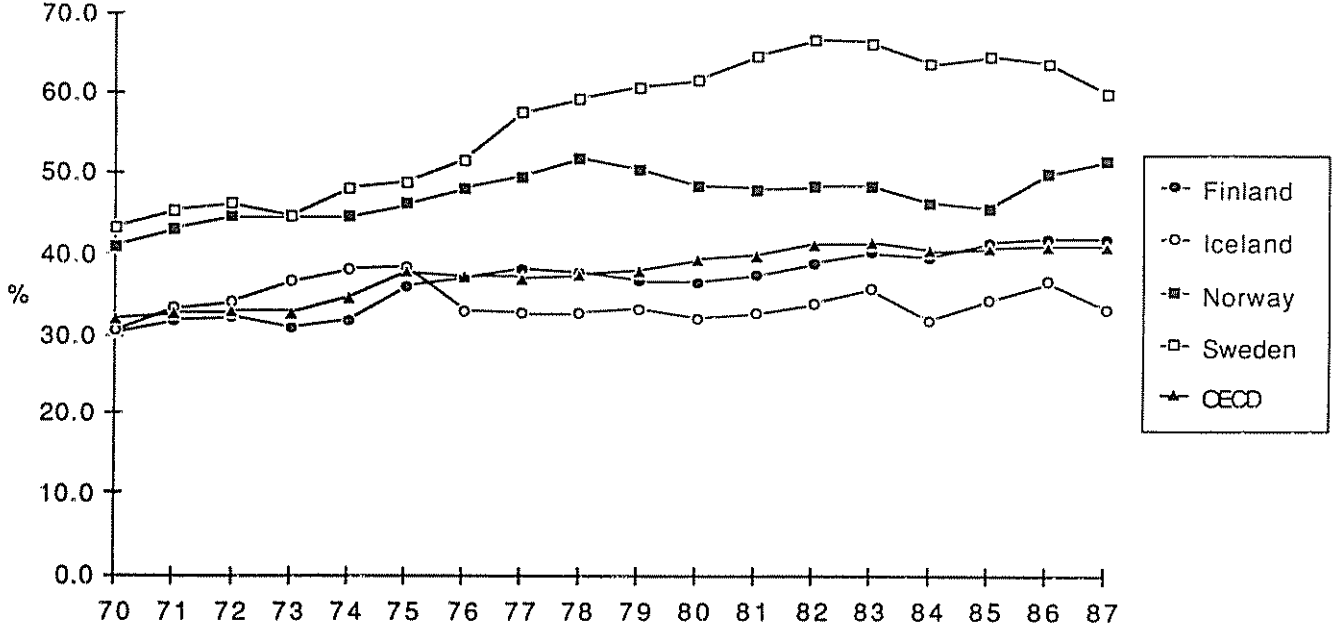

FIGURE 8

CURRENT ACCOUNT 1970-88
IN PER CENT OF GNP/GDP