

# Exchange Rate Policy, Inflation, and Unemployment: The Nordic EFTA Countries\*

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## 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 the European Free Trade Association (Finland, Iceland, Norway, and Sweden) have followed a policy of essentially fixed exchange rates to stabilize foreign trade, on which they are so heavily dependent—and also, more recently, to restrain inflation.

The Nordic EFTA members have decided against free floating mainly out of fear of the potentially destabilizing effects of excessive volatility of exchange rates on trade, investment, employment, and inflation. Thus far, they have also decided against participation in the European Monetary System (EMS) or other international exchange rate arrangements, primarily in order 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, the Nordic countries have reserved and periodically exercised the right to devalue (or revalue) their currencies unilaterally. They have done this usually in order to enhance

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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 relaxed to a substantial 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.<sup>1</sup> It 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). An attempt is made to weigh the principal pros and cons of these and alternative arrangements from the Nordic point of view (Section III). Moreover, an attempt is made to evaluate macroeconomic performance in these countries since the early 1970s in view of the exchange rate and other policies that have been followed, with special emphasis on their devaluation record during 1976–82 and on the credibility of current policies (Section IV). The paper concludes with a brief discussion of the implications of current developments in the European Community (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 are thus less populous than California or Romania.

<sup>1</sup>The experience of the other two members of EFTA—Austria and Switzerland—is reviewed in the paper by Hans Genberg in this volume, whereas Denmark is dealt with in the paper by Paul De Grauwe and Wim Vanhaverbeke.

## Overview

The combined gross domestic product (GDP) of Finland, Iceland, Norway, and Sweden amounted to less than 3 percent of the total for all of the industrial countries of the Organization for Economic Cooperation and Development (OECD) in 1987 (see Table 1). But their income per capita is high by international standards: their average GDP per capita was 27 percent above the OECD average in 1987, compared with 12 percent in 1970, indicating a slightly

**Table 1. The Nordic EFTA Countries: An Overview**

	Finland	Iceland	Norway	Sweden	Total/ Weighted average	Total OECD/ Weighted average
GDP 1987 (billion U.S. dollars)	89.5	5.3	82.7	158.5	336.0	12,530.0
GDP per capita 1987 (U.S. dollars)	18,200	21,800	19,800	18,900	18,900	14,900
GDP growth Per capita 1970–88	3.2	3.8	3.5	2.0	2.7	2.3
Trade/GNP 1987	50.2	74.3	73.9	63.5	63.5	46.3 <sup>1</sup>
Government spending/GNP 1987 (in percent)	42.0	33.3	51.6	59.9	52.7	40.9
Taxes/GNP 1987	39.6	32.2	54.2	62.7	53.9	37.2
Inflation 1970–88	9.0	35.2	8.6	8.4	9.0	7.3
Unemployment 1970–88	4.1	0.6	2.1	1.9	2.5	6.1
Current deficit/ GNP 1970–88	2.0	3.5	2.6	0.9	1.6	0.3

<sup>1</sup>1986.

Sources: OECD and IMF.

higher-than-average rate of growth of GDP per capita in the Nordic group since 1970.

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 percent of gross national product (GNP) in the Nordic EFTA countries on average in 1987, compared with 46 percent in the OECD countries as a whole. Also, the public sector is larger and the tax burden 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 percent and 54 percent, respectively, of GNP in the Nordic EFTA countries in 1987, compared with 41 percent and 37 percent, respectively, for the OECD as a whole.

Finally, the Nordic countries have been more prone to inflation than other OECD countries in recent times, with consumer prices rising by an average of 8 to 9 percent a year in Finland, Norway, and Sweden during 1970–88, compared with 7 percent in the OECD countries.<sup>2</sup> On the other hand, registered unemployment has been considerably lower in the Nordic group than in the OECD area in general; it has averaged 2.5 percent of the labor force during 1970–88, compared with 6 percent for the OECD as a whole. Registered unemployment in Sweden in particular, however, has been artificially low because of the relatively large number of workers employed directly by the Government; recently, about 4 percent of the Swedish labor force was occupied with various public employment schemes. Moreover, current account deficits have been considerably higher relative to GNP in the Nordic countries than in the OECD region as a whole.

In sum, the Nordic group has apparently 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 losing control of inflation or external indebtedness. 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

<sup>2</sup>With annual average inflation of 35 percent during this period, Iceland is an outlier in the sample and is excluded from these averages.

coordination as well as structural maladjustment in some areas remain unresolved.

### 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 EC countries where the deutsche mark played a dominant role.

As time passed, however, the restrictiveness of German monetary policy aimed at restraining inflation in the Federal Republic of Germany, and perhaps elsewhere as well, came to be regarded as incompatible with the overriding objective of high employment in Norway and Sweden. This prompted Norway and Sweden 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 since followed. The Bank of Finland made internal use of a foreign currency basket already in 1972. However, the Finnish markka 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 markka was pegged to the currency basket, and it still is.

Iceland, which unlike the other three countries is currently classified by the International Monetary Fund as having a managed float, determined the exchange rate of the Icelandic króna with reference to the U.S. dollar from 1973 to 1978, and then adopted a foreign currency basket with respect to which the króna has been devalued many times since, primarily in order to prevent the profitability of its export industries from being unduly eroded by inflation. Denmark, on the other hand, left the EFTA to join the EC and, hence, also the snake in 1972; it 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 (see Williamson, 1982). Finland has used bilateral trade weights reflecting all currencies accounting for more than 1 percent of its 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 to publish daily the composition of the basket. Currently, the exchange rate of the Finnish markka must be kept within margins of 6 percent of the basket index.

Norway initially adopted a similar system of bilateral export trade weights, except that the U.S. dollar was assigned a heavier weight (25 percent) than implied by its share in export earnings, in order to reflect its importance for the oil, shipping, and other export industries. In 1982 the weight of the dollar was reduced (from 25 percent to 11 percent). This was done primarily to permit an increased weight for the EMS currencies (from 33 percent to 44 percent) in the Norwegian basket, which was now based on multilateral weights, thereby taking competitive pressures from third country markets into account. This basket is still in use, with the Norwegian krone confined within margins of 2.25 percent of the basket index.

Sweden's basket consists of the 15 currencies that account for at least 1 percent of its foreign trade over the preceding five years and that are registered daily on the foreign exchange market in Stockholm. The latter criterion excludes primarily the Soviet ruble, the Polish zloty, and the Brazilian new cruzado from the Swedish basket. The dollar has been given double weight in view of its importance in raw materials trade, among other things. The countries whose currencies are included in the basket account for about 80 percent of Sweden's foreign trade. The weights are revised annually, at the end of March. The margins within which the value of the Swedish krona must be maintained were narrowed from 2.5 percent to 1.5 percent of the basket index in 1985; they have been made public since then in an endeavor to contribute to foreign exchange market stability. For practical reasons, and to preserve the credibility of its exchange rate policy, the Bank of Sweden has so far decided not to replace the bilateral trade weights currently in use by multilateral payments weights. This reflects the reduced importance of the dollar and the increased importance of the deutsche mark for Swedish as well as international trade.

Since 1978, the Central Bank of Iceland has used foreign currency baskets weighted by trade (both exports and imports) and payments (both purchases and sales of foreign exchange). Like the baskets of the other three countries, the Icelandic trade basket

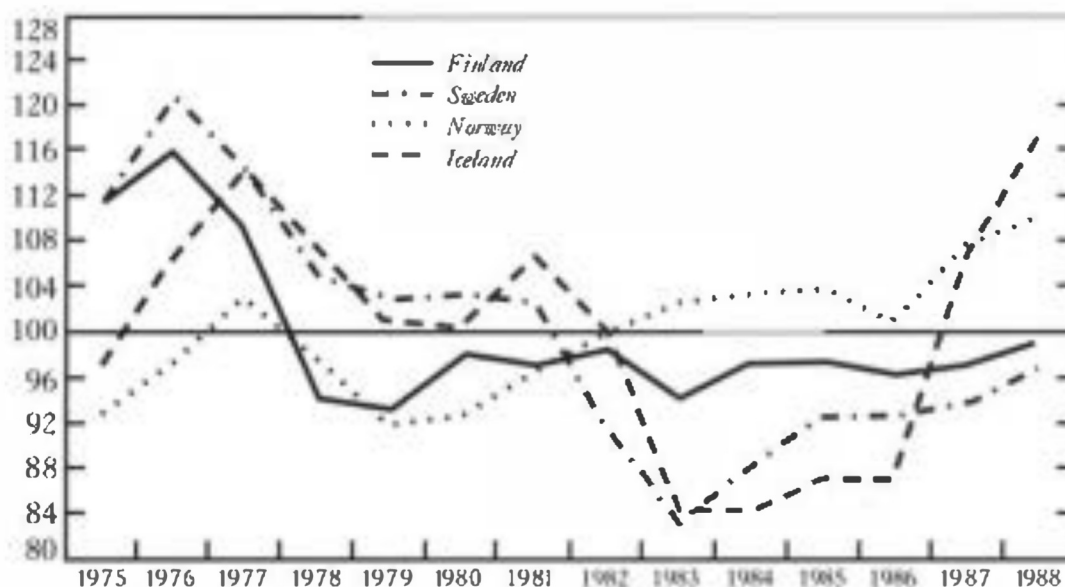
includes only goods, but no services (which account for almost 30 percent of the country's total foreign exchange earnings); the payments basket, however, includes both goods and services in addition to capital transactions. The composition of these baskets varies; for example, the dollar weighs about twice as heavily in payments as in trade, and also much more heavily in the export- and purchases-weighted baskets than in the import- and sales-weighted ones. The baskets are revised annually based on the pattern of trade and payments in the preceding three years. With these considerations in mind, the Central Bank has determined the exchange rate of the Icelandic króna in the 1980s mainly on the basis of the trade basket, but intermittently also with partial regard to the payments basket as well as the dollar, as circumstances required.

### Exchange Rate Movements

All things considered, the Nordic countries' policy of pegging their currencies to trade-weighted baskets has been fairly successful in limiting the variability of real exchange rates. Their use of trade weights that exclude the potentially haphazard effects of short-term capital movements on currency values has probably contributed to this outcome. Since 1975 the real effective Multilateral Exchange Rate Model (MERM) exchange rates of the Nordic currencies have remained within 3 percent (Finland), 15 percent (Iceland), 11 percent (Norway), and 14 percent (Sweden) of the MERM rate averages for these countries during 1975–88 (see Chart 1). The corresponding standard deviations of the MERM rates during this period are 2.0, 6.6, 6.4, and 7.8, respectively, compared with 10.0 for pound sterling and 15.4 for the U.S. 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 dollar or the deutsche mark during this period, other things being equal. For comparison, the real effective MERM rate of the Danish krone remained within 9 percent of its average during 1980–88, with a standard deviation of 6.4. Hence, EMS membership notwithstanding, the Danish krone has been about as stable in real terms as the four Nordic EFTA currencies on average in the 1980s.

It is interesting to note that the three Scandinavian currencies (the Danish krone, the Norwegian krone, and the Swedish krona)

**Chart 1. Real Effective Exchange Rate  
(average 1975–88 = 100)**



now have by-and-large the same value vis-à-vis other currencies, as was also the case under the Scandinavian Currency Union before World War I, and 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 World War II, 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 markka and the Icelandic króna in the late 1950s and mid-1960s, Finland has followed a similar path to the Scandinavian countries; its markka has developed roughly in parallel with the Scandinavian 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 percent a year on average during 1970–88, compared with 9 percent in the other four Nordic countries. The nominal effective MERM exchange rate of the Icelandic króna fell by 98 percent during 1970–88, whereas the corresponding nominal rates of the Norwegian, Swedish, and Finnish currencies fell by 12 percent, 25 percent, and 20 percent, respectively, in the same



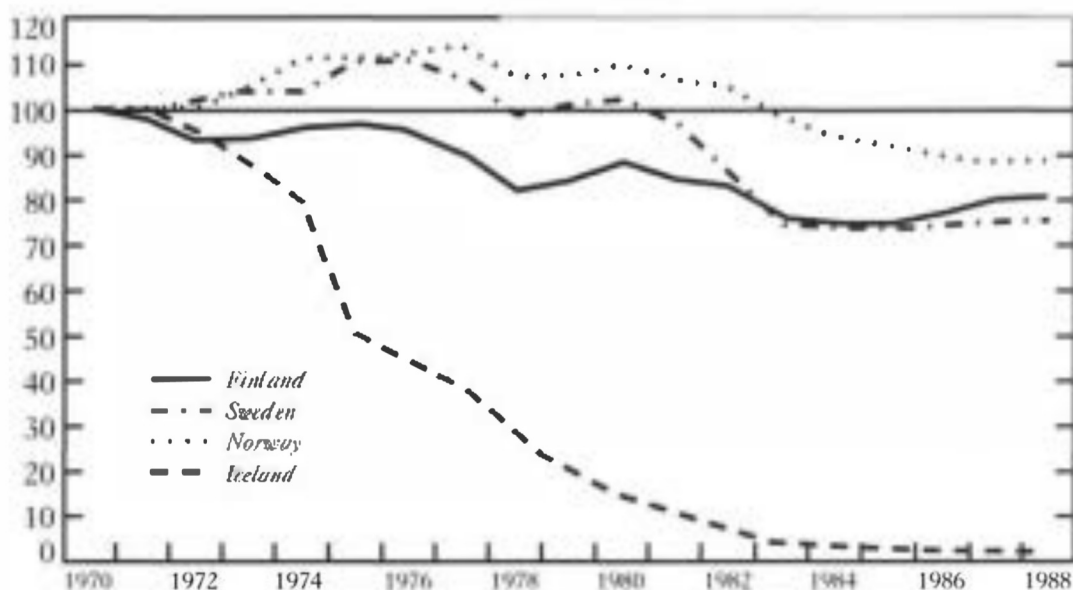
period (see Chart 2). Over the last decade, however, the Finnish markka has been by far the strongest of these currencies.

### 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 (see Mundell, 1963; Fleming, 1962; and Marston, 1985), the optimal choice between fixed and floating exchange rates for a small, open economy should depend to some extent at least on various structural characteristics of the economy in question. These include the degree of financial capital mobility and real wage flexibility, 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 (1986) among others.

More important, perhaps, it is not necessarily useful to think of the optimal choice of an exchange rate regime as being made on

**Chart 2. Nominal Effective Exchange Rate (MERM)\*  
(1970 = 100)**



\*Multilateral exchange rate model.

the basis of, say, the degree of capital mobility and so on, rather than the other way around. This is because both the exchange rate arrangement and the exchange control regime are policy parameters that can be determined simultaneously by the authorities 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 that further complicates 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, rather than on the basis of explicit optimality considerations.

### How Others Choose

Although there exists no generally valid principle by which one can judge how small, open economies such as the Nordic ones should determine the exchange rates of their currencies, it is useful to see how other nations have chosen between fixed and flexible rates and among alternative ways of fixing or floating over the years. According to Heller (1978), who used discriminant analysis to study the determinants of exchange rate practices, fixed exchange rates have typically been favored by (i) small countries (that is, countries with low incomes, albeit not necessarily low incomes per capita); (ii) countries heavily dependent on foreign trade; (iii) countries with relatively low inflation; (iv) countries with limited capital mobility; and (v) countries with relatively few trading partners.

Thus, with the exception of the low-inflation criterion, the Nordic countries are typical fixed-exchange-rate countries according to the above classification, whereas the United States and Japan are typical floaters. There is no evidence, however, of a link between the revealed preference of policymakers 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 operate 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 (see IMF, 1987a).

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; inflation, however, has not been a serious problem in most of these countries (see IMF, 1987b). Even though financial markets are underdeveloped in most of these developing countries, 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 efficiency in production. A floating exchange rate regime cannot, of course, be viewed as a substitute for responsible aggregate demand management or necessary structural adjustment.

### **The Nordic Strategy**

A pragmatic choice between fixed and floating exchange rates cannot be made in a vacuum 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 degree in Finland, Norway, and Sweden—a fixed exchange rate regime is generally a prerequisite for lasting success in the battle against inflation, unless there is scope for 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 (see Dornbusch and Fischer, 1986; in particular, see Table 17, pp. 41–42).

But if, say, a radical structural change toward liberalization of foreign trade is the government's main economic policy objective, as was the case in Iceland after 1960, a floating exchange rate or a substantial devaluation—once or more often—can make a significant contribution to the success of the strategy. This contribution would consist of reducing pressure on the government to revert

to import controls and multiple currency practices in order to strengthen the balance of payments at a later stage; such a liberalization strategy, however, generally entails increased inflation for a while, at least if not accompanied by sufficient domestic demand restraint. This problem is similar 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 unleash inflation. 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 to remove an important underlying source of inflation—would be a prerequisite for adopting 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 in some Latin American countries (but not in the Nordic countries!)—or if the authorities wish to accept more inflation at home than abroad, as may 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.

### 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 another, something in between, or changed from one system to another over the years (see Artus and Young, 1979). 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 (see Goldstein, 1980). This supposition, of course, was an important catalyst to the establishment of the EMS in 1979. Thereafter, inflation in the EMS countries declined from a peak of 11 percent on average in 1980 to 2 percent in 1988, while unemployment rose from 5 percent to 10 percent of the labor force. These developments have been attributed in part to the existence of the EMS by many observers, although econometric studies have thus far been inconclusive on this point (see De Grauwe, 1989; and Giavazzi et al., 1988).

For the Nordic EFTA countries, fixed exchange rates are desirable because they contribute to overall price stability both directly by containing import prices and indirectly by necessitating strict monetary and fiscal discipline. They are also desirable because they are partially intended to absolve governments of direct responsibility for the macroeconomic consequences of wage negotiations between 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 still rise excessively? This is an old and difficult problem in the Nordic countries where labor unions are organized along occupational as well as industry lines, rather than firm-by-firm (as, for example, in Switzerland and Japan); this permits wage increases negotiated by one group of workers to threaten the jobs of other groups. Under such circumstances the pressure on the government to accommodate the wage increases tends to be 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 since the late 1960s.

The above considerations also explain why floating exchange rates would probably not suit the Nordic EFTA countries at present. The main concern here is two-sided: (i) 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 (ii) 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 (see IMF, 1984; and Perée and Steinherr, 1989). 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 reduce prices less, in general, than depreciation raises prices, thus imparting an inflationary bias to individual countries with flexible exchange rates 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 (see Goldstein, 1987; and Crockett and Goldstein, 1976). On the other hand, flexible exchange rates clearly require less discipline in monetary and fiscal affairs and in wage negotiations. A flexible rate regime may thus induce governments to adopt a more expansionary or accommodative policy stance and labor market organizations to feel less restrained at the bargaining table under flexible than under fixed exchange rates; if so, the unsatisfactory monetary, fiscal, and wage policies, however, are to blame for the inflation, rather than the flexible exchange rate per se, except perhaps indirectly.

#### IV. Macroeconomic Performance

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

##### Inflation

Until the late the 1970s, inflation in the Nordic EFTA countries was not markedly different from that in the OECD area in general

(see Charts 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 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; in Finland and Sweden, 0.71; and in 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).

The inflation records of Finland, Norway, and Sweden in this period are characterized by two separate bulges: during 1974–78, following the first oil price increase, substantial wage increases occurred everywhere, as did devaluation of all three currencies (as well as the Danish krone); and then during 1980–82, inflation rose following the second oil shock and another round of exchange rate adjustments.

It is interesting to note a 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, Finland, and Sweden, and in many other oil

**Chart 3. Inflation: Finland, Iceland, Norway, Sweden, OECD**

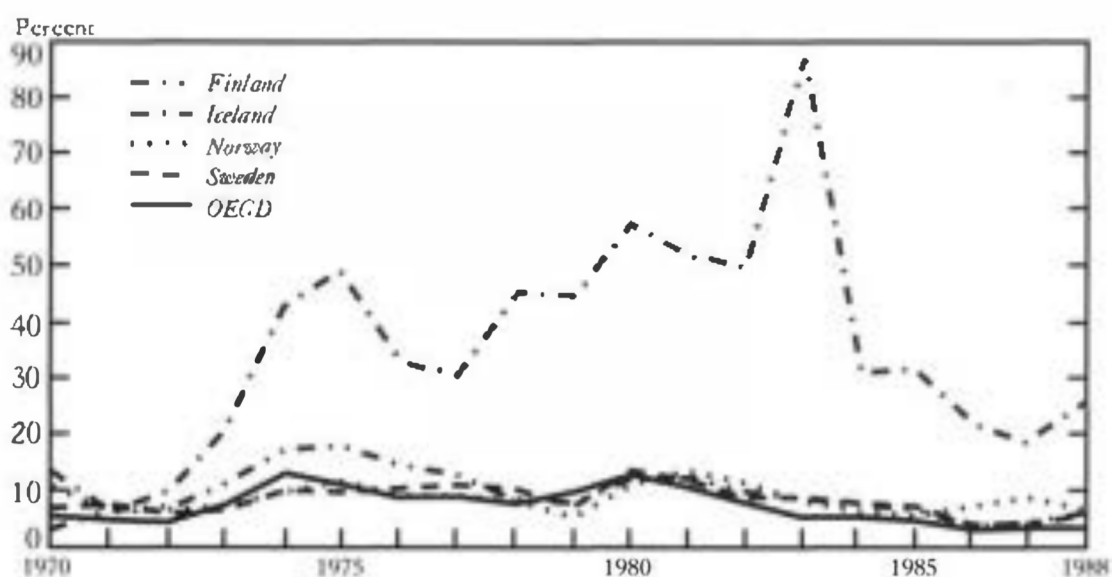
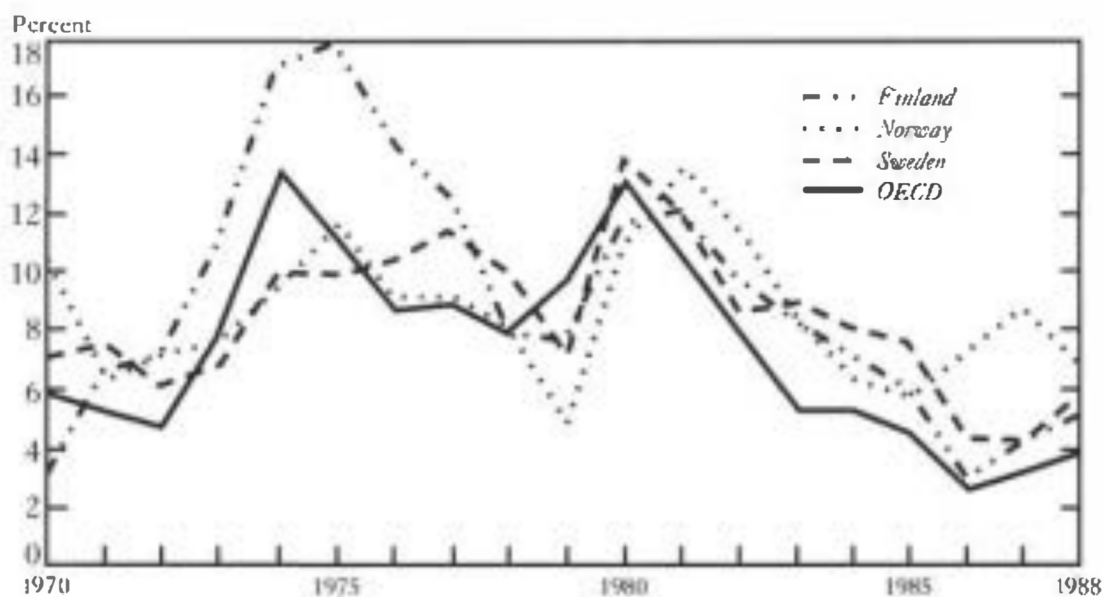


Chart 4. Inflation: Finland, Norway, Sweden, OECD



importing countries, that is, through inflated oil import prices and production costs, induced wage increases, and accommodative aggregate demand management by the government. On the other hand, the second oil shock in 1979–81 was inflationary in Norway, primarily because of an upswing in oil export earnings. In 1972, just before the first oil price increase, petroleum exports accounted for only about 2 percent of Norwegian merchandise exports. Ten years later—shortly after the second oil price hike—Norwegian exports of petroleum and natural gas accounted for more than one half of its 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 percent. In addition, Finland's bilateral trade arrangement with the Soviet Union cushioned the adverse effects of the oil shocks of the 1970s on the current account and also, presumably, on Finnish economic activity.

As elsewhere in the OECD area, the wave of inflation has gradually subsided in all three countries since the early 1980s. This is especially true 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; it saw its rate of inflation



reach record highs in the aftermath of the second oil shock for reasons of domestic origin, including the combination of lax financial policies, full wage indexation, and a freely floating exchange rate of the króna until 1983.

It is not easy to distinguish accurately 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. Nonetheless, it is possible to identify certain episodes during which 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—by just over 20 percent in Norway and Sweden, and by 37 percent in Finland. As a result of this substantial overcompensation for oil price increases 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 percent and consumer prices by 88 percent over the two-year period. This triggered a new burst of currency depreciation, monetary expansion, and rapid inflation; the country's inflation rate peaked at 86 percent in 1983 when wages were temporarily frozen by law. In this connection, the organization of labor markets in the Nordic countries—where nationwide labor unions and employer associations play an important macroeconomic role through centralized bargaining—causes nominal wages to become a kind of policy instrument that 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 (see Gylfason and Lindbeck, 1986). Viewed in this way, nominal wages move not only atomistically along Phillips curves in response to tightness or slack in labor markets and expected inflation, but also for other reasons, including rivalry among different labor unions (see Gylfason and Lindbeck, 1984).

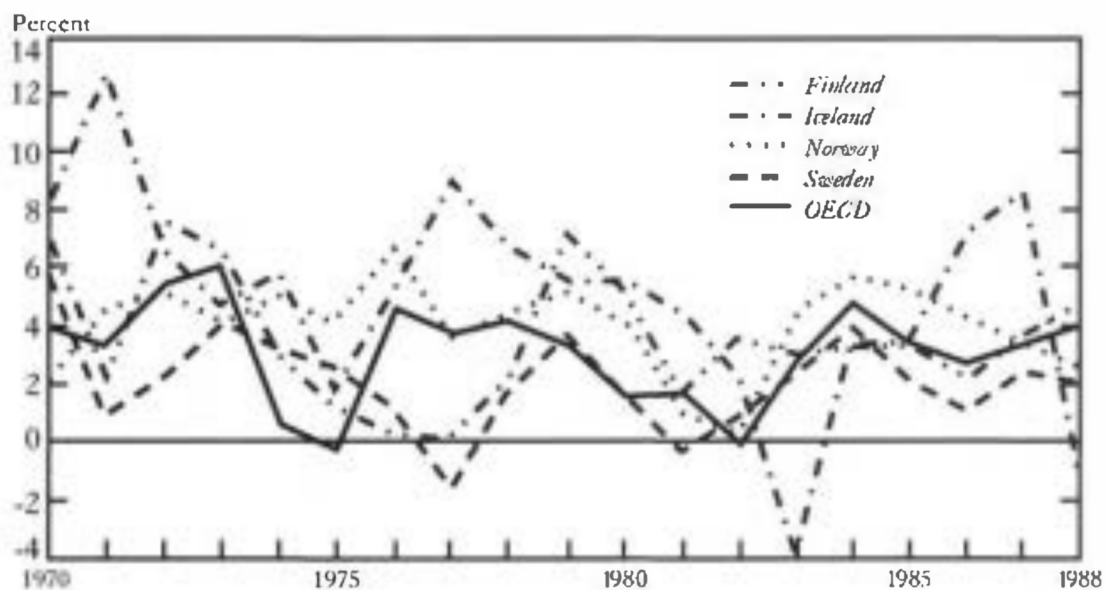
In the inflationary episodes reviewed above, monetary policy played a largely accommodative role, as is to be expected under fixed exchange rates, at least in the medium term. Exogenous

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, contributed substantially to increased price stability in the 1980s. This was achieved by permitting interest rates to adjust nearer to their equilibrium values, thus ensuring positive real interest rates (before taxes, at least) in wide segments of the financial markets in the 1980s in contrast to the negative real interest rates generally prevalent throughout the 1960s and 1970s. This tended to restrain private expenditure by stimulating financial saving, and thus had a generally stabilizing influence on prices. With declining rates of inflation, the income velocity of money, broadly defined, also fell substantially in Finland and Iceland in the 1980s; it fell as well in Norway, but not in Sweden.

### Economic Growth and Unemployment

The growth of the Nordic EFTA countries since 1970 has been favorable in general relative to the rest of the OECD countries. Sweden has been the exception, however; its real GDP per capita increased by 2 percent a year on average over this period (see Chart 5). All four Nordic countries suffered significant backlashes in the wake of the two oil price shocks, but all four recovered before long.

Chart 5. Economic Growth

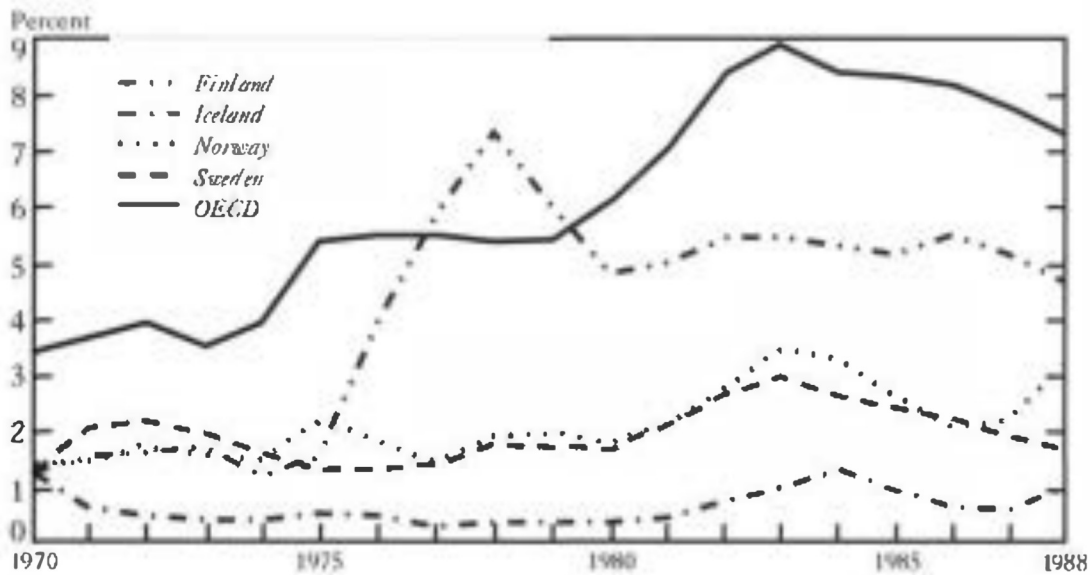


The advent of oil production for export in Norway fostered more rapid growth than Finland or Sweden experienced after the mid-1970s. Moreover, the devaluations during 1976–82 restored external competitiveness and ultimately increased the foreign market shares of Finland, Sweden, and Norway. This, in turn, stimulated output growth in all three countries, at least temporarily. Growth 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 associated with high marginal tax rates and mounting inefficiency in the public sector.

The impressive growth of the Icelandic economy during most of the period since 1970 rests to a large extent on favorable external conditions. These include rapidly increasing fish catches—and, indeed, extensive overfishing—except for a dramatic downturn in fisheries during 1981–83. The deliberate and extended overheating of the economy, however, also led to growing distortions in the use of financial and productive resources, with macroeconomic consequences that have recently been 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, Icelandic economic growth has been much more volatile than that of the other three Nordic countries. The standard deviation of GNP growth in Iceland during 1970–88 was 3.8, compared with 2.3, 1.6, and 1.7 for Finland, Norway, and Sweden.

Figures on unemployment in the Nordic EFTA countries convey a similar picture of relatively brisk economic activity relative to international standards (see Chart 6). In all four countries registered open unemployment has been much lower than in the OECD area over the period under review. Moreover, unemployment has been below the OECD average in each of the four Nordic countries every year since 1980, even though they have all experienced—or at least tended toward—higher and more persistent unemployment following the supply shocks of the 1970s, which were 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

Chart 6. Unemployment



relatively costly. Under strong political pressure from local interest groups, the Nordic governments have frequently responded to economic difficulties with direct or indirect subsidies, rather than by encouraging interregional labor mobility.

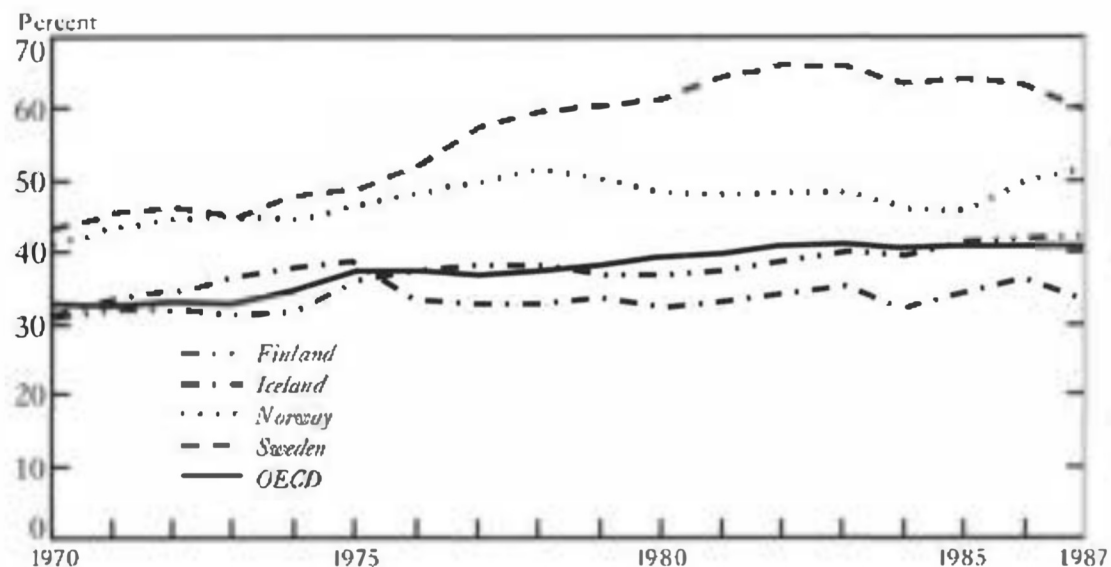
In Norway and Sweden unemployment has averaged around 2 percent of the labor force since the early 1970s, never exceeding 3 percent in either country except in Norway in 1983–84 and again in 1988–89. The situation of the two countries is quite different, however, in that the supply of labor has grown by about 20 percent or so in Sweden since 1960, but by almost 50 percent in Norway. The sluggish growth of labor supply in Sweden over this period—equivalent to about 0.7 percent a year on average—presumably enabled employers in the private and public sectors to keep unemployment under greater check than otherwise would have been the case following the two oil shocks and the wage explosions of the 1970s. This owed in large part to 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 and expenditure and also by gradually raising taxes. This led to large budget deficits and an accumulation of substantial external debt. Indeed, one major reason for the persistent expansion of the public sector in Sweden, and in Norway, over the years has been the authorities'

reliance on expansionary fiscal policy (as well as currency devaluation during 1976–82) to prevent adverse supply shocks and excessive domestic wage increases from boosting unemployment. On the other hand, the rapid growth of labor supply in Norway—equivalent to an average of 1.6 percent annually 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 recently.

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 more slowly than in Norway) over the years. One reason for the relative increase in Finnish unemployment appears to be that the public sector did not expand nearly as much or as rapidly as in Sweden and Norway (see Chart 7). The ratio of total government expenditure to GDP in Finland rose from 30 percent to 42 percent between 1970 and 1987, closely approximating the average for the OECD area. The Finnish Government's general financial position weakened correspondingly during this period.

By comparison, the ratio of total government expenditure to GDP in Sweden increased from 43 percent to 67 percent between 1970 and 1982, and the general government financial position weakened

**Chart 7. Size of Government  
(total government outlays as percent of GDP)**



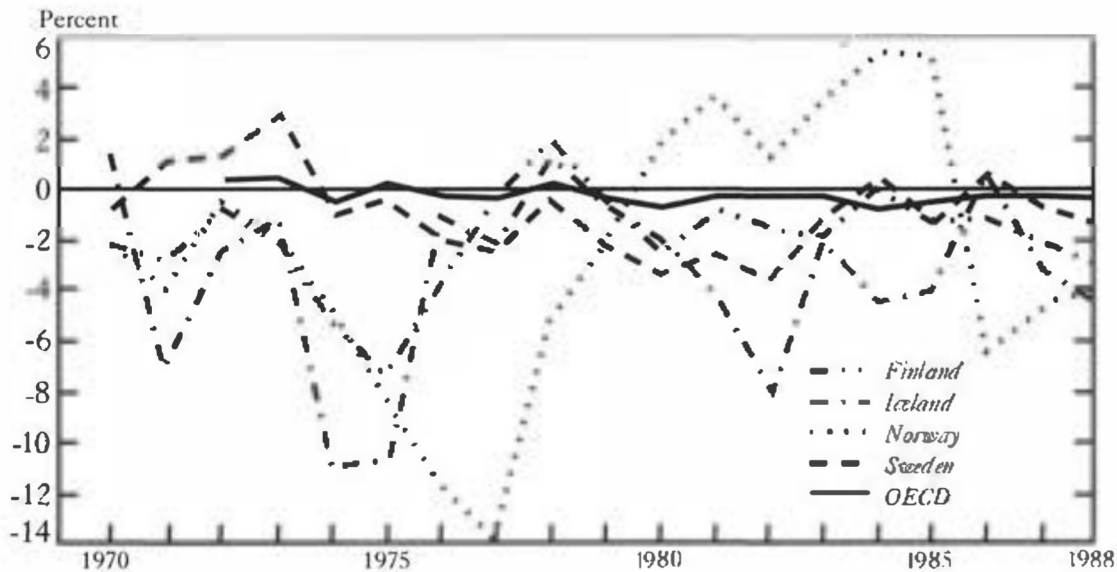
considerably; in 1982 the trend was reversed. In Norway this ratio rose from 41 percent to 52 percent between 1970 and 1978; in 1978 the trend turned around temporarily. Iceland is an outlier in this field, with job vacancies as a rule outnumbering the unemployed by a wide margin in a grossly overheated labor market, despite an increase in labor supply of almost 70 percent since 1960, which owed partly to the increased participation of women in the labor force. Thus, the Icelandic Government has felt no need to expand the public sector to stimulate employment: the ratio of total government expenditure to GDP in Iceland has remained close to one third since the early 1970s, without tending to increase over time.

At the risk of oversimplification, it thus seems reasonable to conclude that while Finland (as 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. Norway and Sweden have achieved this 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 percent to 4 percent) and also in Iceland (from 0.5 percent to 1 percent). It is too early, however, to interpret these developments as an indication of the unsustainability of the policies of previous years. The long-term consequences of the different strategies of accommodation of the four Nordic countries under review remain to be seen.

### Exchange Rate Policy and the Current Account

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

**Chart 8. Current Account  
(as percent of GNP/GDP)**



GNP in Finland, Norway, and Sweden, and about 40 percent in Iceland.

Following the first oil price increase in 1973–74, the current account position of all four countries deteriorated considerably. Current accounts deteriorated again during and after the second oil price shock in 1979–81 except in Norway, which had become in the meantime an oil exporter. To facilitate macroeconomic adjustment to such disturbances, the exchange rate policy strategy of the Nordic EFTA countries in recent years has been to keep open the option of a unilateral currency devaluation (or, occasionally, revaluation). This option was exercised repeatedly during 1976–82, when Finland, Norway, and Sweden each devalued their currencies several times (see Table 2). The devaluation of the Finnish markka and the Norwegian krone by about one quarter during this period was aimed primarily at gradually restoring external competitiveness and 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 (see Lybeck, 1985).

By and large, the devaluation strategy appears to have succeeded in all three countries. In each country, each round of devaluation

**Table 2. Devaluation Record: 1976–82**  
(Nominal devaluation in percent; – denotes revaluation)

	Finland	Norway	Sweden
1976	–	1	3
1977	9 <sup>1</sup>	8 <sup>2</sup>	16 <sup>3</sup>
1978	8	8	–
1979	–2	–	–
1980	–2	–	–
1981	–	–	10
1982	10	6	16
Cumulative total	24	25	52

<sup>1</sup> 6 percent in April and 3 percent in September.

<sup>2</sup> 3 percent in April and 5 percent in August.

<sup>3</sup> 6 percent in April and 10 percent in August.

Source: Lybeck (1985).

was followed by a significant improvement of the current account, for a time at least. In Sweden, for example, the current account deficit was reduced from an average of 2.1 percent of GDP during 1974–82 to 0.6 percent of GDP in 1983–88. In Finland, the current account improvement was less marked. This general pattern is confirmed for the short to medium term by econometric simulation studies of the effects of devaluation in these countries (see Lybeck et al., 1984; Haltunen, 1980; and Haltunen and Korkman, 1984). In both countries, a concurrent slowdown of economic activity and imports also contributed to strengthening the current account. Without devaluation, a larger economic downturn 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 identify because of the advent of oil production for export in the interim, which led to a substantial strengthening of Norway's external accounts 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 to ensure satisfactory profitability in the fisheries sector and to restrain inflation. The inflation record of Iceland—as well as its persistent accumulation of foreign debt in recent years—indicates that these two objectives are incompatible barring 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 and moderation in wage settlements. Financial discipline is required to ensure that devaluation affects the 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 that (i) trade flows responded favorably to relative price changes; and that (ii) 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 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 that (i) a 10 percent devaluation with a given money supply and flexible prices improves the current account in Finland, Iceland, and Sweden by about 2 to 3 percent of GNP over a two- to three-year horizon almost independently of the response of wages; and that (ii) real GNP generally rises if money wages are held fixed, but falls if wages are fully indexed to consumer prices (see Table 3).<sup>3</sup> In the long run, however, devaluation is neutral in these models unless it raises profitability, investment, and potential output (see Risager, 1988; and Lybeck et al., 1984).

Although 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.

<sup>3</sup>These models are designed for oil importing countries, and thus not easily applicable to Norway.

**Table 3. Elasticities and the Effects of 10 Percent Devaluation**

	Finland	Iceland	Norway	Sweden
Price elasticity				
of exports	1.2	0.8	0.9	1.8
of imports	2.3	0.9	1.2	2.1
Fixed money wages				
Effect on:				
current account <sup>1</sup>	2.8	3.0	—	3.4
GNP <sup>2</sup>	2.9	0.7	—	5.4
Full indexation				
Effect on:				
current account <sup>1</sup>	2.1	3.4	—	2.2
GNP <sup>2</sup>	-1.8	-1.1	—	-2.0

<sup>1</sup> In percent of GNP

<sup>2</sup> In percent.

Sources: Gylfason and Risager (1984); Gylfason (1987); and, for data on Iceland, Einarsson (1989).

The problem has to do with reputation and credibility. Repeated devaluations 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, and so on.

This is the driving force behind the Finnish devaluation cycle (see Korkman, 1978). 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 than was feared by some critics 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 major natural resource boom (compare Norwegian oil and Icelandic fish)—the devaluation cycle does not appear to have been detrimental to growth in the Finnish economy over this period.

In Iceland, on the other hand, where a formal devaluation of the króna has taken place more than 20 times since 1970, the devaluation cycle has been more pronounced and persistent. This 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 rate for the króna 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, the Icelandic devaluation strategy has clearly been taken too far. It has resulted not only in the highest rate of inflation in Western Europe, but has also raised serious questions about the strategy's role in delaying necessary structural reforms in the export industries and in reducing properly measured economic growth (that is, growth without depletion of fish stocks) over time. This problem has been rendered more difficult by the Government's unwillingness either to revalue the króna in good years to restrain inflation (two small devaluations in 1973 are an exception) or to establish export revenue stabilization funds to help reduce 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 should 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 needs to be reconsidered (see Svensson, 1989). One of the most important questions in this connection is whether participation in the European Monetary System would help bring inflation in the Nordic countries down to EC levels gradually by enhancing the credibility of their fixed-exchange-rate policy—and, if so, whether unemployment in the Nordic countries would then have to rise to EC levels.

The answer to the first part of the question seems 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 this reason, the answer to the part of the above question about unemployment is less certain. If an exit from the EMS were not considered to be inconceivable in an emergency—despite the considerable costs involved (including interrupted access to credit to support the currency)—the effect of EMS participation on unemployment and growth in the Nordic countries would depend to an important extent on the stance of fiscal and monetary policies as well as on wage developments. The existence of an emergency exit would probably tend to 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—and, indeed, on the Nordic Governments themselves—is an open question, and so is the likely reaction of public policy to excessive wage increases in defiance of EMS membership.

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# Comment\*

*Johnny Akerholm*

It seems to me that Thorvaldur Gylfason quite correctly identifies the basic principle guiding exchange rate policies in the Nordic countries; these countries have always had a strong preference for fixed exchange rates both as far as the home economy and the world as a whole are concerned. However, I think it is open to debate whether there exists a long-term Phillips curve in the Nordic countries, as implied by Gylfason. By the same token, it is questionable whether it is exchange rate policies that have enabled the Nordic countries to maintain high employment over the longer run. In this respect the reference to the Finnish “devaluation cycle” and the good economic performance in the 1980s is not well placed; the Finnish have made strong efforts to break up the “devaluation cycle,” and the 1980s can rather be characterized as a strong-currency period.

Rather, the exchange rate has acted as an (often unintended) brake on overly expansionary policies, given the political commitment to full employment. The relatively good employment performance might reflect different supply-side factors: a highly educated labor force, active labor market policies, strong support for restructuring, and so forth. But I do not want to go too deeply into these questions in this context. Instead I would like to discuss the extent to which exchange rate policies must be reevaluated given their changed monetary role.

The preference for a fixed exchange rate has reflected the belief that such a regime best serves the development of foreign trade in a small, open economy. The large weight assigned to foreign trade considerations in exchange rate policies is clearly manifested in

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\*The views expressed here are the author's and do not necessarily correspond to the official views of the Bank of Finland.

the current arrangements, which are well described in Gylfason's paper. But these views on the role of the exchange rate are bound to face a challenge in the coming years. With the exception of Iceland, the Nordic economies are now, for all practical purposes, financially open.<sup>1</sup> As a result, there is a direct link between the domestic money market and the foreign exchange market. Without any discrete decisions on their part, these countries have moved to a regime where the fixed exchange rate constitutes the intermediate target for monetary policy, while the role of monetary policy as a demand management instrument has diminished.

As Gylfason's paper shows, the Nordic countries have traditionally had a somewhat higher inflation rate than the average for the countries of the Organization for Economic Cooperation and Development. They also have strong unions that have learned to rely on the political commitment to full employment. Against this background, there is no doubt that a clear intermediate target is needed if a reasonable level of inflation is to be achieved without high costs in terms of lost production and employment. I think that the exchange rate is definitely more efficient in this respect than the alternatives; the interpretation is straightforward, and movements in it can be monitored on a continuing basis. Nevertheless, I doubt whether the current basket systems applied in Finland, Norway, and Sweden are optimal. In large baskets, the message tends to be blurred as the reference countries frequently have very different policies and inflationary experiences. Furthermore, the fact that the baskets are constructed on the basis of trade structures does not clarify the role of the exchange rate as an intermediate target for monetary policy. In this respect, the Danish attachment to the European Monetary System is different, and it seems evident that the developments in the Federal Republic of Germany have increasingly begun to serve as a guide to Danish labor market behavior.

But a more fundamental question is whether the fixed exchange rate functions well as an intermediate target. As is well known, several conditions must be fulfilled if the exchange rate is to be used for this purpose. First, the economy should not be subject to large external "real" shocks, or the shocks should be similar to those

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<sup>1</sup>Sweden abolished practically all restrictions in July 1989; in Finland and Norway the few restrictions remaining have little, if any, impact from a monetary policy point of view.



encountered by the country or countries to which the exchange rate is linked. Second, as fixing the exchange rate limits the opportunities of monetary policy to influence demand, it might prove necessary to activate fiscal policies in order to keep the economy on a track consistent with the inflation target.

When looking at the Nordic economies, it seems that none of these requirements is at hand. Most of the Nordic countries are rather resource-based and thus tend to be subject to large fluctuations in their terms of trade. In Norway, oil is important; in Finland, and to a some extent in Sweden, the forest-based industry weighs heavily; and in Iceland, of course, variations in economic activity depend largely on the fortunes of the fishing industry. In these circumstances, it is difficult to find a stable, low-inflation area that has the same structure. Hence, a fixed exchange rate implies that nominal wages and prices should be flexible if swings in production and employment are to be avoided. Needless to say, given the Nordic tradition of a high level of unionization, this will not be easy to achieve.

Even though there is a long tradition of actively using fiscal policy as a demand management tool, especially in Norway and Sweden, there is no evidence that this instrument is flexible enough if monetary policy is invalidated. Over the past couple of years, both Finland and Sweden have made determined efforts to use fiscal policy to cool down overheating economies. But, while in both countries the government budget currently shows a sizable surplus, it has not been possible to reach political agreement on sufficiently tight policies at the political level.

Against this background, it seems evident that the Nordic countries will have some difficult choices ahead. On the one hand, the economic structure calls for a free float. On the other hand, it seems likely that these countries will not be able to afford a free float given the inflationary pressures. In this respect the Nordic countries are in a position different from Austria and Switzerland, where the choice of an intermediate target seems to have been less crucial given the expectations that inflationary pressures will be contained.

This speaks strongly in favor of fixed exchange rates in the Nordic countries in the foreseeable future. One alternative would be to approach the EMS on the assumption that this will be convincing enough to increase flexibility in fiscal policy as well as in wage and price behavior. This is quite a strong assumption. A compromise

would be to continue using the exchange rate as anchor, but to allow for more flexibility to give some room for maneuver in monetary policy. This is the policy that has been adopted by Finland, as reflected in the decision a year ago to widen the fluctuation band for the exchange rate from 4.5 to 6.0 percent.<sup>2</sup>