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Nordic Integration and European Integration

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I. Introduction

The Nordic countries cover a large area. Not even including Greenland, their combined land area is 1,168,000 square kilometers, which exceeds the total land mass of France, Germany, and the United Kingdom. The Nordic populations are small, however, or about 24 million *in toto*, with or without Greenland, smaller than those of Belgium and the Netherlands combined, or about one-sixteenth of the whole population of the European Union (EU). There are 39 countries in the world with larger populations than the Nordic countries combined. The total purchasing-power-parity-adjusted gross national product (GNP) of the five Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) in 1996 was US\$ 484 billion, which, if they

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were one economy, would make them the sixteenth largest economy in the world, and the ninth largest without purchasing-power-parity adjustment.

Large or small, the Nordic countries have been able to offer their citizens a good and steadily improving standard of life in this century, which is indeed a dramatic improvement from their widespread and abject poverty in earlier times. In 1996, their purchasing-power-parity-adjusted per capita GNP ranged from US\$ 18,000 in Finland to US\$ 23,000 in oil-rich Norway, compared with US\$ 20,000-21,000 in France, Germany, Italy, and the United Kingdom. Only Luxembourg (US\$ 34,000), the United States (US\$ 28,000), Singapore (US\$ 27,000), Switzerland (US\$ 26,000), Hong Kong (US\$ 24,000), and Japan (US\$ 23,000) had a higher purchasing-power-parity-adjusted per capita GNP than Norway in 1996.¹

These income figures are noteworthy for two main reasons. First, except for Norway, which is by now the second largest oil exporter in the world (second only to Saudi Arabia), the Nordic countries no longer occupy the top rungs of the international income ladder. Since about 1970, the Nordic economies have grown less rapidly than those of many other industrial countries. Sweden, for example, fell from third or fourth place on the list of the world's richest countries in 1970 to sixteenth place in 1995. Secondly, the Nordic countries have grown apart from one another. Their living standards used to be approximately the same, but that is no longer the case. In 1996, for example, Norway's purchasing-power-parity-adjusted per capita GNP was 27 per cent higher than that of Finland. Without purchasing-power-parity adjustment, the per capita income differential between Norway and Finland in 1996 was even larger, or 48 per cent. The difference between the national incomes of the two countries has narrowed somewhat since then, however, because of the recent slump in oil prices in world markets, which has helped Finland and hurt Norway.

But it is not enough to look at current income flows in order to assess the wealth of nations. It is also necessary to scrutinize the underlying trends by

¹ Source: World Bank, *World Development Indicators 1998*, Washington, D.C.

trying to come to grips with some of the main determinants of economic growth performance over the long haul.

This paper proceeds as follows. Section II reviews selected empirical indications of saving and investment, external trade, and education in the Nordic countries, and discusses their links to economic growth. Section III narrows the focus of the discussion by concentrating on trade as a source of growth and on primary-export dependence as a potential source of sluggish or stagnant exports from some of the Nordic countries and hence also as a possible, partial explanation for slow economic growth since 1960. Section IV narrows the focus even more, and discusses the need for Norway and Iceland to deal with their natural-resource-based obstacles to EU membership so as to be able to assess the overall benefits and costs of membership on an equal footing with other prospective and present EU members. Section V concludes the paper with a brief summary of the main points made.

II. Aspects of Economic Growth in the Nordic Countries

Of the main determinants of economic growth, let us now direct our attention at three key factors: investment, exports, and education. Table 1 provides an overview of selected summary statistics that describe those three sources of growth in the Nordic countries in an attempt to shed light on their growth performance in the past and their growth potential in the future.

Table 1 shows, first, that all the Nordic countries except Norway save and invest much less of their incomes than the world at large (column 1). This need not be a matter of serious concern, however, because Nordic investment generally seems to have been of fairly high quality, despite the bad banking that helped trigger the banking crises of the 1990s. Even so, more saving and more and better investment would be good for growth.²

More surprisingly, perhaps, four of the five the Nordic countries also trade less with other countries than does the world as a whole (column 2). This is

quite striking in view of the small size of the Nordic economies individually, because small countries are generally more dependent than larger ones on external trade to extend their home markets beyond their national borders. In Norway and Iceland, in particular, foreign trade has been stagnant, or worse, for decades. In Norway, the share of exports of goods and services in gross domestic product (GDP) fell from 42 per cent in 1970 before the oil discoveries to 38 per cent in 1995 (and 40 per cent in 1997). This means that the expansion of oil exports from Norway has crowded out non-oil exports krone for krone, or more. Iceland is an even clearer case: there, the export ratio has hovered around a third at least since 1945, an extremely low ratio in a country with only 275,000 inhabitants.³ No other industrial countries have experienced declining or stagnant export ratios in the post-war period.⁴ For comparison, the (unweighted) average export ratio in the world economy has increased by more than a half since 1970, or from 24 per cent in 1970 to 38 per cent in 1995. Small countries that neglect to make up for their small home markets through judicious specialization and vigorous trade in world markets may expect to have to pay for this neglect through less rapid economic growth than would otherwise be available to them in the long run.

One can think of at least two possible reasons for the relatively sluggish export performance of the Nordic countries. The first has to do with inflation. The Nordic countries have a history of somewhat higher inflation than the member countries of the EU. This means that the real exchange rates of the Nordic currencies have been somewhat higher than they otherwise would

² Since 1995, it needs to be added, investment in Sweden and especially Iceland has risen considerably relative to income, but even so the investment ratio remains well below the world average in both countries.

³ For comparison, the average export ratio of 20 countries with populations between 100,000 and 1 million, all such countries reporting export ratios to the World Bank, was 55 per cent in 1994.

⁴ The external trade of Australia and New Zealand was stagnant in the years following the second World War, but this is no longer the case. Even so, their export ratios remain quite low: in 1996, they were 20 per cent (Australia, with a population of 18 million) and 29 per cent (New Zealand, less than 4 million). Perhaps the distance of the antipodes— and also, though to a lesser extent, of Iceland— from other countries helps to explain their low export ratios.

have been, and this, one would presume, has hurt exports. Inflation can have real effects at least as long as nominal exchange rates do not adjust fully and instantaneously to changes in domestic or foreign prices.

The following numerical example illustrates this simple point, which is sometimes overlooked. Suppose the real exchange rate index R is initially 100 and the inflation rate is 10 per cent per year and zero in the rest of the world, so that R gradually decreases to $100/1.1 = 90.9$ at the end of the year. Suppose, moreover, that the nominal exchange rate adjusts fully to prices with a one-year lag, restoring R to 100 at the beginning of next year. This means that the average value of R over the year is $(100 + 90.9)/2 = 95.45$. Now suppose inflation increases to 20 per cent, so that R gradually drops to $100/1.2 = 83.3$ at year's end. The average value of R over the year is now $(100 + 83.3)/2 = 91.67$. Therefore, the real exchange rate is inversely related to the rate of inflation as long as the adjustment of the nominal exchange rate to prices is not full and instantaneous.⁵

By driving real exchange rates too high above their long-run equilibrium levels, periodically or permanently, and possibly also through other channels, inflation thus seems to discourage the export of goods and services across countries.⁶ This helps to explain the perceived need for repeated devaluation in Finland, Norway, and Sweden in the 1970s and 1980s, for instance. This phenomenon was also much in evidence in Iceland from 1960 at least until the mid-1990s.

The second possible explanation for sluggish export performance has to do with primary exports. The Nordic countries are relatively more dependent on natural resources than other European countries: Norway and, to a lesser extent, Denmark on oil and gas, Finland and Sweden on forestry, and Iceland on fish. A large share of primary exports in merchandise exports or in total

⁵ A similar argument applies to the relationship between inflation and the real wage as long as nominal wages are less than fully indexed to prices. See John Williamson (ed.), *Inflation and Indexation: Argentina, Brazil, and Israel*, Institute for International Economics, Washington, D.C., 1985.

⁶ See Thorvaldur Gylfason, "Exports, Inflation, and Growth", *World Development* 27, June 1999.

exports of goods and services also appears to restrain total exports through the Dutch disease as well as, perhaps, other channels.⁷ We will return to this possibility in Section III.

Table 1. Investment, trade, education, and growth: An overview

	(1) Investment (1995, % of GDP)	(2) Foreign trade (1995, % of GDP)	(3) Expenditure on universities (1994, % of GDP)	(4) Share of 17- 34 year olds in tertiary education (1995, %)	(5) Economic growth per capita (% per year 1980- 1995)
Denmark	16	64	2.1	10.8	1.9
Finland	16	68	1.9	14.0	1.4
Iceland	15	70	1.0	8.5	1.0
Norway	23	71	2.1	12.8	2.4
Sweden	14	77	2.2	9.2	1.0
World/OECD	22*	76**	1.5***	10.8***	1.5*

Source: *World Bank Atlas 1997*; *World Development Report 1997*; *Education at a Glance*, OECD Indicators 1997; and *International Financial Statistics 1997*.

Note: A single asterisk denotes a weighted average by country size, two asterisks denote an unweighted average, and three asterisks denote an unweighted average for OECD countries in 1995. The Norwegian figure in column 3 is an estimate.

But first, let us turn briefly to education. Table 1 shows that the Nordic countries' commitment to tertiary education is, with one exception, well above the world average (column 3). There are indications, however, at least in Iceland and Sweden, that excessive wage compression in centralized labor markets and blunted incentives due to various tax wedges and welfare policies have reduced the demand for higher education (column 4).⁸ Some

⁷ Ibid.

⁸ Some observers may claim that similar tendencies are also discernible in Denmark, Finland, and especially Norway, the numbers on tertiary education shown in column

young people seem to have lost interest in acquiring a higher education because they are not convinced that education pays.⁹ To compound the problem, public authorities, like many teachers, students, and parents, have been on guard against proposals for diversifying and strengthening the education system by, for example, supporting private schools and universities to compete with public ones and by allowing efficient, market-based methods of resource allocation (e.g., tuition fees and flexible pay) within the education system in order to promote quality.¹⁰

Taken together, and given that investment, external trade, and education are important pillars of economic growth around the world, the figures reviewed in Table 1 do not seem to bear witness to a particularly growth-friendly environment in the Nordic region. Only Denmark and Norway grew more rapidly than the world economy at large in 1980-1995 (column 5). Furthermore, of the four largest countries in the group, Norway had by far the lowest registered rate of open unemployment in 1997, or 4.1 per cent of the work force, and Denmark the second lowest (7.6 per cent), compared with 8 per cent in Sweden and 14.5 per cent in Finland (and 3.9 per cent in Iceland).¹¹ Thus, of the five countries, only Finland had more unemployment in 1997 than the EU as a whole, where the jobless rate was 11.2 per cent.

The seeming weakness of some of the above-mentioned premises for future economic growth in the Nordic countries raises questions about self-reliance vs. economic integration, both for the Nordic countries individually and as a group. Denmark became the first Nordic country to join the European Union,

4 of Table 1 notwithstanding. About incentive-incompatible welfare policies and wage compression there can be little doubt in any of these countries, but the question is whether the demand for education has been significantly affected.

⁹ See Thorvaldur Gylfason, Torben M. Andersen, Seppo Honkapohja, Arne Jon Isachsen, and John Williamson, *The Swedish Model under Stress: A View from the Stands*, Ch. 5, SNS Förlag, Stockholm, 1997.

¹⁰ Health care in the Nordic countries suffers similarly from insufficient competition, diversity, and efficiency. The problem seems to be that public authorities have been unwilling to share their historical responsibility for the provision of education and health care with the private sector.

¹¹ Source: OECD *Economic Outlook*, June 1998, Paris. These figures do not include those who are employed through various government-sponsored job-creation and

in 1973, but has been a somewhat reluctant participant in the deepening of European integration in recent years, as witnessed especially by its opting out of the common currency following the rejection of the Maastricht Treaty in the Danish referendum of 1992. Finland joined the EU much later, in 1995, with Sweden, and quickly established itself as the most prominent, hard-core Nordic member of the EU, not least through its resolve to join the Economic and Monetary Union (EMU) from its inception. Sweden, on the other hand, has dragged its feet by deciding to stay out of the EMU, at least for the time being, while Norway, twice, has rejected EU membership in a popular referendum, first in 1972 and then again 1994. In Iceland, the question of EU membership has not been on the political agenda, let alone put to a vote, but opinion polls for several years have consistently demonstrated a fairly strong, albeit somewhat volatile, undercurrent of popular support for accession, given that the rest of the Nordic countries would join, as they all have by now except Norway.

In this paper, I do not want to discuss the pros and cons of Denmark and Sweden's decision to stay away from the common currency¹² other than to say that their decision appears mostly to be based on the presumption that the preservation of monetary-policy independence is desirable and may even be necessary in the battle against unemployment, a view apparently not shared by the governments of Finland and Austria,¹³ for example, but strongly held by several American economists¹⁴ and some European ones.¹⁵ This view, in turn, seems predicated on the belief that labor markets would remain

job-training schemes.

¹² This is the subject matter of the paper by Hutchison in this volume.

¹³ On Finland, see Report of the Finnish Commission on EMU, *Finland and EMU*, Publication No. 1997/26, the Office of the Prime Minister, Helsinki, 1997. See also Seppo Honkapohja, "Finland and EMU: An Overview", in *ØMU og pengepolitikken i Norden*, Occasional Paper 26, Central Bank of Norway, Oslo, 1998, pp. 23-33. On Austria, see Eduard Hochreiter and Georg Winckler, "The Advantages of Tying Austria's Hands: The Success of the Hard Currency Strategy", *European Journal of Political Economy* 11, 1995, pp. 83-111.

¹⁴ See, e.g., Martin Feldstein, "EMU and International Conflict", *Foreign Affairs*, November/December 1997.

¹⁵ See, e.g., Lars Calmfors *et al.*, *EMU— A Swedish Perspective*, Kluwer, 1997.

centralized and rigid at least for a time despite the monetary, financial, and fiscal discipline imposed by the adoption of a common currency, and so there might be a danger that waves of unrealistic wage increases of the kind that the Nordic countries have experienced at regular intervals in the past would, under a common currency, lead to increased cyclical and structural, long-term unemployment. It is understandable and natural that different nations have different perspectives on the costs and benefits of EMU membership. It is also possible, however, to interpret the reluctance of Denmark and Sweden to join the EMU as a sign of an insufficient eagerness to reform their labor markets.

What I want to discuss in this paper is something completely different— a different conflict, if you like. I want to stress the need for trade expansion in the Nordic countries and some of the latent, long-run dangers that may stem from their reliance on natural resources, especially for Norway and Iceland. Specifically, I want to suggest that there may be a conflict between heavy natural-resource dependence and the propensity to participate in, and benefit from, economic integration. This may help to explain why the governments of Norway and, especially, Iceland still show no signs of wanting to join the EU, even as the Central and Eastern European countries are queuing up outside the gates. This may, moreover, help to explain why heavy natural-resource dependence may be, at best, a mixed blessing in the long run.

III. Trade and Growth in the Nordic Countries

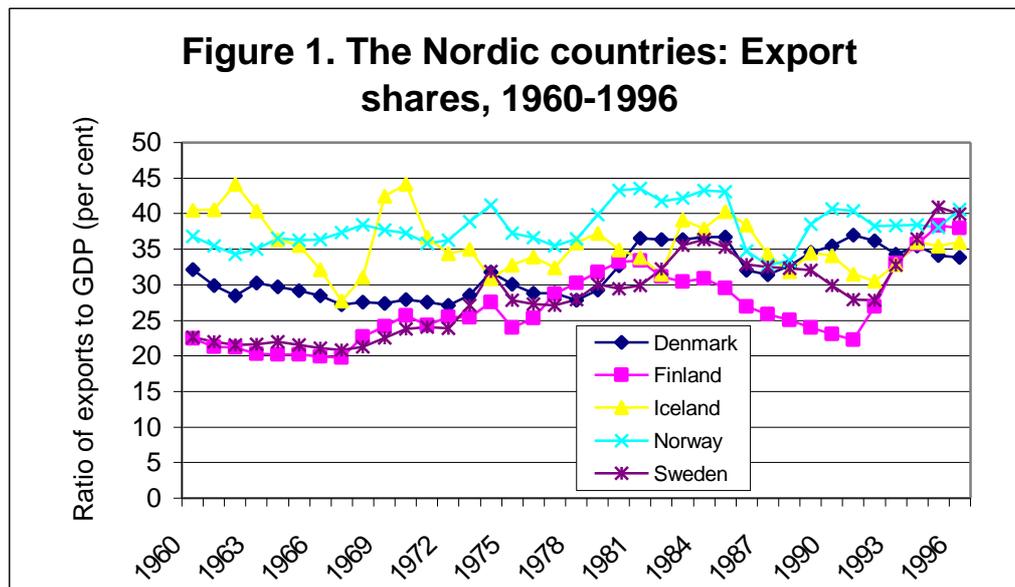
Let us now shift the focus to foreign trade and growth.

Figure 1 shows the evolution of the export of goods and services relative to GDP in the Nordic countries from 1960 to 1996. The Norwegian and Danish export ratios have remained virtually unchanged over this 36-year period, while the Icelandic export ratio has actually declined. Only in Sweden and Finland has the export ratio risen significantly, from 23 per cent in both countries in 1960 to 38 per cent in Finland in 1996 and 40 per cent in Sweden.

Why have the export ratios of the five countries developed so differently?

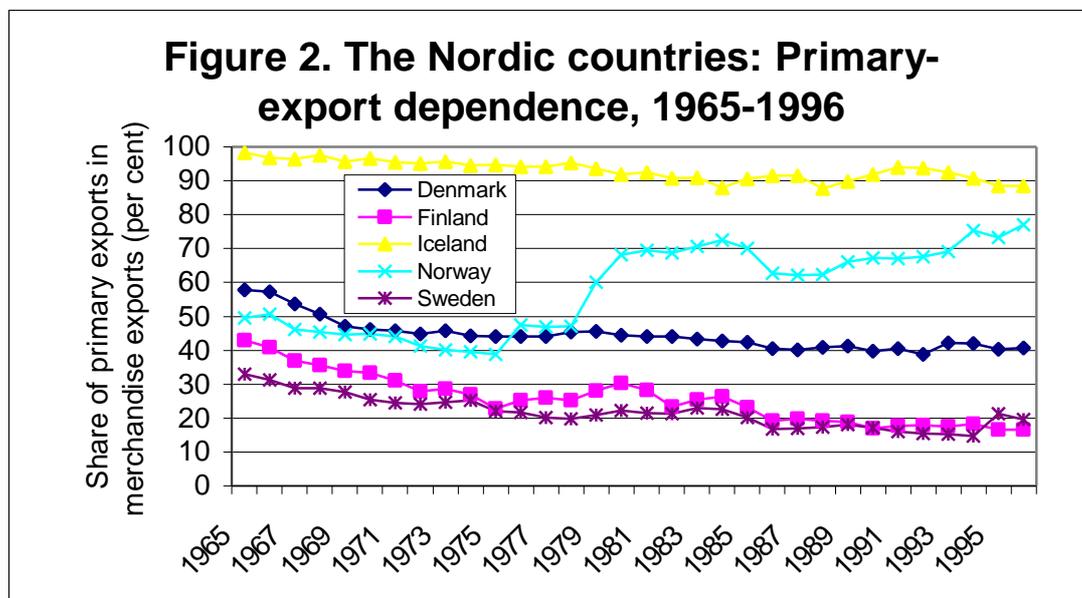
I want to suggest the following partial explanation. Finland and Sweden

are the two countries in the Nordic group whose dependence on primary (i.e., non-manufacturing) exports has been the least since 1960, having gradually declined below 20 per cent of total merchandise exports as manufacturing exports expanded, as shown in Figure 2. Denmark, despite having become self-sufficient in natural gas since the 1970s, has seen its primary-export share decrease by nearly a third, from almost 60 per cent in 1960 to about 40 per cent in 1996. Norway, by contrast, due to its spectacular oil discoveries since the mid-1970s, has seen its primary-export share increase from 50 per cent in 1960 to almost 80 per cent in 1996. Iceland is an even more clear-cut case: its primary-export share has fallen, yes, but from almost 100 per cent in 1960 to only a little less than 90 per cent in 1996.¹⁶ If Figure 2 showed primary exports relative to total exports of goods and services rather than just merchandise exports, all the curves would lie lower in the graph, but the general pattern displayed would be similar.



¹⁶ Even so, exports of fish account for a bit more than a half of total exports of goods and services and about one-sixth of Iceland's GDP. The almost 90 per cent share of primary exports in merchandise exports from Iceland includes aluminium and ferro-silicon exports, which make up about 10 per cent of the total. Throughout the paper, primary exports are defined as non-manufacturing exports. If exports of ores and metals, which account for 10 per cent of the total in Iceland as said above, 7 per cent in Norway, and 3 per cent or less in Finland, Sweden, and Denmark (the figures are from 1996), were re-classified as manufacturing exports, the curves in Figure 2 would all move down, but not far. Source: World Bank, *World Development Indicators*, 1998, Table 4.4.

Why all this fuzz about trade? Of the three pillars of economic growth emphasized in the preceding section, i.e., investment, trade, and education, external trade is perhaps the least obvious. Trade and related variables have not figured prominently— in fact, scarcely at all— among the many significant determinants of economic growth suggested by recent empirical research.¹⁷ But this is hardly surprising because, after all, at least within an endogenous-growth framework, trade and growth are jointly determined endogenous phenomena. This means that some of the variables that have been found to influence economic growth across countries and over time may actually do so in part through exports. Take inflation, for example. One of the reasons why inflation seems to impede economic growth is that inflation hurts exports and thereby imports, too, not only of goods, services, and capital, but also of ideas, information, innovation, and know-how.¹⁸ Similarly, one of the reasons why education is good for growth may well be that a well-educated work force is generally better placed to find foreign markets for domestic output, hence amplifying through the static and dynamic gains from trade the direct effects of education on growth.



¹⁷ See Robert J. Barro and Xavier Sala-i-Martin, *Economic Growth*, Ch. 12, McGraw-Hill, New York, 1995.

¹⁸ See Thorvaldur Gylfason and Tryggvi Thor Herbertsson, “Does Inflation Matter for Growth?”, CEPR Discussion Paper No. 1503, 1996.

The point is, as Adam Smith understood well, that trade, like virtually all other sources of increased efficiency, is a likely source of economic growth, both directly and indirectly. Even if foreign trade does not often show up as a significant determinant of growth in empirical cross-country or panel studies, a few recent studies have reported that some indicators of openness to trade have proved significantly correlated with growth.¹⁹ Indeed, despite scant concrete econometric evidence, the crux of the case for the ongoing deepening and widening of European integration rests on the reasonable belief that trade is good— perhaps even a prerequisite— for peace, prosperity, and the progress of wealth, i.e., economic growth. But this does not mean that *all* trade is equally good for growth. For example, high-tech trade seems more likely to encourage economic growth through technological spill-overs than low-tech, labor-intensive trade. If Singapore, for whatever reason, had chosen to specialize in agriculture and fisheries rather than in manufacturing and especially services, its trade and growth performance over the years would surely have been less spectacular. In this century, no country has become affluent from agriculture and fisheries alone.²⁰

Let us now consider three channels through which a heavy dependence on primary exports can impede economic growth.

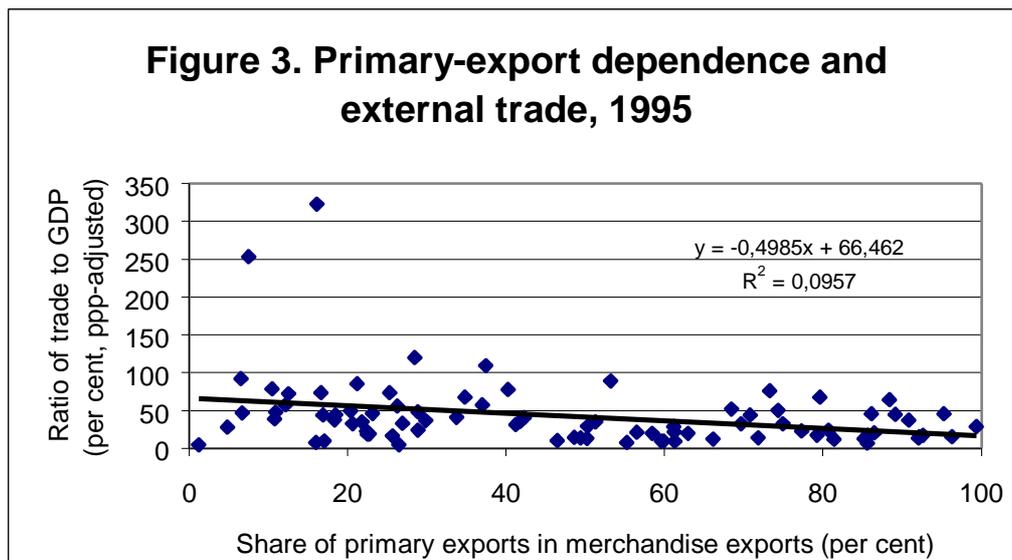
Figure 3 shows the relationship between the ratio of trade (i.e., exports and imports of goods and services) to GDP and the ratio of primary exports to merchandise exports (i.e., exports of goods) in 85 countries in 1995.²¹ Each dot

¹⁹ See, e.g., Jeffrey D. Sachs, and Andrew M. Warner, “Economic Reform and the Process of Global Integration,” *Brookings Papers on Economic Activity* 1, 1995, pp. 1-118, and Sebastian Edwards, “Openness, Productivity and Growth: What do we Really Know?,” *Economic Journal* 108, March 1998, pp. 383-398.

²⁰ In Iceland, it perhaps needs to be added, the radical economic transformation that took place in the 20th century, beginning with home rule in 1904, almost surely had more to do with education and imported technology than with fish, even if the two went hand in hand and supported one another.

²¹ This is the number of countries for which the necessary statistics are available from the World Bank, *World Development Indicators* 1998, Washington, D.C. In the figures to follow (Figures 4-10), the number of countries included is likewise the maximum number of countries for which the necessary information is available from the World Bank. In three instances (Figures 6-8), the statistics taken from the World Bank’s CD-

in the diagram represents a single country. The correlation across countries is significantly negative (with $t = 3.0$), even if the correlation is only -0.31 .²² The slope of the regression line means that a two-point increase in the primary-export share from one country to another is accompanied by a reduction of the trade ratio by almost one percentage point.²³ So here we have one possible channel through which a preponderance of primary exports may reduce the rate of economic growth.²⁴



This relationship does not emerge out of thin air, for there are at least two possible explanations that one can think of: (a) the Dutch disease, through which natural-resource-related booms (and busts) result in overvalued currencies, excessive real wages, and consequently sluggish total exports, and (b) rent seeking, which often accompanies abundant natural resources and

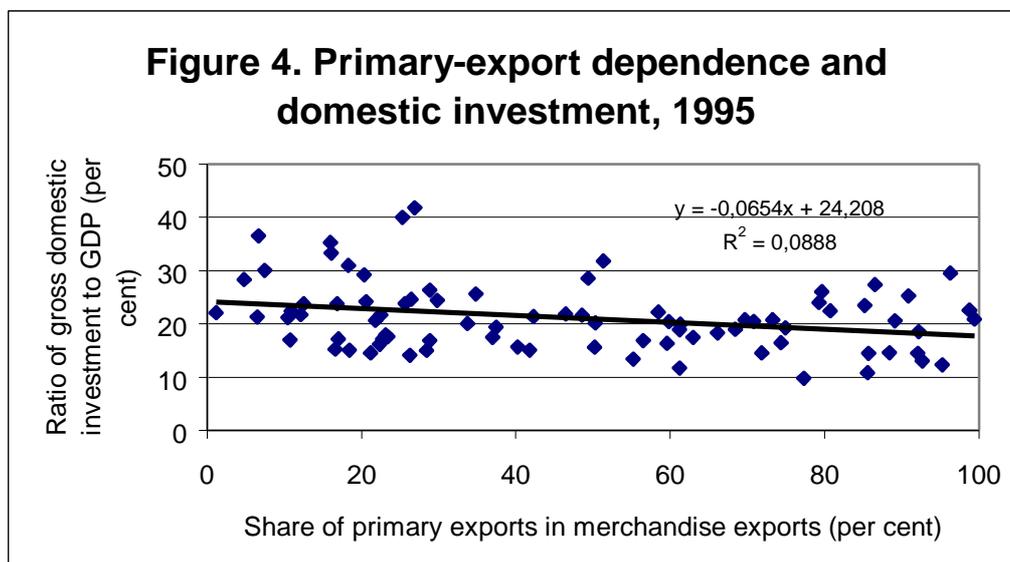
ROM had to be supplemented by information from the printed version of the *World Development Indicators 1998*.

²² The correlation is, by definition, equal to the square root of R^2 . The significance of the correlation is established by a t-test of the significance of the slope of the regression line through the scatterplot.

²³ True, the two outliers (Hong Kong and Singapore) in the northwest corner of the figure create a bit of a bias; without them, the slope of the regression line decreases to -0.25 (with $t = 2.6$), which means that a four-point increase in the primary-export share from one place to another is associated with a reduction of the trade ratio by one percentage point.

²⁴ See Jeffrey D. Sachs and Andrew M. Warner, "Natural Resource Abundance and Economic Growth," *Quarterly Journal of Economics* (forthcoming), and Thorvaldur Gylfason, Tryggvi Thor Herbertsson, and Gylfi Zoega, "A Mixed Blessing: Natural

may perhaps be classified as a variant or symptom of the Dutch disease.²⁵ Clearly, a simple correlation does not entail causation. It is conceivable that increased openness reduces the need for primary exports rather than the other way round. It needs to be emphasized that no conclusions are being drawn here as to cause and effect but simply of a visible relationship between two variables. Figure 3 is only intended to display the raw data in such a manner that the description accord reasonably well with the results of a multivariate regression analysis, where an attempt was made to distinguish cause from effect. The same disclaimer applies to Figures 4-10 below.



Another channel through which primary exports can impede economic growth is evidenced by Figure 4, which shows the relationship between the ratio of domestic investment to GDP and the primary-export share in 83 countries in 1995. Again, the correlation is significantly negative (with $t = 2.8$), even if the correlation is only -0.30 . This stands to reason: as a rule, primary industries, not least agriculture and fisheries in developing countries, tend to be relatively low-tech and labor-intensive,²⁶ so that their own investment

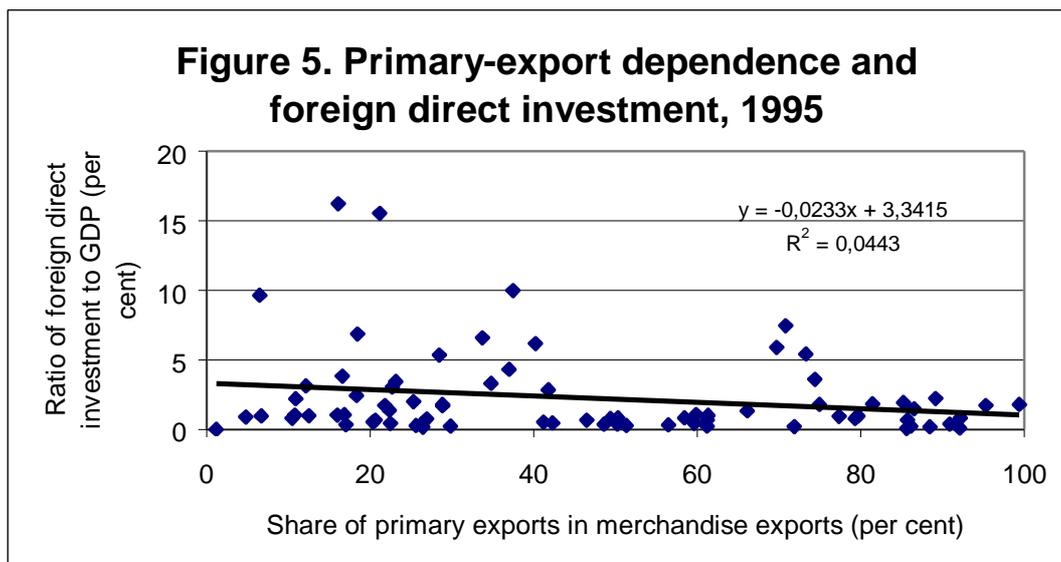
Resources and Economic Growth”, *Macroeconomic Dynamics* 3, June 1999.

²⁵ See Thorvaldur Gylfason, “Nature, Power, and Growth”, unpublished manuscript, 1999. See also, e.g., W. Max Corden, “Booming Sector and Dutch Disease Economics: Survey and Consolidation”, *Oxford Economic Papers* 36, 1984, pp. 359-380, and Martin Paldam, “Dutch Disease and Rent Seeking: The Greenland Model”, *European Journal of Political Economy* 13, 1997, pp. 591-614.

²⁶ But not always: the mechanization of mine excavation and of oil and gas extraction

needs as well as their encouragement of investment in other industries may be correspondingly limited. The slope of the regression line means that a 15-point increase in the primary-export share from one place to another goes along with a decrease in the domestic investment ratio by one percentage point.

How about foreign direct investment? Figure 5 displays the relationship between the ratio of foreign direct investment to GDP and the primary-export share in 77 countries in 1995. The inverse correlation observed is marginally insignificant in a statistical sense at the 0.05 level (with $t = 1.9$), and it is not economically significant either, for the slope of the regression means that a 43-point increase in the primary-export share from one country to another is associated with a reduction of the ratio of foreign direct investment to GDP by one percentage point. The correlation is only -0.21 .²⁷

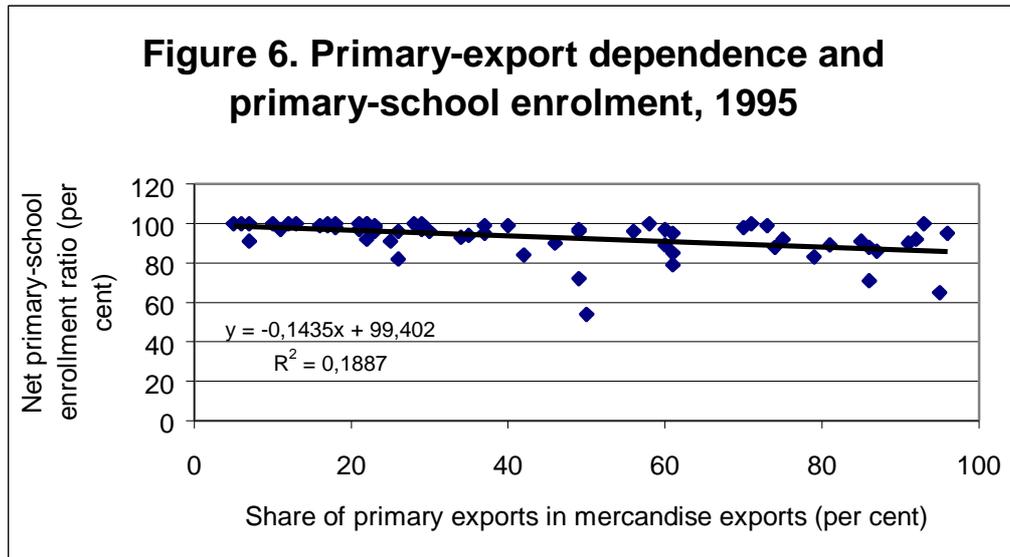


A third possible source of an inverse relationship between primary exports and economic growth has to do with education. Figures 6, 7, and 8 display inverse relationships between primary exports and enrolment (a) in primary

and the modernization, including computerization, of fishing vessels in recent years are two examples of increasingly high-tech primary production. High-tech, high-skill-intensive agriculture in many industrial countries is another case in point.

²⁷ For comparison, a 23-point increase in the share of the primary sector in the labor force from one country to another is associated with a reduction in the ratio of gross foreign direct investment to GDP by one percentage point in a sample of 115 countries. In this case the effect is statistically significant. See the first reference in

schools (in 62 countries), (b) in secondary schools (in 51 countries), and (c) in tertiary schools (in 77 countries). All three relationships are highly significant at the 0.05 level (with $t = 3.7, 5.5,$ and $2.4,$ respectively); the corresponding correlation coefficients are $-0.34, -0.62,$ and $-0.27.$ The figures accord well with the idea that education at all levels is good for growth and vice versa.



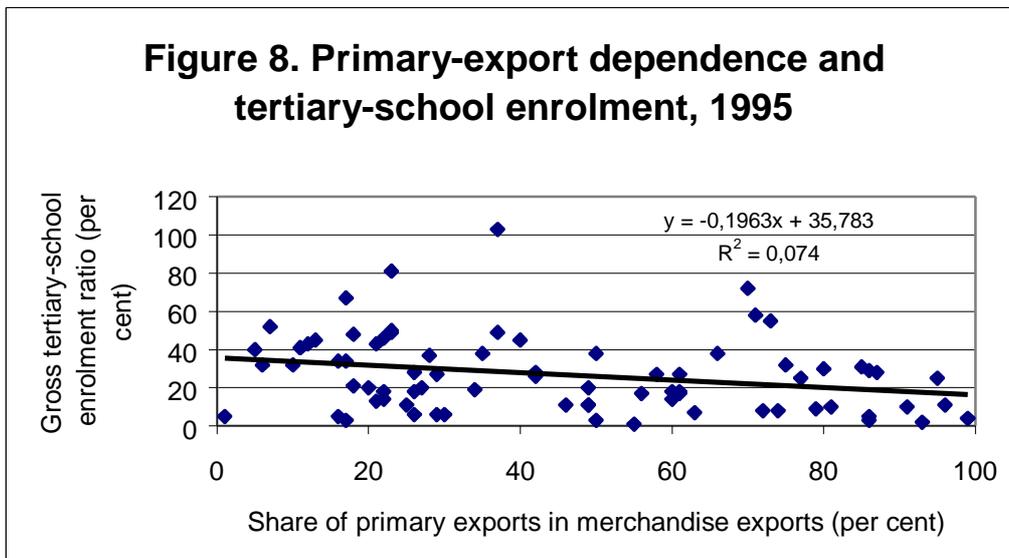
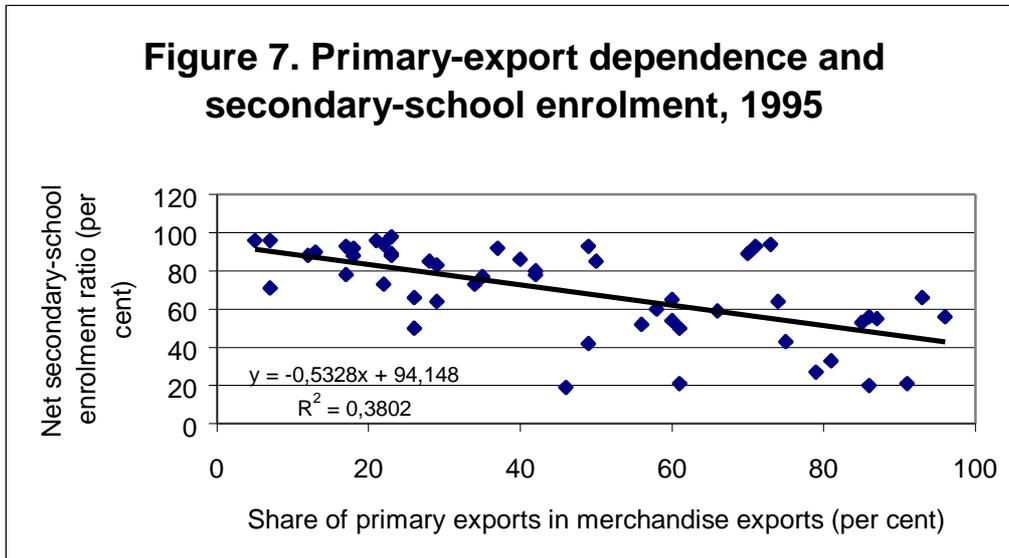
How strong are these linkages? The slope of the regression line in Figure 6 indicates that a seven-point increase in the primary-export share from one country to another goes along with a decrease in the primary-school enrolment rate by one percentage point. Figure 7 similarly indicates that a two-point increase in the primary-export share is associated with a one-point decrease in the secondary-school enrolment rate. At last, Figure 8 indicates that a five-point increase in the primary-export share goes along with a one-point decrease in the tertiary-school enrolment rate.

Of the three school-enrolment ratios, the secondary-school enrolment rate is most sensitive to variations in the primary-export share. This is noteworthy because econometric studies of economic growth across countries have shown that growth is generally more sensitive to variations in the secondary-school enrolment rate than it is to variations in either primary or tertiary education.²⁸ To increase economic growth, it seems most effective to send more youngsters

footnote 25.

²⁸ See again reference in footnote 17.

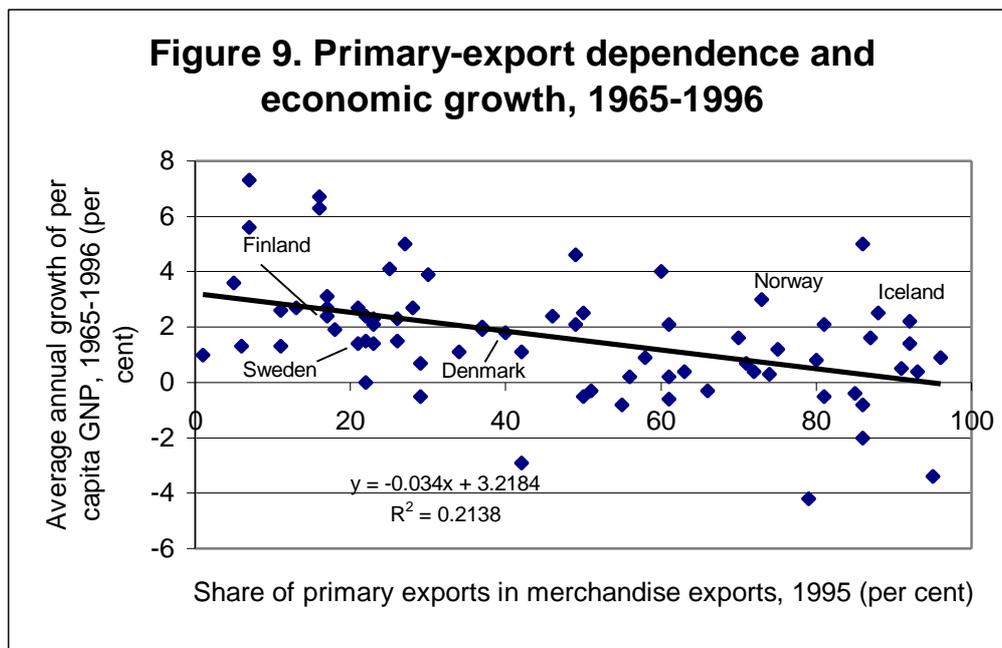
to secondary school, especially girls. A typical result is that an increase in the secondary school-enrolment ratio by 30 percentage points (e.g., from 50 to 80 per cent of each cohort) will increase the rate of per capita growth from one country to another by one percentage point, other things being equal.



Figures 6, 7, and 8 thus seem all three to accord with the idea that a strong emphasis on primary exports, not least agriculture in developing countries, by not calling for much highly trained manpower, tends to generate not only less investment in physical capital, as we saw in Figures 4 and 5, but also less investment in human capital.²⁹

Figures 9 and 10 conclude the argument. Figure 9 shows the relationship

between primary exports in 1995 as before and the average annual rate of growth of per capita GNP in 73 countries from 1965 to 1996. If the primary-export share in 1995 is viewed as an indicator of natural-resource abundance, then it seems quite conceivable that economic growth per year on average over the period 1965-1996 depends on natural resources among other things rather than the other way round (i.e., without any implication that the present has a retroactive effect on the past). The slope of the regression line in Figure 9 is significantly negative (with $t = 4.4$); the corresponding correlation is -0.46 . The slope of the regression indicates that a 30-point increase in the primary-export share from one country to another reduces per capita growth by one percentage point.

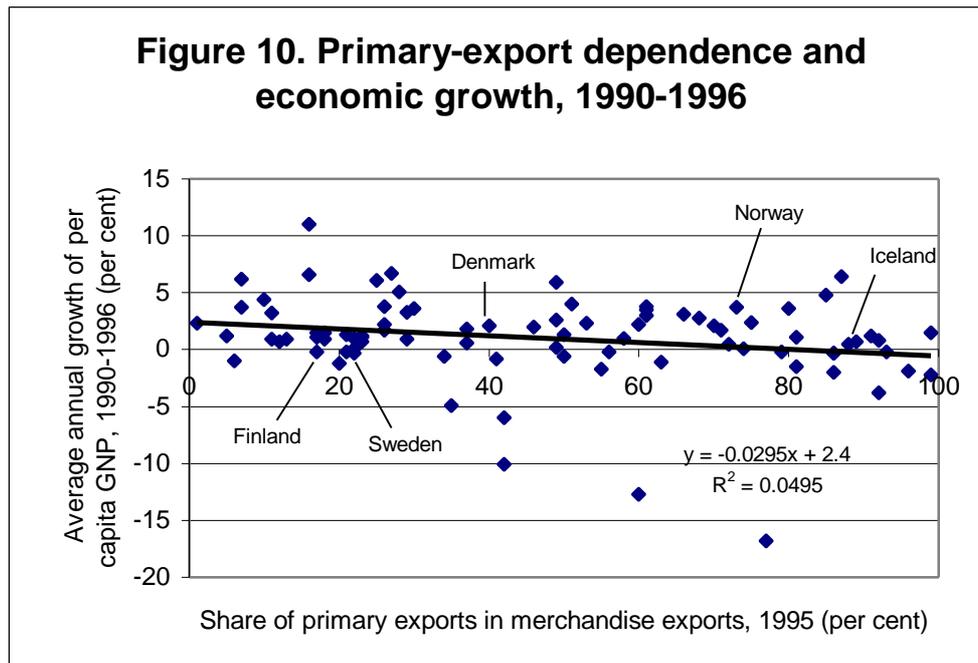


This correlation comes quite close the quantitative results obtained from several recent multivariate regression analyses of economic growth patterns across countries. A representative result from cross-sectional and panel studies is that an increase in the primary-export share by 25 percentage points (e.g., from 25 per cent of merchandise exports to 50 per cent) reduces the rate of per capita growth from one country or time to another by one percentage

²⁹ See the second reference in footnote 24.

point, other things being equal.³⁰

Figure 10 tells essentially the same story, except here we have the average annual rate of growth of per capita GNP in 87 countries over a shorter and more recent period, from 1990 to 1996, on the vertical axis. The slope of the regression is virtually the same as in Figure 9, and it remains significantly negative (with $t = 2.1$).³¹



A similar result obtains yet again when the primary-export share in 1995 is plotted against per capita growth in 1995, to take an even shorter view of growth: the slope of the regression (not shown) is virtually the same as in Figures 9 and 10, and remains significant also in a statistical sense, but in this case there are understandably more outliers and the R^2 is accordingly lower.

How do the Nordic countries fare in Figures 9 and 10? According to Figure 9, Norway and Iceland have grown much more rapidly than predicted by

³⁰ See references in footnotes 6, 18, and 24-25.

³¹ Kuwait, whose per capita GNP growth has been extremely volatile over the years, has been removed from the sample. Kuwait's per capita growth during 1975-1985 was -7.7 per cent per year on average, 2.0 per cent during 1986-1995, and 15.7 per cent during 1990-1996. This removal of an outlier is the sole departure in this paper from the practice of including *all* countries for which the requisite data are available; see footnote 21. If the five outliers with average growth rates of -5 per cent per year or less (the three Baltic countries, the Kyrgyz Republic, and Moldova) were also removed from the sample, the estimated slope of the regression would drop from

their primary-export shares alone, but this, of course, is not surprising. For one thing, economic growth obviously depends on a host of factors other than the primary-export share. For another, the period covered by the figure, 1965-1996, starts a full decade before Norway became a significant oil exporter, and it includes a long period when the Icelandic economy was booming following the extension, in 1976, of Iceland's fisheries jurisdiction to 200 nautical miles as well as due to relentless monetary expansion, high inflation, and associated overheating of the economy as well as excessive foreign borrowing, all of which were conducive to growth for a while. Even so, it is interesting to note that, with only one exception (Oman), all the countries which grew more rapidly than Norway and Iceland during this period have lower primary-export shares.

By contrast, Figure 10, which covers the years from 1990 to 1996, correctly predicts the slow growth of the Icelandic economy, but Norway remains an outlier. This was a period when Iceland could no longer continue its long-standing policy of high inflation and foreign-debt accumulation, and thus at last had to undertake a major macroeconomic adjustment effort— and face the consequences of its excessive dependence on primary exports, especially fish.

IV. The Natural-Resource Problems of Norway and Iceland

As far as Norway and Iceland are concerned, the story that I have recounted above matters for European integration for the following reason.

The chief hindrances, real or imagined, that stand in the way of Norwegian and Icelandic accession to the EU and the EMU have to do with their primary-export dependence. There is, for that reason, a need for Norway and Iceland to deal with their natural-resource-based obstacles to EU membership if they are to be able to assess and judge the benefits and costs of membership on an equal footing with other prospective and present EU and EMU members. As I see it, this requires the implementation of a market-friendly, fair, and property-rights-oriented solution to the problem of how best to regulate

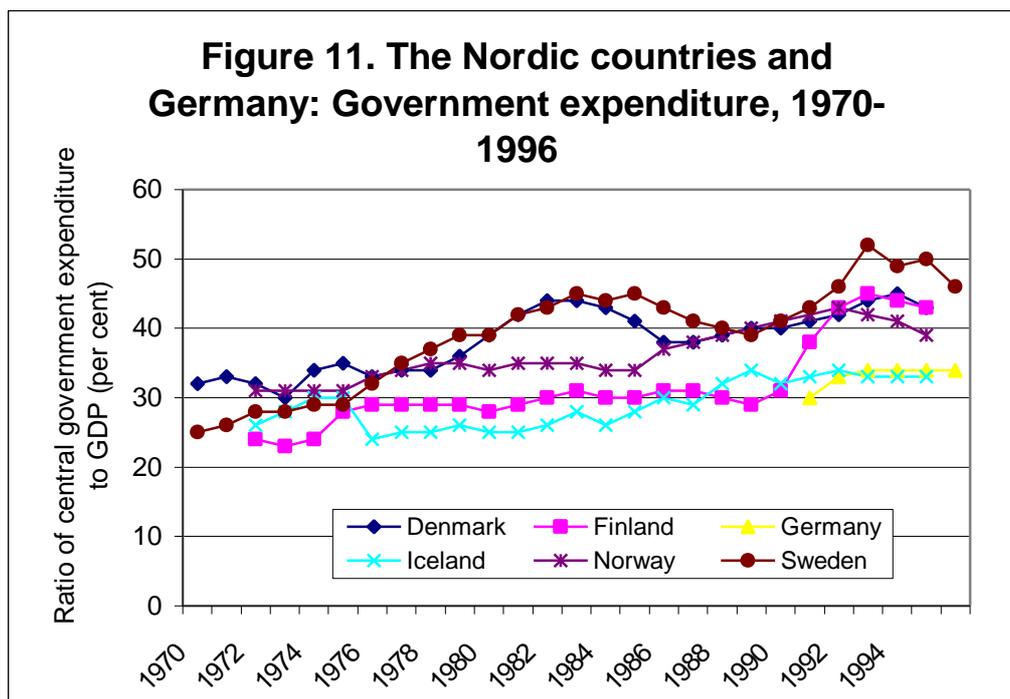
0.030 to 0.022, but its statistical significance would increase (to $t = 2.5$).

access to, and allocate the rents from, the limited common-property natural resources of the two countries.

Take Norway first. Norway has charted a long-run-oriented, tax-based, and reasonably market-friendly approach to the management of its vast oil resources. According to Section 1-1 of the Petroleum Act of 1996, the title to petroleum deposits on the Norwegian continental shelf is vested in the State. The State's title to these resources constitutes the legal basis for government regulation of the petroleum sector as well as for its taxation in accordance with the Petroleum Taxation Act of 1975. Production licences are awarded for a small fee to domestic and foreign oil companies alike. The State has a direct interest in most offshore oil and gas fields and, like other licencees, receives a corresponding proportion of production and other revenues, roughly 40 per cent of the total. Through its direct partnership with other licencees as well as through various taxes and fees (mainly corporate tax (28 per cent) and a special resource tax (50 per cent), but also royalty, area fee, and carbon-dioxide tax), it is estimated that the Norwegian State manages to absorb about 80 per cent of the oil rent. Thus, in 1997, revenues from petroleum activities accounted for more than a fifth of total government revenues and to 9-10 per cent of Norway's mainland GNP, or 8-9 per cent of total GNP, including oil. The oil revenue is deposited in the Norwegian Petroleum Fund, which is being built up and invested mostly in foreign securities for the benefit of the current generation of Norwegians when they reach old age as well as for future generations. Oil exports account for about a third of total exports of goods and services from Norway. The oil industry contributes about one-sixth of Norway's GDP (in 1997).

At the same time, however, a variable proportion of each year's net oil-tax revenue is transferred from the Government Petroleum Fund to the fiscal budget, essentially to cover the non-oil budget deficit. The proportion of net tax revenues from petroleum thus transferred to the government budget was about one-fourth in 1997 and almost 40 per cent in 1998, but is envisaged to drop to less than ten per cent in 1999 (according to the National Budget

1999).³² Even so, the Norwegians have not been tempted to expand their public sector beyond reasonable limits as a result of the oil boom. Figure 11 shows that even 20 years after discovering their oil, the Norwegians continue to content themselves with smaller central government than Denmark, Finland, and especially Sweden. On the other hand, local governments (municipalities and counties), which employ over three-quarters of all public-sector workers and almost one-fourth of the entire labor force,³³ have not managed to exercise similar restraint, but they do not have oil-tax revenue to fall back on except perhaps indirectly through income transfers from the central government. Besides, the social cost of local government expansion is probably smaller than that of central government expansion, krone for krone, other things being the same, because local governments, especially in sparsely populated countries such as Norway, are typically more efficient providers of public services like education and health care than the central government.



The upshot of the foregoing description of Norway's method of managing its oil resources is (a) that the Norwegians are already preparing themselves

³² It remains to be seen whether, in the light of low oil prices and fiscal pressures, the transfer from the Government Petroleum Fund to the government budget can be kept below 10 per cent in 1999, as envisaged.

with care for a (fairly distant) future without oil and (b) that “sharing the oil with foreigners” and related concerns do not arise in connection with Norway’s oil wealth in the discussion of the pros and cons of potential Norwegian EU membership. Thanks to the market-oriented approach to oil-resource management as well as to the legal status of Norway’s oil reserves as a taxable common-property resource, oil does not stand in the way of Norway’s entry into the EU, if this is where the Norwegian people want to go. In keeping with the tax treatment of the oil wealth, the taxation of Norway’s hydro-power sector is now evolving in the direction of explicit rent fees or resource taxes.

The Norwegians’ management of their fish resources is rather different from their handling of their oil wealth. Norway’s fishing industry is actually tiny, employing, like the oil sector, less than 1 per cent of the country’s labor force. Agriculture, forestry, and fishing together account for about 2 per cent of GDP, and their share is declining. Of this small share, the fisheries account for less than a half. Government subsidies to the fishing industry increased successively from the 1950s onwards until they peaked at about 70 per cent of the incomes of fishermen and boat-owners in 1981.³⁴ Since then, however, the subsidies have been reduced in stages down to almost nothing. Even so, the government carries the cost of managing the fisheries and of enforcing fishery regulations; this cost is considered equivalent to about 10-15 per cent of the gross value of the catch.³⁵ Moreover, virtually all the resource rent from the fisheries, roughly estimated at 20-25 per cent of the gross value of the catch,³⁶ has been allowed to dissipate through excess capacity and overmanning. This matters here because the fishing industry’s vociferous protests were seemingly the single most important factor contributing to the Norwegians’ rejection of EU membership in the referendum of 1994 (and also in 1972).

³³ See *OECD Economic Surveys: Norway*, 1998, Ch. 2, OECD, Paris.

³⁴ See Rögnvaldur Hannesson, *Fisheries Mismanagement: The Case of the North Atlantic Cod*, Fishing News Books, Oxford, 1996, pp. 23-24.

³⁵ *Ibid.*, p. 30.

³⁶ *Ibid.*, p. 29.

Part of the problem is that the Norway's fishing industry is perceived to be much larger than it actually is. Ask ordinary people on the streets of Oslo and Bergen how much they think the fishing industry contributes to Norway's GDP, and they will almost surely name figures that are far too high.³⁷ This is partly because the fishing industry is quite important to individual coastal communities, even if it is not important in a macroeconomic sense to the Norwegian economy as a whole. A vocal fishing lobby also does its best— and they are extremely good at it!— to insure that this false perception does not fade from the public consciousness. Anyhow, it is inefficient, probably grossly inefficient, to tie regional support to particular industries, such as fisheries or agriculture.³⁸ It would be more efficient to aim subsidies or other regional-policy instruments at the regions concerned with no strings attached rather than at specific industries, and thus to allow the recipients themselves to decide whether they want to continue to fetch fish from the sea or do something else— like, for example, learn languages like English and Excel and attract tourists from abroad or what have you.

Iceland also has all of the above problems, but on a larger scale because the Icelandic fishing industry is more important locally than that of Norway. The fishing industry in Iceland employs 11 per cent of the labor force (compared with less than one per cent in Norway), and contributes about one-sixth of Iceland's GDP, like Norway's oil industry, and a bit more than a half of total exports of goods and services. Since 1984, fishing permits by law have been allocated free of charge to selected boat-owners who have, especially since 1990, for the most part been free to utilize them or sell them to the highest bidder as they please. This means that efficient (often big) firms can now buy up the quotas allocated to less efficient (often small) firms, which but of

³⁷ This is certainly true of Iceland, and not only of people on the streets of Reykjavík and Akureyri, but also of parliamentarians and government ministers. (Informal polls confirm this.)

³⁸ An attempt is made to quantify the efficiency gains at stake in Victor Norman *et al.*, "Mot bedre vitende?", *Effektiviseringsmuligheter i offentlig virksomhet*, SNF-rapport 4/91, Stiftelsen for Samfunns- og Næringslivsforskning, Norges Handelshøyskole, Bergen, 1991.

course is all very well, because this means that eventually the quotas will presumably end up in the hands of the most efficient fishing firms.³⁹ The idea is that, in the end, the maximum allowable catch will be brought on shore at minimum cost, thus insuring maximum efficiency.

The main problem with the individual-transferable-quota (ITQ) system, however, as it has been implemented in Iceland from its inception in 1984 to date is that the quotas are not *sold* initially, but are given away for free. This arrangement entails not only gross inequities, apparently on a scale hitherto unheard of in the history of the Republic, but it also entails substantial waste, for several reasons.

First, the stipulation in the Fisheries Management Law from 1984 that the fishing rights be handed out for free rather than sold to boat-owners based on their fishing experience in 1981-1983 seems likely to keep Iceland outside the EU indefinitely, because (a) giving quotas to foreigners free of charge is clearly out of the question and trading them on a barter basis, as has been done on a limited scale, is obviously inefficient and (b) selling quotas to foreigners while continuing to give them to Icelandic boat-owners for free would involve discrimination by nationality, and would thus, in principle, constitute a violation of the Treaty of Rome.⁴⁰

Second, unrequited quota allocations to boat-owners have reduced the transparency of fiscal and monetary operations (a) by hiding substantial *de facto* government subsidies to the fishing industry, while the public sector remains in a quasi-permanent state of fiscal crisis, which has hit public-expenditure allocations to education and health care especially hard, and (b) by keeping serious structural weaknesses in the still mostly state-owned and state-operated banking system from plain view by enabling fragile fishing firms to use their quota allocations to service their debts rather than declare

³⁹ In 1997, the ten fishing firms with the largest quotas had 29 per cent of the total, up from 21 per cent in 1991.

⁴⁰ There may, however, be some scope for granting differential access to specific fish banks by nationality on the basis of historical precedence.

bankruptcy.⁴¹

Third, like excessive subsidies in general, especially concealed subsidies, the unrequited allocation year after year of valuable fishing rights to boat-owners who are free to turn around and sell them for large amounts of money tends to promote and perpetuate inefficiency as well as a lack of financial self-responsibility in the fishing industry. Boat-owners tend to use the money handed to them by the government to buy more and bigger boats and the like, for this is what they know best— or to squander it, as often seems to be the case with windfall gains.⁴²

The ongoing rationalization of the Icelandic fishing industry would incur less waste and be more rapid if the fishing permits were sold initially (e.g., auctioned off, taxed, or allocated to all Icelanders alike in the form of shares or vouchers), as is done, for example, with oil in Alaska, and would then remain fully and freely transferable— and thus not subject to any restrictions based on, say, the nationality of would-be buyers competing on a level playing field in accordance with the Treaty of Rome. This is the most efficient, fair, and equitable way of regulating the access to the fisheries and of distributing the associated fishing rent, which is roughly estimated at around 5 per cent of the Iceland's GNP in the long run, year after year. This means that if the Icelandic government were to take in, say, 80 per cent of the rent, as is the case with Norway's oil resources as said above, then the revenue from fishing fees could ultimately suffice to reduce personal and corporate income taxes in Iceland by about a third or to create conditions for an equivalent reduction of

⁴¹ From 1987 to 1997, the Icelandic banking system wrote off bad debts equivalent to about 13 per cent of the country's GDP in 1997, including a large chunk of the bad debts of fishing firms.

⁴² For example, the debts of Icelandic fishing firms increased by 56 per cent during 1996, 1997, and 1998, at a time when the industry was supposed to be reducing its fleet and cutting costs (and inflation was about 2 per cent per year). The size of the fleet, measured in Icelandic krónur at constant prices, has been reduced by only ten percent from its peak in 1989. Measured in tons, the reduction of the fleet since 1989 has been even smaller, almost insignificant.

other distortionary taxes.⁴³ Better still, perhaps, the revenue from fishing fees could be deposited in an Icelandic Fisheries Fund, organized and invested along the lines of the Norwegian Petroleum Fund— in view of the somewhat paradoxical, but apparently real, possibility that renewable fish resources may be almost as susceptible to depletion as non-renewable oil resources.

Anyhow, even if poll after opinion poll shows that the substantial majority of the Icelandic electorate wants the boat-owners to pay for the fishing rights that they have thus far been granted for free, the majority of the politicians in parliament has remained steadfastly against it, even after the Supreme Court of Iceland, in December 1998, ruled unanimously that the legislation behind the current system of allocating the fishing rights free of charge to people who happened to own boats in 1981-1983 is unconstitutional. Specifically, the Court ruled that the law violates the constitutional provision protecting the general principle of equality. The parliament reacted by revising the law in a way that does not, however, substantively change the system of allocating the fishing rights free of charge and that many observers accordingly view as a futile attempt to circumscribe the substance of the unanimous ruling by the Supreme Court, which, presumably before long, will have to make a ruling on the revised legislation.

One of the chief arguments against charging fishing fees in one way or another is that this would create an irresistible urge to expand the public sector. The Norwegian experience, however, does not indicate any automatic linkage between large natural-resource-based revenues and the size of the central government, although local government has expanded. On the contrary, the Norwegian example seems to show that judicious, market-friendly management of natural resources, oil in this case, is entirely feasible. The underlying principle is the same in both countries. If it applies to oil, it should also apply to fish.

⁴³ For a further discussion of these issues, see Thorvaldur Gylfason, "The Pros and Cons of Fishing Fees: The Case of Iceland", *EFTA Bulletin* 3/4, European Free Trade Association, Geneva, 1992, and "Iceland on the Outskirts of Europe", *EFTA Bulletin* 2, European Free Trade Association, Geneva, 1991.

Moreover, many politicians from the provinces which elect a majority of the parliament— and where the each vote cast weighs two to four times as heavily as a vote cast in the Reykjavík metropolitan area, where the majority of the country’s population resides— do not look favorably on proposals which would give every Icelander an equal stake in the common-property resource.

The main point of the above argument, however, is this. Even if the expansion of oil exports from Norway since the mid-1970s seems to have left total exports of goods and services unchanged relative to GDP, or perhaps even reduced them, the Norwegians have nonetheless been able to manage their oil resources in a way that has removed any oil-related hindrances from the road that could lead them into the EU, assuming that this is where they want to go. In view of their market-friendly management of their oil wealth, there is no economic reason why the Norwegians and also the Icelanders could not in the same manner improve the management of their fish resources so as to remove the chief remaining hindrance on their way to full membership of the EU. Once inside, they could try to persuade the rest of the membership to revamp the Common Fisheries Policy along similar lines, for such reform is sorely needed.⁴⁴

V. Conclusion

The paper began by reviewing selected empirical evidence of saving and investment, external trade, and education in the Nordic countries, identifying some weaknesses in the structural foundations of their economic growth, and discussing their medium-term growth prospects in that light.

The discussion then turned to trade as a source of growth and to primary-export dependence in a global setting as a potential source of sluggish or stagnant exports (the Dutch disease), low investment, and an insufficient

⁴⁴ On the need to reform the Common Fisheries Policy, see, for example, Thorvaldur Gylfason, "Prospects for Liberalization of Trade in Agriculture", *Journal of World Trade* 32, February 1998.

commitment to education. Through some or all of those three channels, it was suggested, a heavy emphasis on primary exports in resource-rich countries may tend to slow down their economic growth over time.

The argument was then applied to the Nordic countries, especially Norway and Iceland, to suggest their primary-export dependence as a possible, partial explanation for their stagnant trade with the rest of the world as well as for their lack of interest thus far in joining the EU– and also, at least in the case of Iceland, for slow growth.

At last the lens was directed at the need for Norway and Iceland to deal with their natural-resource-based obstacles to EU and EMU membership for them to be able to assess the overall benefits and costs of membership on an equal footing with other prospective and present EU members. It was argued that the key to removing remaining hindrances is the implementation of a market-friendly, fee-based, and thus fair fisheries policy in both countries that would, like Norway's promising oil management strategy, pave their way into the EU if that is where they want to be.