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April 3, 1995

To: Members of the Executive Board

From: The Secretary

Subject: <u>Denmark - Selected Background Issues</u>

        This paper provides background information to the staff report on
the 1995 Article IV consultation discussions with Denmark, which was
circulated as SM/95/56 on March 23, 1995.

        Mr. Corker (ext. 37304), Mr. Griffiths (ext. 35354), or
Ms. S. M. Meehan (ext. 34030) is available to answer technical or factual
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INTERNATIONAL MONETARY FUND

DENMARK

Selected Background Issues

Prepared by a Staff Team 1/

Approved by the European I Department

March 31, 1995

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1/ H. Vittas, R. Corker, M. Griffiths, S. Meehan.

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I. The Transformation of Denmark's Current Account, 1960-1994 1/

In 1990, Denmark recorded its first current account surplus in almost thirty years (Chart I-1). This ended three decades where the Danish economy was seemingly able to ignore the implications of intertemporal budget constraints, by borrowing continually to finance successive current account deficits. Official forecasts project that the current account surpluses of the last five years will continue for the foreseeable future, eliminating Denmark's net foreign debt in the first few years of the next century.

This sudden turnaround in Denmark's external accounts raises interesting policy issues. How was Denmark able to run current account deficits for so long? What factors explain the transformation to current account surplus? Was this transformation achieved painlessly or did it entail significant economic cost? Was it achieved automatically or did it require conscious policy action?

This paper attempts to address some of these questions in explaining how this transformation of the external position was achieved. First, it describes the nature of Denmark's external constraint, focusing on the current account and net debt positions, but also considering what is meant by an "external constraint" in a world of capital mobility. Second, it provides more detail on recent changes in the external accounts, describing recent export and import performance. Trade equations are used to understand the key factors explaining the improved export and import performance. Finally, Denmark's macroeconomic policies since 1982 are described in order to understand the evolution of the savings-investment balance, before a brief assessment is made of Denmark's current account transformation. The paper shows that while radical reforms of fixed exchange rates, fiscal consolidation and financial liberalization initially produced spectacular--and somewhat unintended--results, in the end, when combined with complementary policies of tax reform, the measures succeeded in stabilizing the economy, and in relieving it from the pressures of the external constraint. It is hoped that this account may prove instructive for other countries facing similar economic challenges.

1. Denmark's evolving external constraint

Like other small open economies Denmark faces an "external constraint," yet precisely what this means in a world of capital mobility is much less clear. When capital mobility was restricted, the external constraint meant that large current account deficits could precipitate exchange rate pressure, unless domestic interest rates were increased sufficiently to generate offsetting capital inflows. The "external constraint" meant a stop-go cycle where taxes had to be raised, expenditure cut or interest rates increased whenever economic recovery threatened the balance of payments position. However, in today's world of increased international

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1/ This chapter was prepared by Mark Griffiths.

CHART I-1
Denmark

Growth, the Current Account and Net Foreign Debt
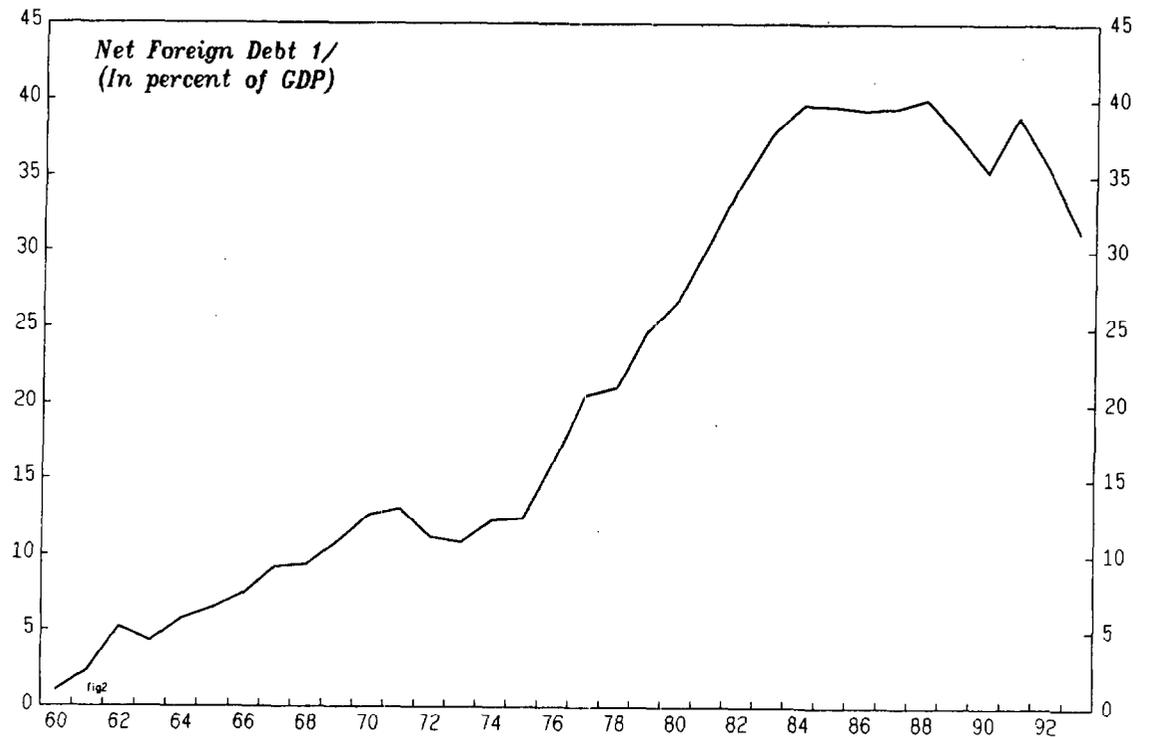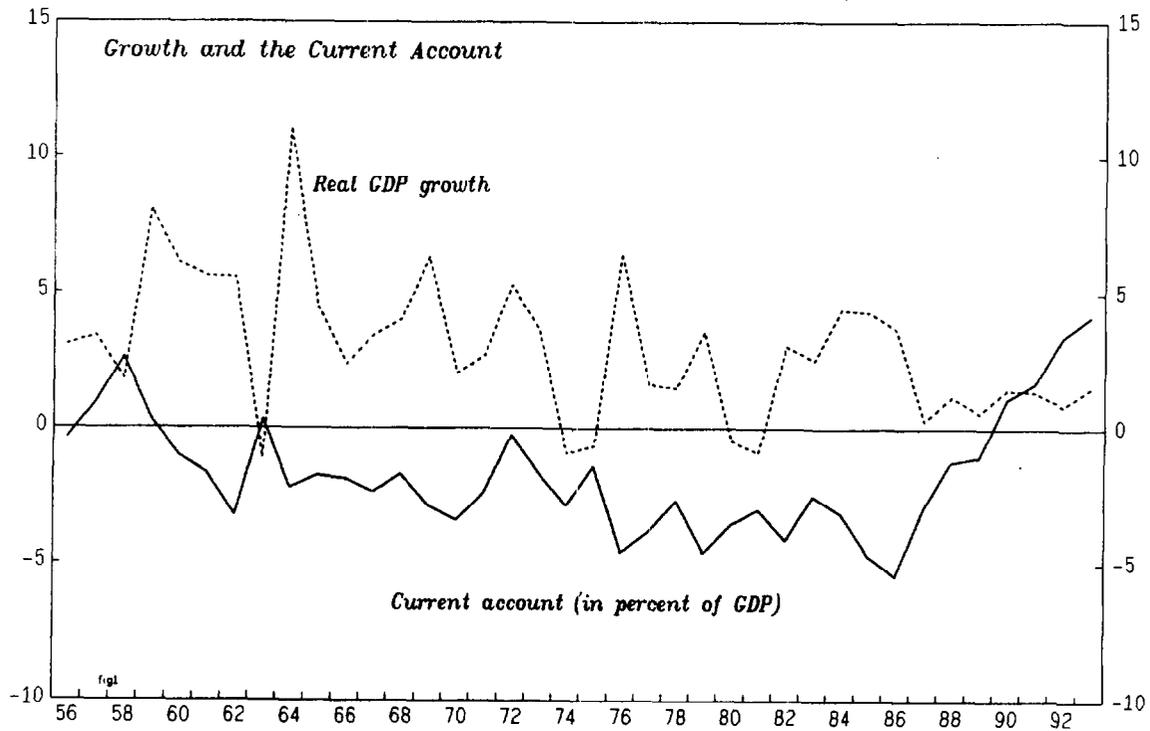
Source: Danmarks Statistik.
1/ Series break in 1991 raised the estimate of net external debt by 58bn DKr, or 7% of 1991 GDP.

capital mobility, it may be argued that small increases in interest rates would be sufficient to finance what were once considered large current account deficits. The short-term borrowing constraint has been replaced by a longer term intertemporal budget constraint. In effect, capital mobility has granted countries easier and extended repayment terms on their international borrowing. 1/

With increased capital mobility making it easier to finance current account deficits, the size of a country's external debt takes on greater significance. Questions concerning the sustainability or desirability of foreign debt have the potential to bring the external constraint back into play. Despite starting in 1960 with a net foreign debt estimated at only 1 percent of GDP, almost thirty years of current account deficits left Denmark in the mid-1980s with a net foreign debt to GDP ratio well above the average for OECD countries (Table I-1, Chart I-1). The debt ratio of Denmark's more mature economy was comparable to that of traditional debtor countries, less developed economies with greater growth potential.

The real increase in Denmark's foreign debt to GDP ratio was deferred to the late 1970s and early 1980s. Despite running current account deficits averaging 1.9 percent of GDP from 1960 to 1975, Denmark's net external debt only increased to 12.2 percent of GDP over this period. It was only in the late 1970s and early 1980s that Denmark's external debt surged, reaching almost 40 percent of GDP by 1984. During the late 1980s the debt ratio eventually stabilized, before falling significantly in recent years following surpluses on the current account balance.

What explains the dramatic rise in the Danish foreign debt to GDP ratio during the late 1970s and early 1980s? The trade deficit actually fell sharply as a proportion of GDP from 1976 onwards, and even recorded a slight surplus in 1983. Despite this improved trade performance, the current account deficit worsened to an average of 3.5 percent of GDP from 1975-85, driven by a worsening and persistent deficit on net investment income (Chart I-2).

1/ Some have concluded that, under perfect capital mobility, the current account should no longer matter, to the extent that it reflects undistorted private sector saving and investment decisions. According to this view, which arguably has been discredited by recent events, the current account itself is not the problem: it can only be a symptom of the underlying problem of insufficient government saving. Corden (1994, Chapter 6) discusses this view.

CHART I-2
Denmark
Components of the Current Account
(In percent of GDP)

Trade balance

Current account

Net investment income

fig3

70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93

Non-interest current account

Current account

fig4

70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93
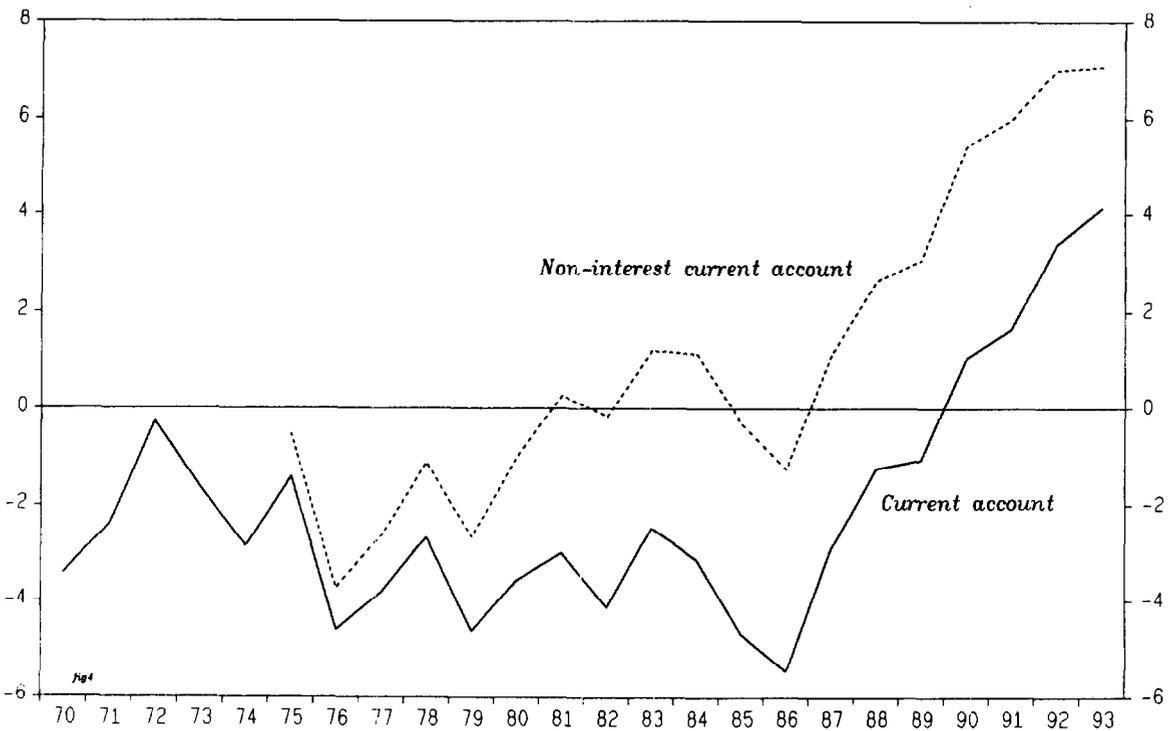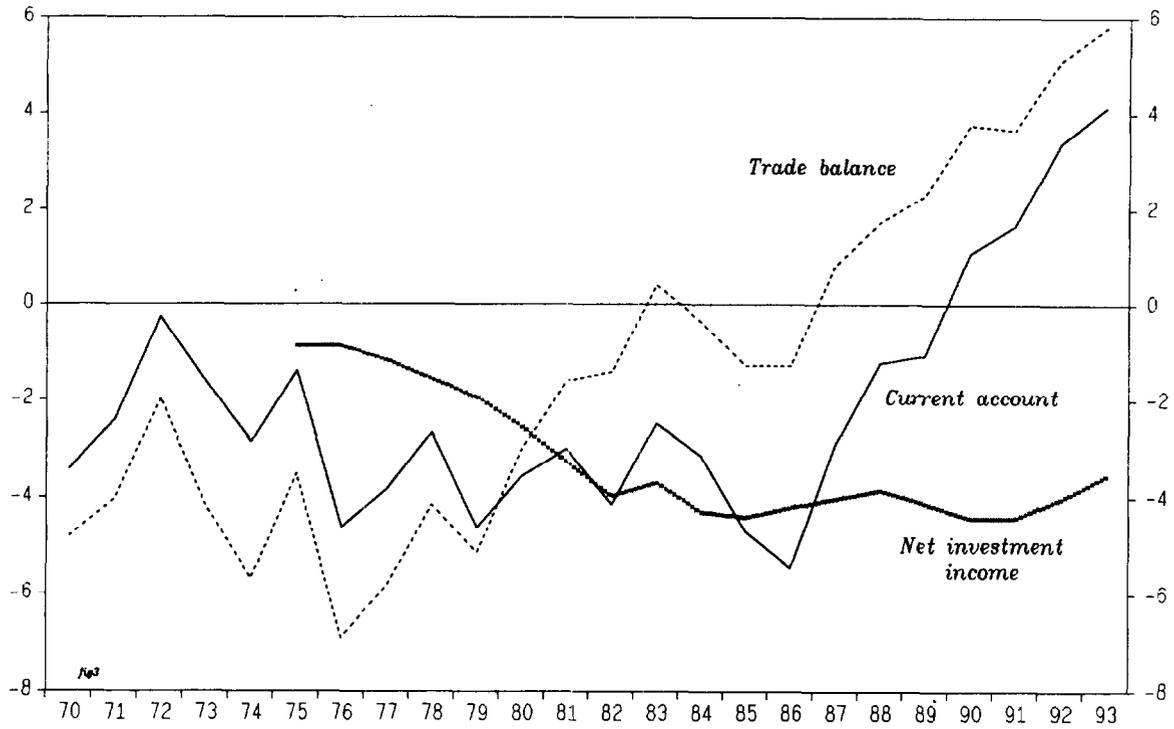
Sources: Danmarks Statistik; OECD Economic Outlook.

Table I-1. Net Foreign Assets: An International Comparison

(In percent of GDP)

1984			1992	
Switzerland	111.0 1/		Switzerland	93.2
Netherlands	23.6		Unified Germany	14.1
United Kingdom	19.9		Japan	14.0
Unified Germany	6.1		Netherlands	13.0
Japan	5.9		United Kingdom	2.8
United States	3.8		France	-5.5
Italy	-4.0		United States	-9.9
France	-4.2		Norway	-10.2
Belgium	-4.4		Italy	-11.3
Spain	-13.6		Denmark	-34.0
Norway	-15.2		Canada	-38.4
Finland	-19.0		Finland	-43.6
Sweden	-21.0		Australia	-48.2
Australia	-26.6			
Canada	-33.2			
Denmark	-38.1			
Portugal	-62.3			

Source: OECD Analytical Database. Data on net foreign assets are unreliable and may differ from national sources. They should be taken only as an approximate indication. 1992 data are missing for Belgium, Sweden, Spain, and Portugal.

1/ 1985 for Switzerland.

The rise in Denmark's net foreign debt ratio can be explained by the following equation. Ignoring revaluation effects, the debt to GDP ratio $(D/Y)_t$ evolves according to:

$$(D/Y)_t = (D/Y)_{t-1} (1 + i - g) + NICA_t$$

where i is the nominal interest rate paid on net foreign debt, g the growth rate of nominal GDP and $NICA_t$ the non-interest current account deficit, expressed as a percentage of GDP.

For much of the 1970s the growth rate of nominal GDP exceeded the interest rate paid on net foreign debt (Chart I-3). [1] The favorable debt dynamics helped offset the impact of combined current account deficits on Denmark's net foreign debt ratio. From the late 1970s onwards debt dynamics took a less favorable turn. First, the interest rate on net foreign debt rose relative to nominal GDP growth. Second, the devaluation of the Danish krone raised the debt ratio, as much of the net foreign debt was denominated in foreign currency (Chart I-3). [2] The result of these two effects was a sharp increase in the debt ratio despite the emergence of a non-interest current account surplus. The rapid increase in the debt ratio through the early 1980s focussed attention on the sustainability of the debt, and the extent to which this now formed an external constraint on domestic policy.

One way to assess the stability of the debt ratio in the early 1980s is to use equation (1) to draw implications for the likely future path of the debt ratio. Adopting a backward-looking approach, one could use interest and growth rate data from the recent past in making one's assessment. Chart I-3 shows that during the first part of the 1980s Denmark's nominal GDP growth rate was broadly similar to the interest rate it paid on net foreign debt. If such a pattern continued this might suggest that the small non-interest current account surpluses of the early 1980s would themselves be sufficient to ensure a gradual reduction in the debt ratio. However, to the extent that the high nominal growth and interest rates of the time simply reflected a higher Danish inflation rate, this would also imply the need for further nominal exchange rate depreciation. Such depreciation would raise the krone value of foreign-denominated external debt, adding to the external debt ratio.

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[1] The nominal interest rate was estimated as the ratio of net investment income to net foreign debt; European Commission (1991) makes similar calculations.

[2] Net foreign debt in a given period equals net foreign debt of the previous period plus the current account deficit, plus any debt revaluation effects. From this one can infer the magnitude of debt revaluation in a given year which, when divided by the net external debt, provides a measure of the rate of debt revaluation. See European Commission (1991) for an application of this approach to Denmark.

CHART I-3
Denmark
Determinants of the Net Foreign Debt Ratio

Implicit interest rate on net foreign debt

Nominal GDP growth

*Implicit rate of revaluation
of the net foreign debt 1/
(left scale)*

*Nominal effective exchange rate
(Index 1989 = 1)
(right scale)*
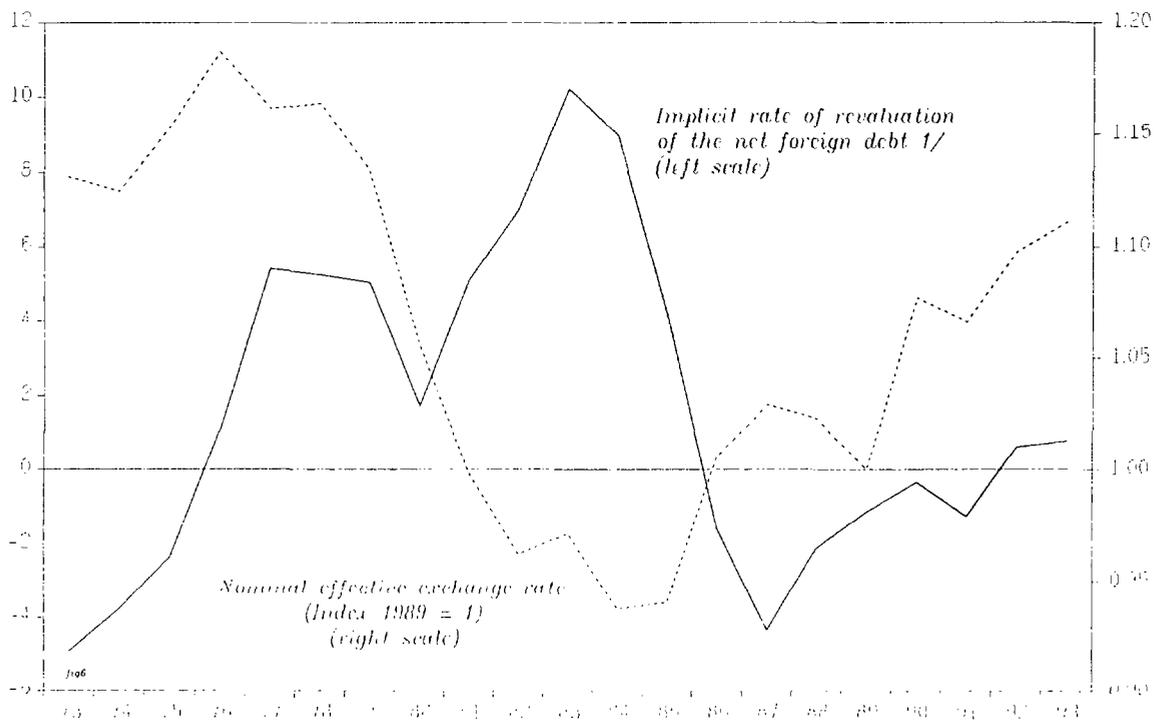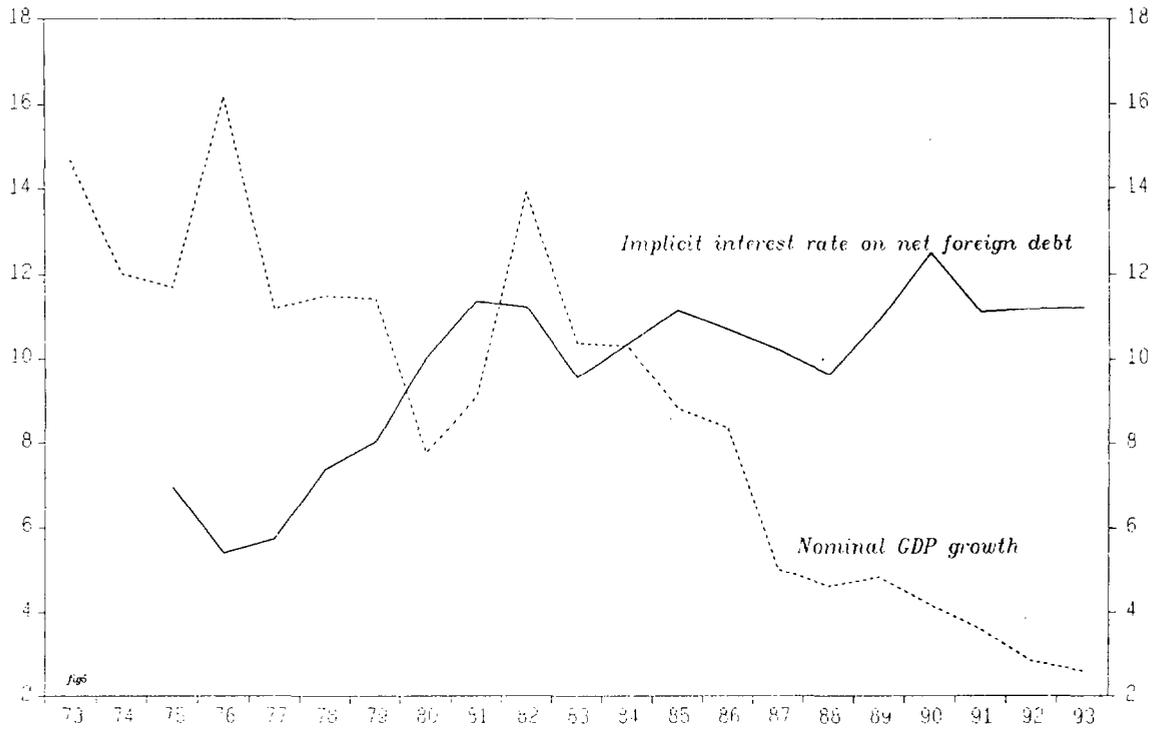
Sources: Danmarks Statistik; OECD Economic Outlook.
1/ Three year moving average.

The story changes little if a more forward-looking approach to the path of interest rates and growth rates is adopted. The new government of autumn 1982 had committed itself--like other ERM countries--to reducing inflation through progressive hardening of the nominal exchange rate, suggesting lower nominal GDP growth rates in the future than immediately before. With interest payments on the debt remaining high--either because inflation expectations were slow to fall or because much of the debt had been previously contracted at fixed interest rates--the gap between the interest rate and the growth rate widened, worsening the debt dynamics.

The external debt had become a pressing policy problem. Whether or not the debt was theoretically "sustainable," it is clear that the disinflationary policies of the 1980s meant that stability of the debt ratio could only be achieved through generation of a substantial non-interest current account surplus. 1/ Put differently, while continued current account deficits might be justified when interest rates fell short of growth rates (the 1970s), in the 1980s higher interest rates and lower growth rates made a strategy of reducing external debt more appropriate.

Setting aside questions of sustainability, the desirability of Denmark's net foreign debt position can also be questioned. It is difficult to justify Denmark's high debt to GDP ratio on economic criteria alone. As a share of GDP, Danish investment has been close to the EU average, suggesting little evidence that the foreign debt stock reflects an earlier investment boom financed by foreign borrowing. While the OECD projects the dependency ratio to remain below the OECD average until 2040, suggesting less need for asset accumulation, the old age dependency ratio is projected to remain above the OECD average, increasing from its current rate of just over 20 percent to 40 percent by the year 2040 (OECD (1988)). 2/ Thus demographic trends offer little justification for Denmark having a worse net foreign asset position than other OECD countries. In addition, Denmark's substantial net foreign debt position may have contributed to a higher risk premium on Danish debt relative to that of Germany and other ERM countries. This worsens the public finances and may deter Danish investment.

In recent years, the Danish authorities have finally succeeded in their goal of containing and reversing the increase in the net foreign debt ratio. 3/ Although it was not until 1990 that Denmark reversed almost thirty years of current account deficits, considerable progress had been made toward this

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1/ It should be conceded that hardening of the exchange rate would reduce the extent of unfavorable debt revaluation.

2/ The dependency ratio is defined as the population aged 65 and over and below 15 as a proportion of those aged 15-64; the old age dependency ratio the population 65 and over as a proportion of those aged 15-64.

3/ However, the aggregate net foreign debt numbers conceal a shifting of the foreign debt burden from the private sector (which is now a net foreign creditor) to the public rector, whose net foreign debt increased substantially in 1993.

goal in the latter part of the 1980s (Table I-2). In this period, Denmark left the ranks of OECD countries characterized by persistent current accounts deficits to join Germany, Japan, and Switzerland: countries with a tradition of current account surplus. 1/ In the space of seven years, Denmark's current account balance improved by 9 percent of GDP, moving from a 5.5 percent deficit in 1986 to a 3.5 percent surplus in 1993: a substantial reduction in absorption relative to production.

Table I-2. Current Account Balances in the OECD

(In percent of GDP)

1975-79		1980-84		1985-89		1990-93	
Norway	-8.3	Portugal	-9.3	Australia	-5.0	Finland	-4.1
Ireland	-6.0	Ireland	-8.9	NZ	-4.5	Australia	-4.0
NZ	-5.8	NZ	-5.9	Greece	-3.8	Canada	-4.0
Portugal	-4.4	Greece	-4.8	Denmark	-3.1	Iceland	-3.3
Greece	-3.4	Iceland	-4.4	USA	-3.0	Greece	-2.3
Denmark	-3.4	Australia	-4.1	Canada	-2.9	Sweden	-2.2
Turkey	-3.3	Denmark	-3.2	Iceland	-2.4	UK	-2.0
Iceland	-2.9	Turkey	-2.9	Finland	-2.4	NZ	-1.8
Australia	-2.4	Belgium	-2.3	Norway	-2.0	Turkey	-1.5
Austria	-2.1	Sweden	-2.0	UK	-1.7	Italy	-1.2
Canada	-2.1	Finland	-1.6	Ireland	-1.6	USA	-1.1
Finland	-2.0	Spain	-1.5	Sweden	-0.8	Spain	-0.7
Sweden	-1.5	Italy	-1.4	Italy	-0.6	Portugal	-0.5
Spain	-1.4	France	-1.0	France	-0.3	France	-0.2
Belgium	-0.7	USA	-0.8	Turkey	-0.3	Germany	-0.1
UK	-0.4	Austria	-0.6	Spain	-0.1	Austria	0.1
USA	0.0	Canada	-0.4	Austria	0.0	Japan	2.4
France	0.4	Germany	0.2	Portugal	0.9	Denmark	2.5
Italy	0.6	Japan	0.9	Belgium	2.0	Netherlands	2.9
Japan	0.6	UK	1.4	Netherlands	2.7	Norway	3.3
Netherlands	0.6	Netherlands	2.0	Japan	3.3	Belgium	3.3
Germany	0.7	Switzerland	3.1	Germany	4.0	Ireland	4.1
Switzerland	4.8	Norway	3.2	Switzerland	4.7	Switzerland	5.6

Source: OECD, Economic Outlook.

1/ Norway recorded the same achievements, though considerably assisted by increased energy production; Ireland's similar current account transformation is one of many parallels that have been observed between the Danish and Irish economies (Giavazzi and Pagano (1990)).

What is more, the Danish authorities project that the recent string of current account surpluses will continue in the future, eliminating the net foreign debt in the early part of the next century. Contrary to the textbook approach, this transformation has been achieved without exchange rate depreciation, nor with an increase in government saving. 1/

However, though Denmark's sizable current account surpluses suggest considerable progress toward "solving" its traditional current account and foreign debt problems, events have shown that the external constraint remains a potent force. The ERM tensions of the last three years provide ample illustration of this. In essence, the nature of the external constraint has changed. With capital controls, financing current account deficits could be problematic but speculative attacks maybe less so: they could be more readily parried by exchange controls and direct intervention. Increased capital mobility relaxed the current account constraint, but at the cost of intensifying the power of capital markets, which can now probe into inconsistent policies and the expectation that policy might change. For small open economies, the resulting exchange rate pressure can raise domestic inflation rates, derailing economic policy. Thus, for small open economies at least, the external constraint remains, even if its precise nature may have changed.

2.   Understanding the recent improvement in Denmark's current account

The previous section outlined the changing nature of Denmark's external constraint, setting recent current account performance in a thirty-year perspective. This section describes in more detail the recent evolution of the current account, and explains the factors underlying its substantial improvement.

One way to illustrate the considerable improvement in Denmark's current account is to plot exports and imports as a share of GDP. Using current prices and national accounts data the improvement is clear (Chart I-4). What is unclear is whether this should be attributed predominantly to export expansion or to the compression of imports. By abstracting from terms of trade fluctuations, especially those induced by changes in energy prices, constant price data gives a clearer picture (Chart I-4). On a constant price basis, the share of imports in Danish GDP has increased only gradually whereas, save for a pause during the domestic expansion of the early 1980s, exports have taken an increasing share of Danish GDP.

An alternative way to illustrate the improvement in recent Danish trade performance is to plot Denmark's external balance against its unemployment

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1/ Paradoxically, the reforms of the early 1980s led to an unintended worsening of the current account deficit, despite a substantial increase in government saving and a significant real exchange rate depreciation. Only in the mid-1980s were unwarranted incentives for private borrowing significantly reduced, and with it the private savings rate increased.

CHART 1-4

Denmark

Exports and Imports of Goods and Services
(In percent of GDP)
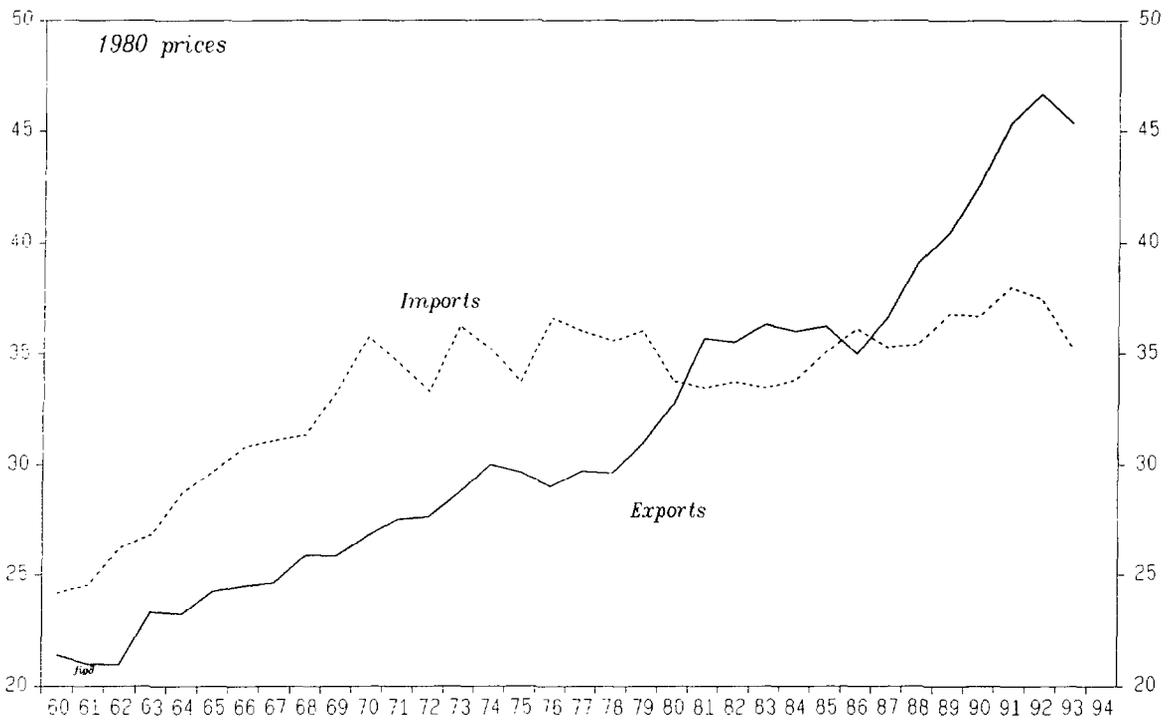
Sources: Danmarks Statistik; OECD Economic Outlook.

rate (Chart I-5). 1/ Since the current account includes factor payments, which have accumulated over time with the increasing net debt, the trade balance as a proportion of GDP was used to measure the external position. The chart makes clear that, over the last fifteen years, Denmark's trade surplus has improved as the unemployment rate has risen. This simple correlation suggests that rising unemployment, or depressed domestic demand, may lie at the root of Denmark's recent trade performance. However, Chart I-6 suggests that there has been a substantial improvement in the trade balance, even when corrected for Denmark's relative cyclical position. 2/ Further, Chart I-5 also suggests some evidence of a structural break in the relationship between unemployment and the trade balance. Between 1983 and 1987, the "trade-off" between unemployment and the trade balance appears to have improved: a given unemployment rate has been associated with a larger trade surplus. The rest of this section uses simple econometric analysis to reach a better understanding of the causes of Denmark's improved trade performance, and considers the extent to which this reflects a structural improvement.

     a.   <u>Export performance</u>

In attempting to explain Danish export performance, it seemed logical to focus on manufacturing exports. Manufacturing now comprises almost two thirds of total Danish goods exports, a ten percentage point increase in the last two decades. Conversely, food products--with which Denmark is more readily associated--now make up little more than a quarter of Danish goods exports, down from almost 40 percent twenty years ago. 3/ In addition, internationally comparable data on the manufacturing sector are more readily available and manufacturing has been less subject to (changing) trade restrictions, making the empirical modeling of manufacturing exports more likely to be successful. Even so, one should not underestimate the importance of Denmark's food sector: it generates continued external surpluses of between 4 and 6 percent of GDP, and much of Denmark's other exports involve the processing of food or other natural products.

Although manufacturing export volumes nearly doubled during the 1980s, this only continued a well-established trend. What is perhaps more intriguing is that--unlike the 1970s--these volume increases were accompanied by a significant improvement in the manufacturing terms of trade (Chart I-7). 4/ Furthermore, despite a worsening of competitiveness, as measured by relative unit labor costs or relative export prices of

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1/ This was suggested by discussions with the authorities, and by European Commission (1991).

2/ To cyclically adjust the trade balance, OECD estimates of the domestic output gap and of an export-weighted average of partner country output gaps were used, combined with the assumption that the respective income elasticities both equal two.

3/ Based on OECD statistics.

4/ Defined as the price of manufactured exports divided by the price of manufactured imports.

CHART 1-5

Denmark

Trade Balance and the Unemployment Rate
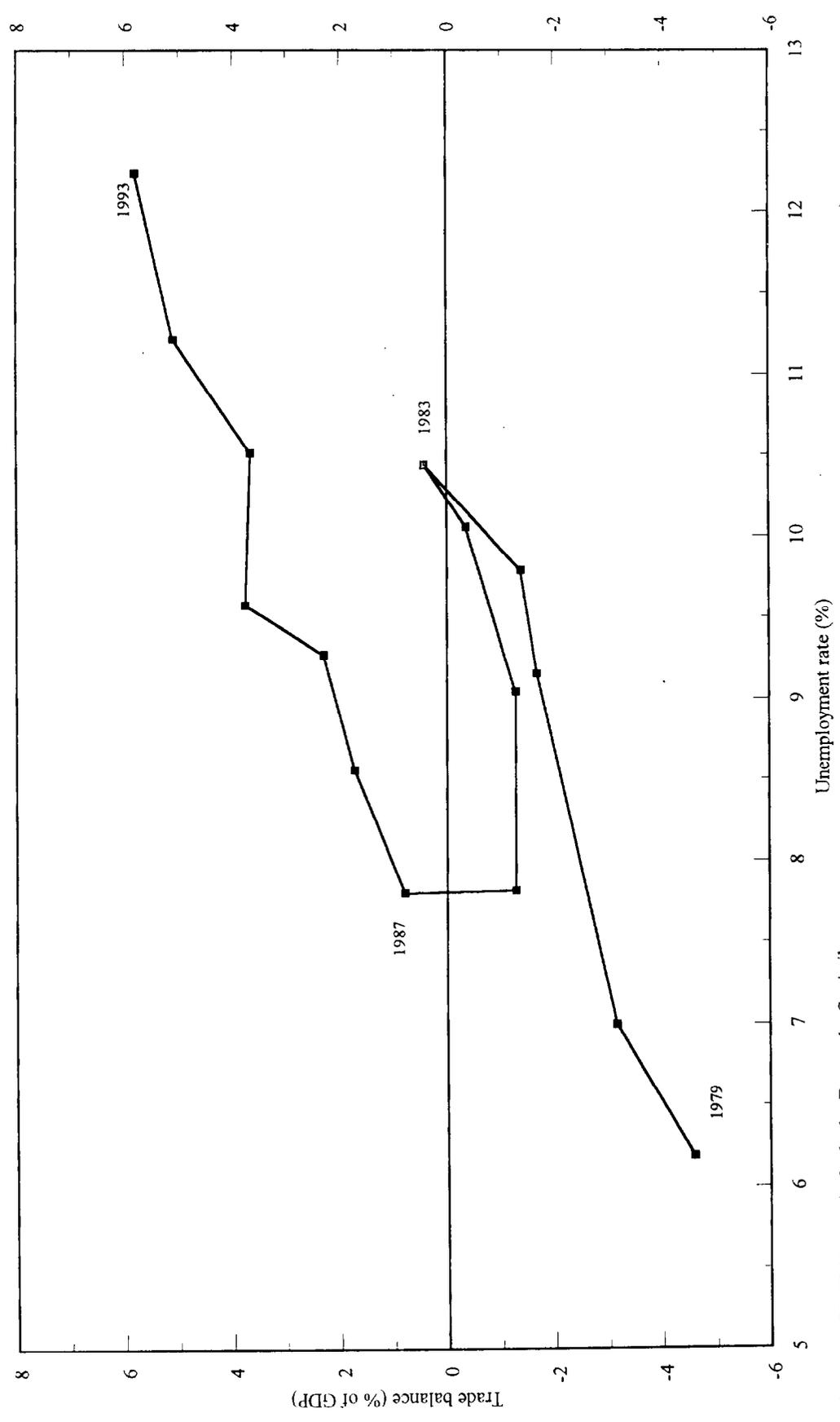
Sources: OECD Economic Outlook, Danmarks Statistik.

CHART 1-6
Denmark

Trade Balance: Actual and Structural
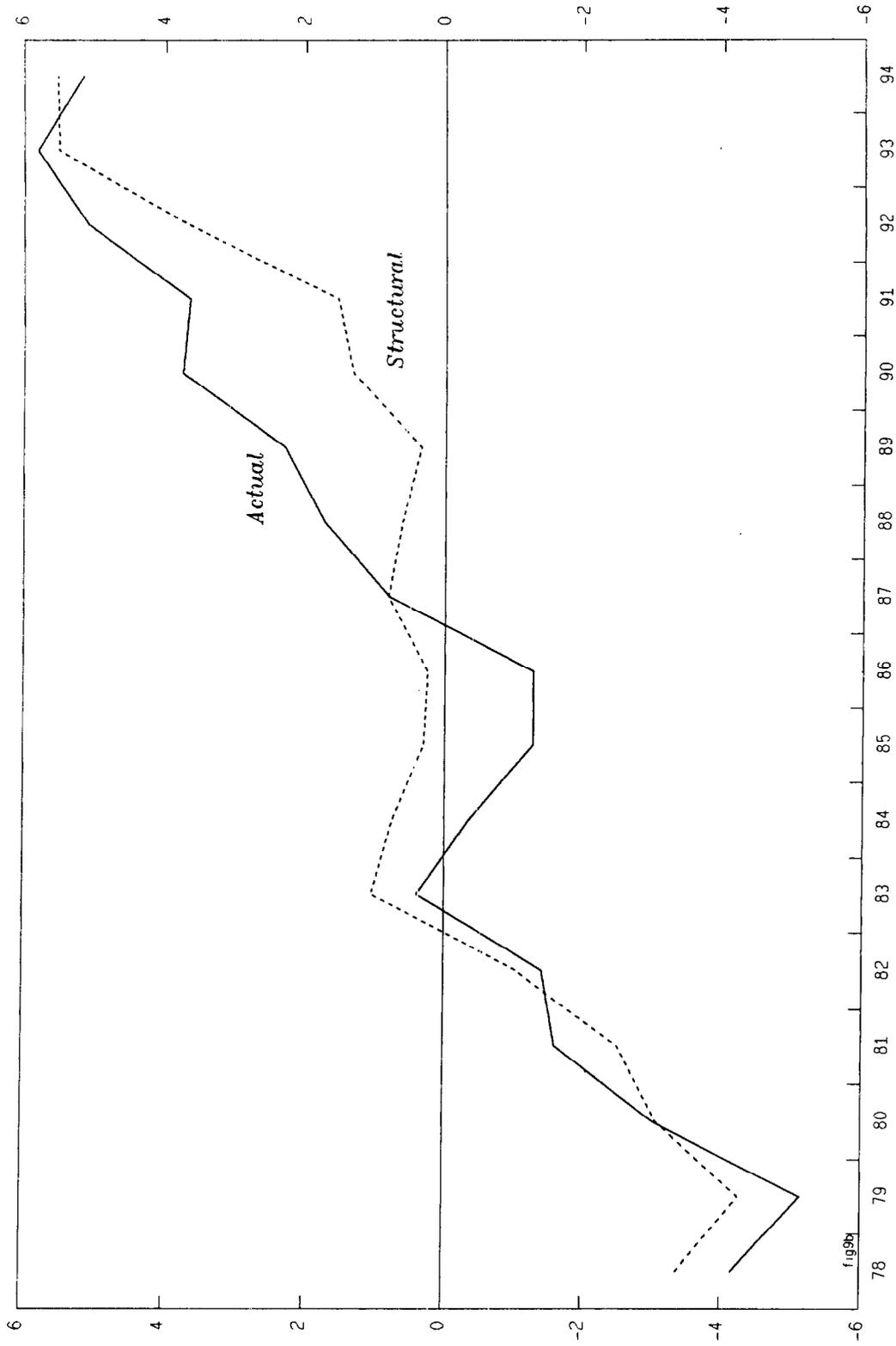
Source: OECD Economic Outlook.

CHART I-7
Denmark

Indicators of Competitive Performance

Terms of Trade in Manufacturing
(Index 1991=1)

Export performance
(left scale, index 1991=1)

Output gap (right scale)

Relative export prices

Relative unit labor costs
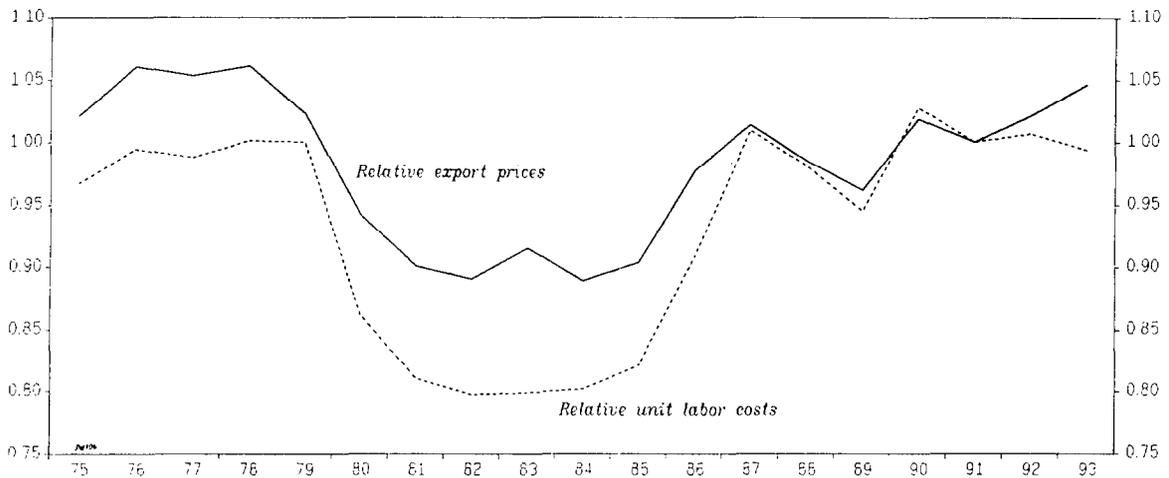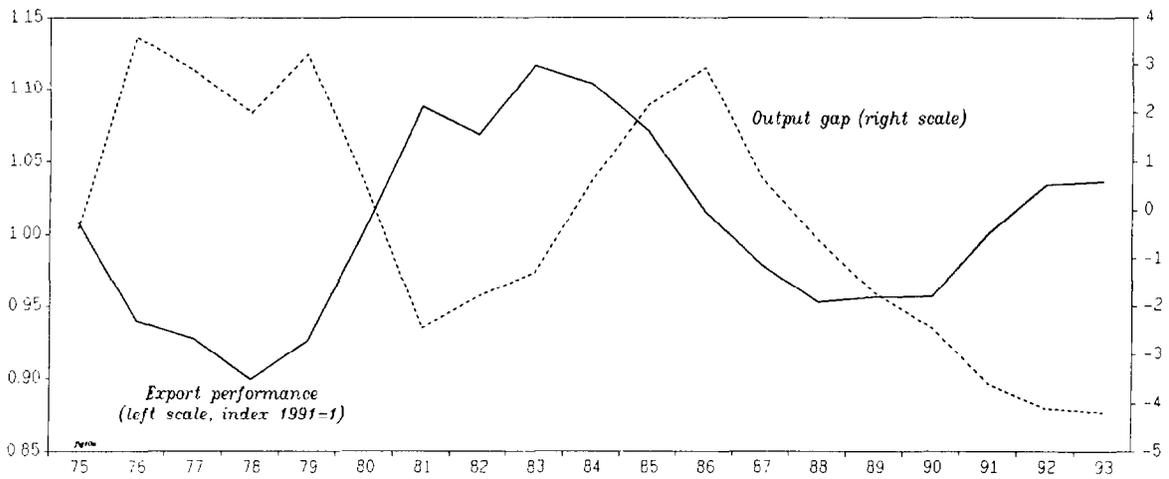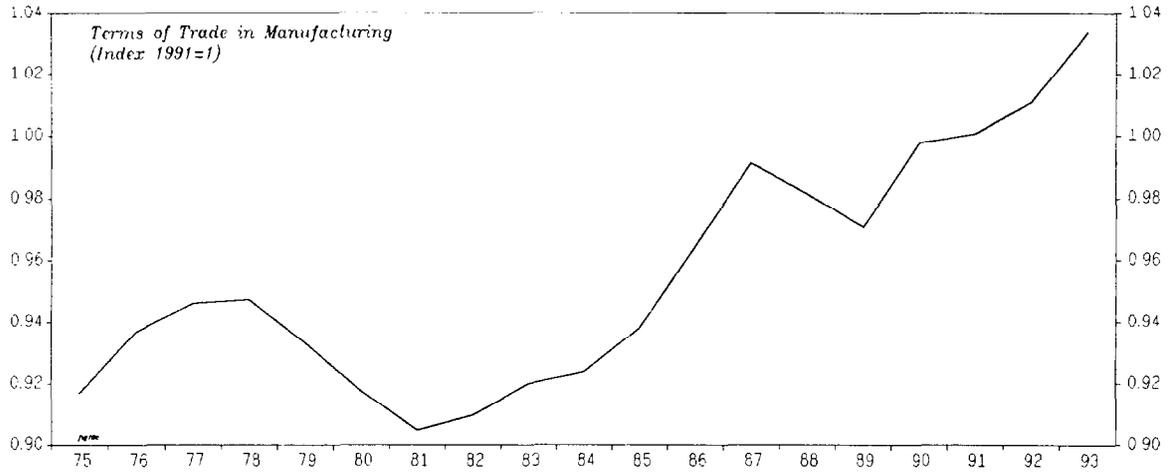
Source: OECD Economic Outlook.

manufacturers, Denmark's export performance, as measured by the foreign export market share of its manufactures, has actually improved in recent years. At a time of rapid foreign growth in manufactured imports, Danish manufacturing export volumes grew even faster, leading to improved shares of foreign export markets (Chart I-7).

A regression was estimated to explain and quantify the causes of the recent increase in Danish manufacturing exports. Manufacturing export volumes were regressed on a measure of foreign market size and on relative export prices in manufacturing. 1/

Estimating the regression over the whole sample period yields the following equation:

(1)   ln xmv = 1.87 + 1.00 ln xmvkt - 0.79 ln $pxmdr_{-1}$
              (5.4) (27.4)   (4.7)

OLS 1975-93; SE = 0.04; DW = 1.04; R^2 = 0.98, t-statistics in parentheses.

where xmv represents the volume of manufactured exports, xmvkt a measure of the size of the foreign market for manufactured products and pxmdr the price of Danish exports relative to export prices of trading partners. The coefficients appear plausible, the unit coefficient on market share implying that Denmark has held onto foreign market share over the sample period, consistent with the behavior of export performance shown in Chart I-7. However, the low Durbin-Watson statistic is cause for concern, suggesting a potentially spurious relationship between trending variables, or misspecification of the equation. 2/ Re-estimating the equation over the restricted sample period 1975-90 supports this latter interpretation. The resulting parameter estimates are changed a little, the coefficient on market share falling whereas the absolute value of the price elasticity rises to 1. The restricted equation passes a wide variety of statistical tests.

1/ Foreign market size is calculated as a weighted average of manufacturing import volumes of Danish trading partners. Since the trend toward increasing market integration has raised the share of exports and imports in GDP, using foreign income as the explanatory variable tends to lead to implausibly high estimates of the income elasticity, as the estimated coefficient attempts to pick up this trend. To correct for this effect, actual import volumes were used to measure market size. All the data is annual and comes from OECD Economic Outlook. Estimation is carried out using (natural) logarithms of the data.

2/ The "correct" approach to resolving the problem of trending variables is to test for the stationarity of each variable and then to apply cointegration analysis. Lack of observations prevents such an approach with recent annual data. However, unreported research applying cointegration techniques to quarterly data from the OECD analytical database produced supportive results.

However, when used to forecast export volumes out of sample and over the 1991-93 period, this re-estimated equation under-predicts Danish manufacturing export volumes by around 10 percent. 1/ This could reflect statistical flaws in the estimated equation. On the other hand, and of potential economic significance, the higher than predicted levels of manufacturing exports suggest a marked improvement in the export performance of Danish manufactures, over and above historical norms.

One aspect of this recent export improvement may simply be the weakening of Danish domestic demand. This was in part suggested earlier by Chart I-5, which depicted the positive correlation between Danish unemployment rates and the trade surplus, and by Chart I-7, which illustrated the correlation between foreign market share and the domestic output gap. On this interpretation, Danish producers shifted from selling into the depressed domestic market, and became exporters instead. In this way, the pressures of a weak domestic economy may have provided an impetus to increase export supply.

To incorporate this effect, the regression was re-estimated including the OECD's measure of the output gap on the right hand side as an explanatory variable, to give:

$$(2) \quad \ln xmv = 2.67 + 0.91 \ln xmvkt - 0.81 \ln pxmdr_{-1} - 0.015 \; gap$$
$$ (7.8) \quad (25.6) (6.3) \phantom{\ln pxmdr_{-1}} (3.6)$$

OLS 1975-93; SE = 0.03; DW = 1.35; R^2 = 0.99

The coefficient estimates change little, but the Durbin-Watson statistic has increased and unreported statistical tests show less evidence of parameter instability. The OECD's measure of the output gap enters statistically significantly and with the expected sign: with an estimated OECD output gap of just over 4 percent in 1993, this suggests that depressed domestic demand made Danish manufacturing export volumes some 6 percent higher than they would have been otherwise.

Table I-3 compares the actual increases in manufacturing export volumes from 1983-87 and 1987-93 with the increases explained by equation (2). The equation tracks the 1983-87 increase fairly closely, but underestimates the increase in the recent period by 5 percent. The equation makes clear that most of the recent increase is explained by foreign market growth; if anything, competitiveness has actually worked to lower export growth. However, one third of the recent increase reflects either Denmark's output gap or is simply unexplained by the equation: thus the regression estimates are consistent with the view that there has been an unexpected improvement in the performance of Danish manufacturing exports.

1/ It fails the Chow forecast test at a 1 percent significance level. Similar results were reported on page 40 of the previous Recent Economic Developments, (SM/94/15), in an equation using relative unit labor costs in place of relative export prices.

Table I-3. Explaining the Increase in Manufacturing Export Volumes,
1983-87 and 1987-93

	1983-87	1987-93
Actual increase 1/	13.2	29.2
Estimated increase 2/	13.7	24.9
Of which, explained by changes in:		
foreign market growth	24.1	21.4
competitiveness	-7.5	-3.5
Danish output gap	-2.8	7.0
Unexplained export volume increase	-0.5	4.3

1/ Percentage change as approximated by the change in the logarithm.
2/ On the basis of equation (2) in the text.

b.   Import performance

Similar techniques can be used to model the determinants of Danish
imports, and the extent to which recent Danish import volumes have fallen
short of what would have been predicted on the basis of past trends. To
this end, the following equation was estimated:

(3)   ln mgsv = -3.92 + 1.22 ln gdpv - 0.29 ln $relpmgs_{-2}$
              (8.3)   (32.8)   (4.9)

OLS 1962-93; SE = 0.037, DW = 1.40, R^2 = 0.99

where mgsv is the volume of Danish imports of goods and services, gdpv
Danish real GDP measured in 1980 prices and relpmgs the relative price of
Danish imports, calculated as the ratio of import prices to the GDP
deflator. 1/ The estimated coefficients appear plausible and the implied
price elasticity, when combined with the export price elasticity estimated
earlier, suggests that the Marshall-Lerner conditions are met. The equation
residuals appear to be uncorrelated and the coefficients remarkably stable
when re-estimated over subsamples of the data, suggesting that the equation
is also satisfactory in a statistical sense. However, and consistent with
the view that Danish import volumes have fallen unexpectedly, the fitted
value for 1993 over predicts Danish goods and services imports by more than
5 percent.

1/ Using goods and services imports instead of manufacturing provides
wider coverage and allows data going back to 1960 to be used. The results
are broadly similar to those reported in the 1994 Recent Economic
Developments (SM/94/15).

To test the hypothesis that Danish import volumes have been unusually compressed in recent years, the equation was re-estimated over the sample period 1962-1987, and the estimated equation was used to forecast Danish import volumes out of sample to 1993. 1/ Chart I-8 compares actual import volumes from 1985 to 1993 with those predicted by the re-estimated equation, and Table I-4 decomposes the equation predictions to compare the relative importance of domestic growth and competitiveness on import volumes. It is clear that, despite the relative stability of the equation within the sample, the equation over-predicts recent import volumes. This over-prediction is also consistent with the view that Danish import volumes have been unexpectedly low in recent years. 2/

Table I-4. Explaining the Slowdown in the Volume of Imported Goods and
Services, 1983-87 and 1987-93

(In percent of change)

	1983-87	1987-93
Actual increase 1/	17.6	7.0
Estimated increase 2/	16.5	16.2
of which, explained by changes in:		
domestic growth	15.5	8.5
competitiveness	1.0	7.6
Unexplained change in import volumes	1.1	-9.2

1/ Percentage change as approximated by the change in the logarithm.
2/ On the basis of equation (3) re-estimated over the restricted 1963-87 sample.

1/ With re-estimation the income and price elasticities barely changed and the Durbin Watson statistic improved to 1.58.
2/ However, there is considerable statistical uncertainty attached to the trade volume data for 1993, reflecting the change in data reporting methods associated with the introduction of the EU single market.

CHART I-8
Denmark
Imports of Goods and Services
(Billions of 1980 DKr)

Imports of Goods and Services

Imports of Goods and Services, Actual and Forecast

Predicted

Actual
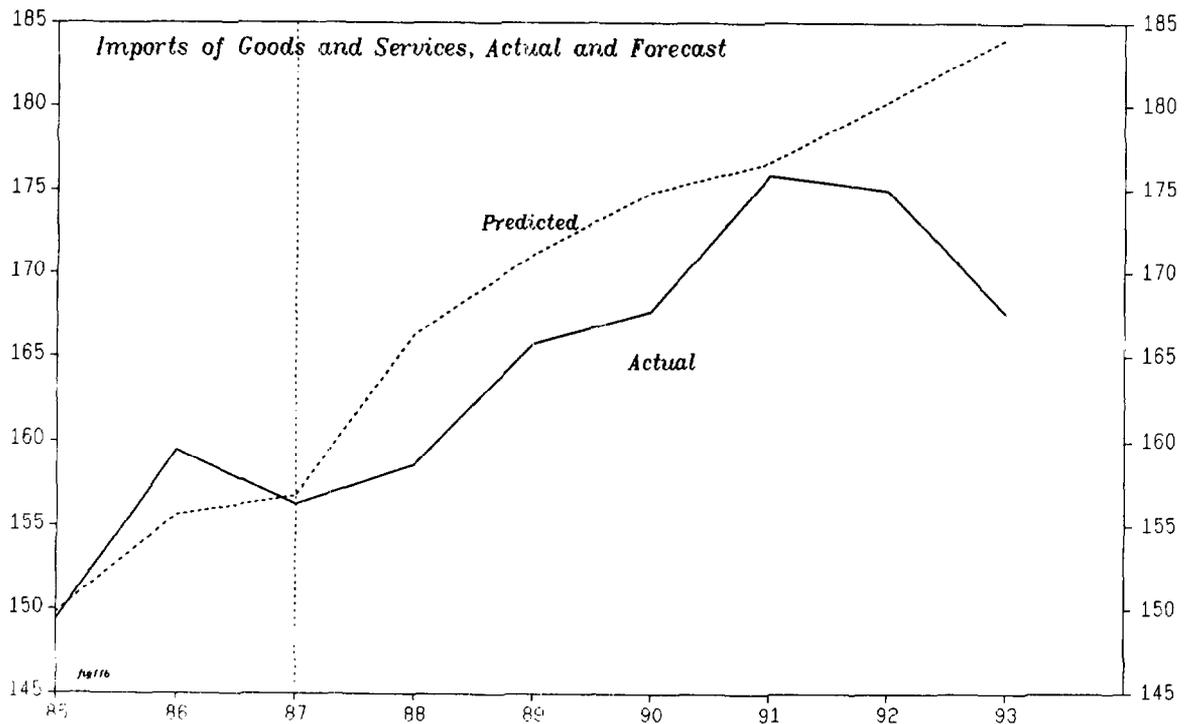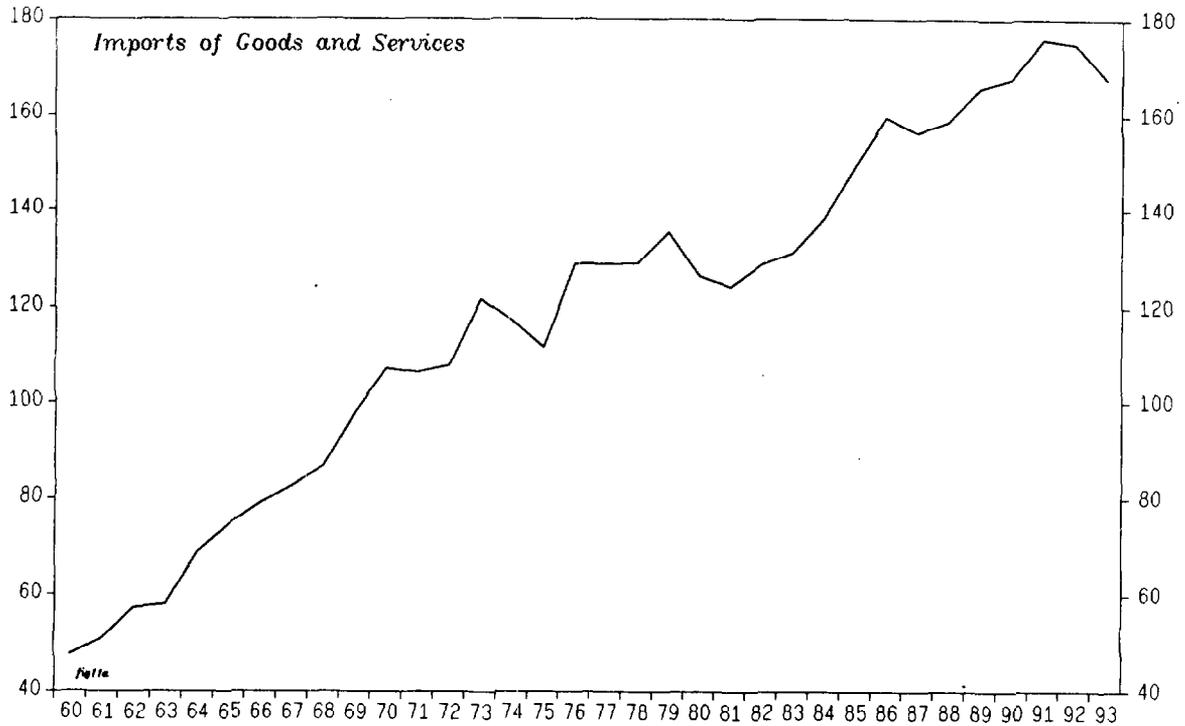
Sources: OECD Economic Outlook; Author's calculations.

c. Special factors

Explanation of the transformation of Denmark's external position would be incomplete without mentioning certain special factors that have improved the trade balance.

First, there has been a marked improvement in Denmark's trade balance in energy (Chart I-9). The fall in world energy prices means that, for a given volume of energy imports, energy imports as a share of GDP will fall when measured in current prices. In addition, increased domestic energy production has been reflected in a halving of energy import volumes and a quadrupling of export volumes. The result has been a swing in the trade deficit of 5 percent of GDP, moving from a deficit of 5 1/2 percent of GDP in 1981 to less that 1/2 percent of GDP in 1993. This is an exogenous factor benefitting the trade balance, over and above the usual price and income factors used in the conventional trade equations estimated earlier. 1/

Second, Denmark's terms of trade have generally improved over the last decade. This despite a trade balance transformation that increased the supply of Danish net exports onto world markets. The terms of trade improvement means that for given export and import volumes, the trade balance measured in current prices will improve.

Finally, Denmark's exporters have taken advantage of the opportunities afforded by German re-unification. The share of merchandise exports to Germany in total merchandise exports rose by 8 percentage points from 15.8 percent in 1985 to 23.7 percent in 1992, with the value of exports to Germany doubling. Over the same period, a bilateral trade deficit with Germany of 2 percent of GDP became a 1 percent trade surplus.

It should be recognized that these "special factors" are not completely independent. To the extent that German reunification leads to a net increase in demand for Danish goods, given Denmark's proximity to the German market, this should be expected to lead to an improvement in Denmark's terms of trade. Likewise, a fall in world energy prices. In addition, the effects of German reunification are partly captured by the measure of foreign market growth used in the export equation estimated earlier. However, in conjunction with the more orthodox explanatory factors such as relative demand growth and relative prices, these special factors may still account for a significant part of the recent transformation in Denmark's external accounts.

The empirical evidence suggests that growth in foreign and domestic markets and changes in competitiveness explain much, but not all of the recent behavior of Danish exports and imports. Part of the recent improved export performance is attributable to depressed domestic demand, and so may

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1/ However, the development of energy production has also been associated with significant increases in investment in the energy sector which might offset part of the trade balance improvement, at least in the initial years.

CHART I-9
Denmark

Energy Exports, Imports, and the Trade Balance
(Current prices, in percent of GDP)

Imports

Exports

Trade balance

fig12

75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93
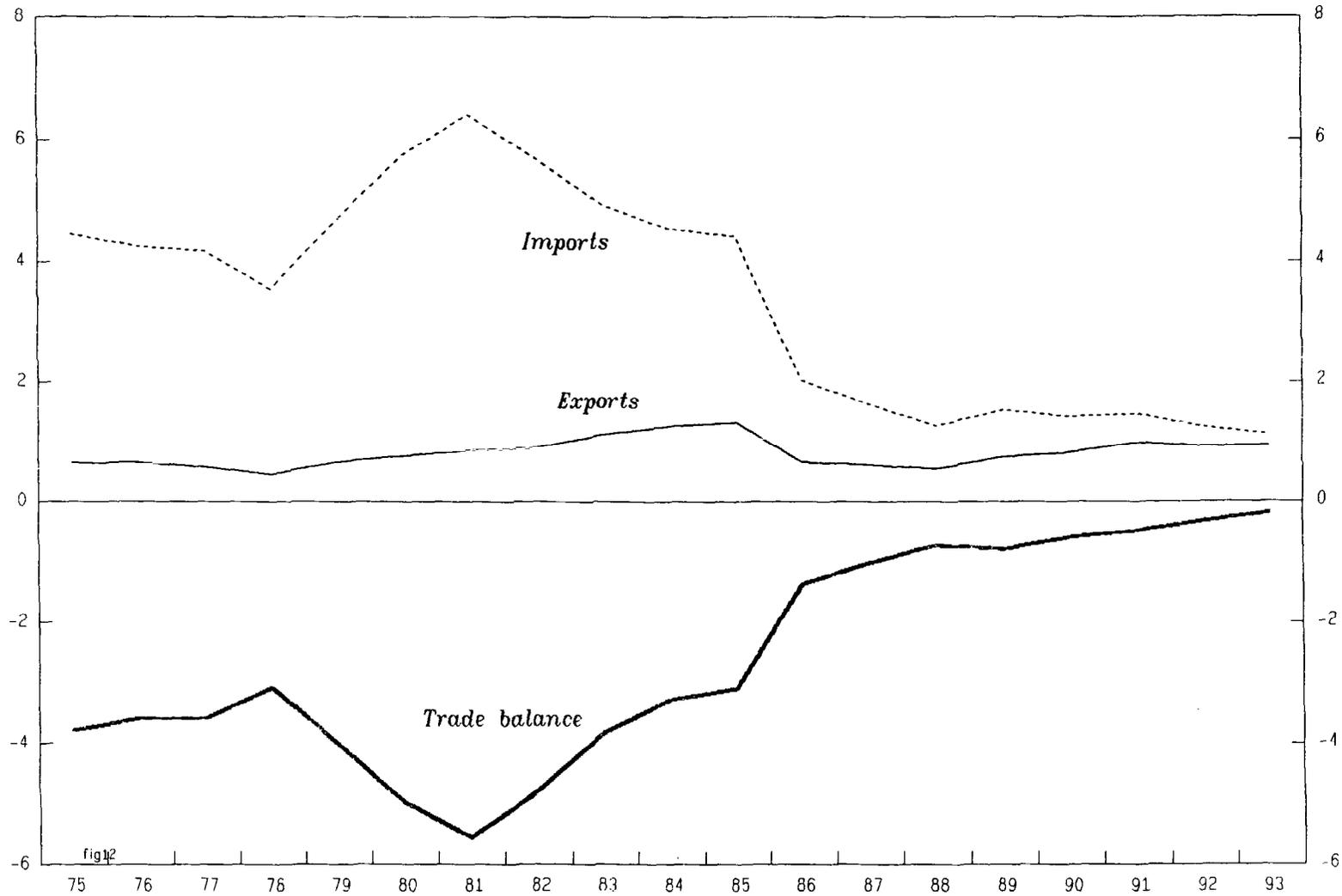
Sources: Danmarks Statistik; OECD Economic Outlook.

prove transitory. However, even after including this effect, some unexplained improvement in trade performance remains, bearing out the impressions given by the changing relationship between unemployment and the trade balance, or by the steady increase in export volumes. Special factors, such as the energy balance, German reunification or an improving terms of trade may explain these unexplained improvements. However, they also reflect the workings of macroeconomic forces, and in particular the savings-investment balance, the topic of the next section.

3. Macroeconomics and the current account

A full analysis of current account behavior requires a macroeconomic perspective. While individual trade equations may be useful for understanding the path of exports or imports, considered one at a time, they tell only a partial equilibrium story. Using trade equations to analyze the current account deficit ignores the fact that, in general equilibrium, the current account must equal the excess of national saving over investment. Understanding the determinants of saving and investment requires a complementary macroeconomic perspective on the current account deficit. In addition, adopting a macroeconomic perspective allows us to assess the role played by macroeconomic policies in the transformation of Denmark's external position. 1/

The sharp increase in Denmark's net external debt stemmed from the external shocks and the economic policies pursued between 1978 and 1982. The second oil price shock, and the slowdown in world economic growth that followed it, pushed the Danish economy into recession. The fiscal deficit worsened both cyclically and from the budgetary cost of early retirement schemes intended to reduce the unemployment rate. In fact, the reduction in the labor force that resulted from such schemes only served, in the longer run, to increase the pressure for higher wages and prices at given levels of aggregate demand. Furthermore, attempts to reduce the current account deficit through the "twist-policy" of targeting and raising government spending in labor-intensive areas only worsened the fiscal deficit. 2/ The result was that, in 1982, Denmark suffered from the unpleasant combination of high (and rising) unemployment, high inflation and large fiscal and current account deficits. To preserve competitiveness, the Danish krone had to be realigned five times within the ERM between 1979 and 1982.

1/ The description of macroeconomic policy that follows is based on Andersen (1994), European Commission (1991), De Grauwe and Vanhaverbeke (1990), Ministry of Finance (1994), Nielsen and Sondergaard (1991) and Wyplosz (1994).

2/ Even worse, such a policy could not improve the current account unless there was considerable slack in the economy, since transferring resources to meet the increased demand for labor-intensive nontraded goods sector must mean a reduction in the supply of tradable goods, counteracting any favorable effects of the demand-switch on the trade balance.

In the autumn of 1982, a minority coalition took power and embarked on a series of reforms which, to this day, have remained a guide to macroeconomic policy. First, the crawling peg strategy was abandoned and replaced by a policy of fixed exchange rates within the ERM. Second, fiscal policy was tightened through spending cuts and tax increases. Third, capital movements were liberalized and financial markets deregulated. In the initial stages, these measures were supported by the introduction of incomes policy and the abolition of wage indexation.

The new government had decided that the fiscal and external positions were in danger of becoming unsustainable and that policy should focus not on unemployment but on the current account. Echoing the new economic orthodoxy, unemployment was considered a problem to be left for the labor market to resolve. Instead, a policy of non-accommodation and disinflation would be pursued, based on tight fiscal policy and a fixed exchange rate. The current account would be improved not by toying with the components of demand, but through a "production strategy" based on an expanded private sector capable of competing internationally.

The results of this tough disinflationary policy were largely unanticipated. Instead of the expected recession, the economy recovered spectacularly through the pleasant combination of sustained growth and falling inflation. 1/ This experience has prompted some commentators to wonder whether the Danish experience had turned Keynesian economics on its head, in that, through signaling lower future taxes, aggregate demand could be stimulated by *cutting* government spending. 2/

However, a less arcane explanation appears more likely. The replacement of high-inflation and severe financial imbalances by a more stable regime of tight fiscal policy, fixed exchange rates and capital market liberalization boosted private sector confidence: these three policies acted together to stimulate the economy. Tight fiscal policy, and the renunciation of stop-go demand management policies that it implied, increased the credibility of the exchange rate peg. With a credible peg and liberalized capital markets, high Danish interest rates were bid down by (incipient) capital inflows, long-term rates halving from 20 percent to 10 percent between 1982 and 1986 (Chart I-10). 3/

1/ The current account--the main goal of the new policy--did improve in 1983, but largely in delayed reaction to the devaluations of the preceding years. With the unexpected increased in demand the current account deficit worsened again, prompting the introduction of additional restrictive measures in 1986 and 1987.

2/ Giavazzi and Pagano (1990). Andersen (1994, p. 121) makes an effective critique of this interpretation of the Danish experience.

3/ For further examples of the expansionary consequences of exchange rate stabilization see Kiguel and Liviatan (1992).

The result was an increase in private sector demand. As interest rates fell, wealth increased: the fall in real interest rates raised real asset values and the fall in nominal interest rates redistributed wealth from government to private sector through the increase in the value of nominally denominated assets. With liberalized financial markets, liquidity constraints on private spending eased as financial institutions competed for increased market share. But liberalized financial markets also magnified distortions in the existing tax system of high marginal rates and near-complete interest deductibility, which created irresistible incentives to borrow. As borrowing expanded, house prices rose, raising (perceived) private wealth even further, which raised consumption and so lowered private saving. Ironically, the new policy regime did succeed in its aim of raising national saving, but only through increased government saving, the result of policy measures to be sure, but also the endogenous cyclical response to rapid economic growth (Chart I-11). Private saving fell dramatically.

Despite the increase in national saving, the policy failed to achieve its goal of current account balance. Investment grew faster than saving, both in response to lower interest rates and in order to raise the economy's productive potential to meet the higher levels of demand (Chart I-11). The result was a current account deficit that, instead of shrinking, widened to more than 5 percent of GDP. With a current account deficit of 5 1/2 percent of GDP despite significant government saving, private sector net lending fell to minus 9 percent of GDP in 1986. 1/ With the unemployment rate falling--although only to just below 8 percent--wage growth in the business sector accelerated to 7.2 percent in 1987.

In the words of the Danish Finance Ministry (April 1994), the situation was not sustainable. In October 1986 policies known as the "potato diet" were introduced, aimed at restraining private consumption and investment. 2/ In the beginning of 1987 a tax reform took effect which, though it broadened the tax base and lowered the highest marginal income tax rate, was intended to be revenue-neutral. However, by lowering the rate of deductibility of net interest payments from 73 percent to 50 percent it reduced the distortionary incentive to borrow in the existing tax system. The main macroeconomic effect was to raise the cost of borrowing, and to increase the rate of return on saving. 3/

1/ Ministry of Finance, April 1994, p. 6.
2/ The package included measures to front load after-tax mortgage interest payments, raise indirect taxes, reduce the deductibility of interest expenses on consumer loans, and restrict the terms of consumer credit. See OECD, 1987, p. 62.
3/ Medium Term Economic Survey, April 1994, p. 22. The tax reform separated capital income from personal income, allowing the deductibility rate for those with negative net capital income to be fixed at 50 percent, even if they faced a higher marginal tax rate on personal income.

CHART I-10
Denmark

Inflation and Interest Rates
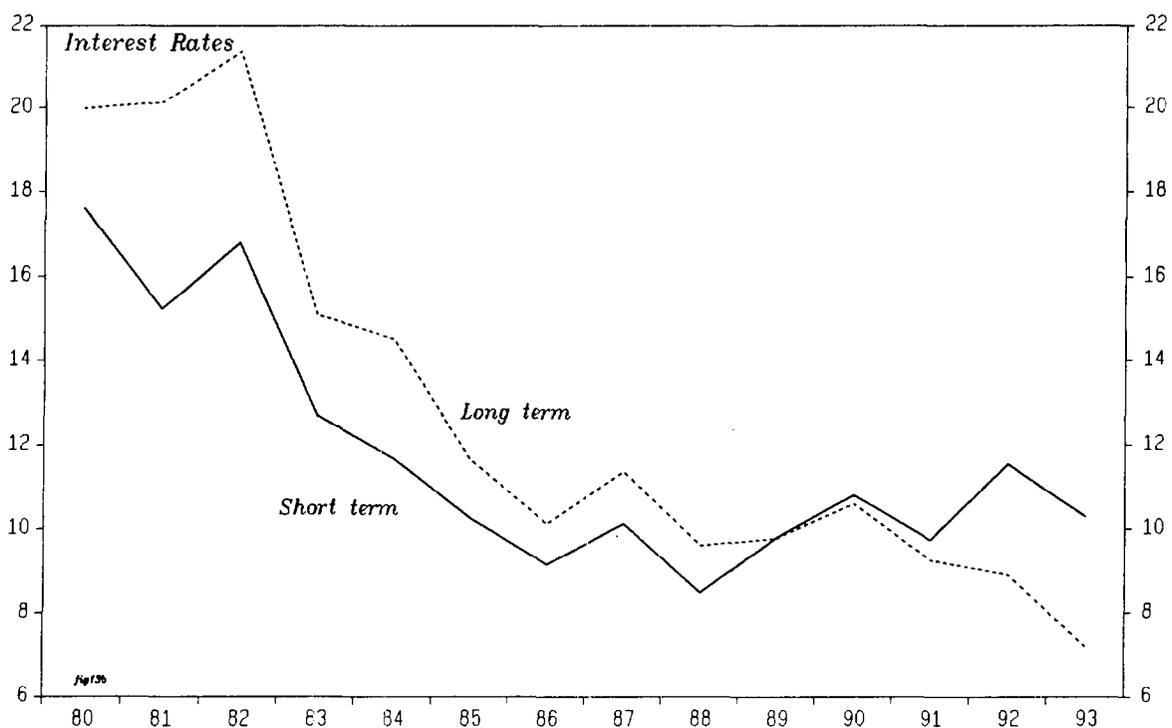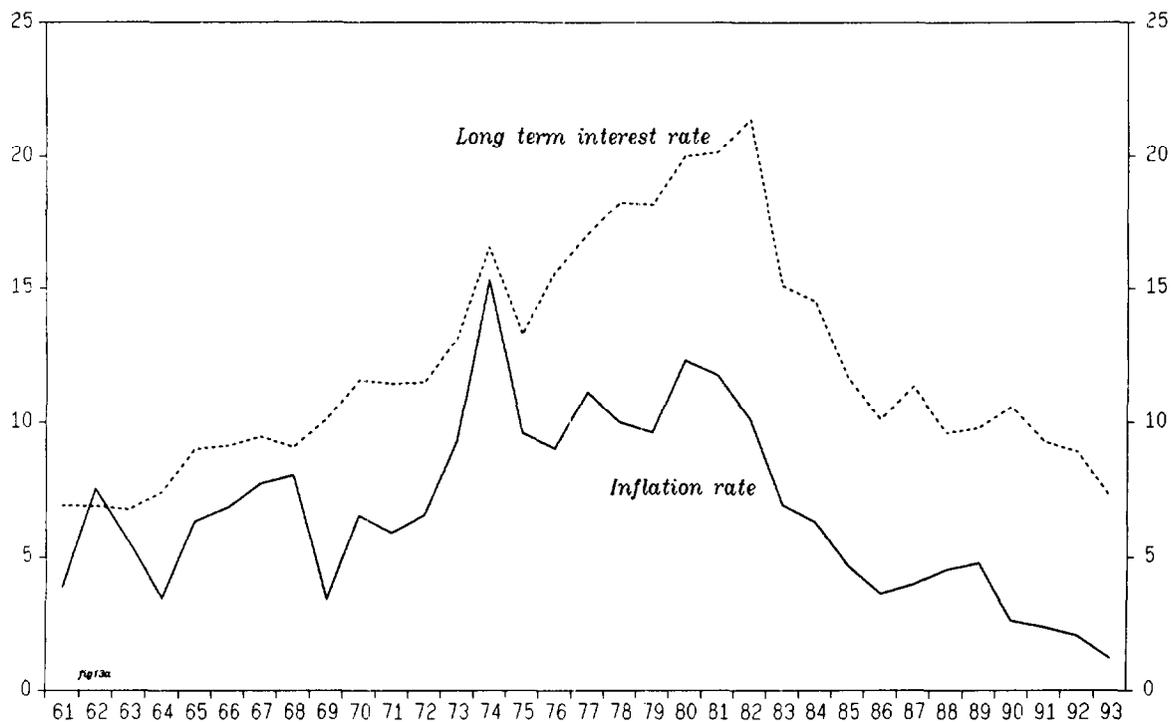
Sources: OECD Economic Outlook; OECD Analytical Database.

CHART I-11
Denmark
Savings and Investment
(In percent of GDP)

Savings

Savings and Investment

Components of Investment (constant prices)
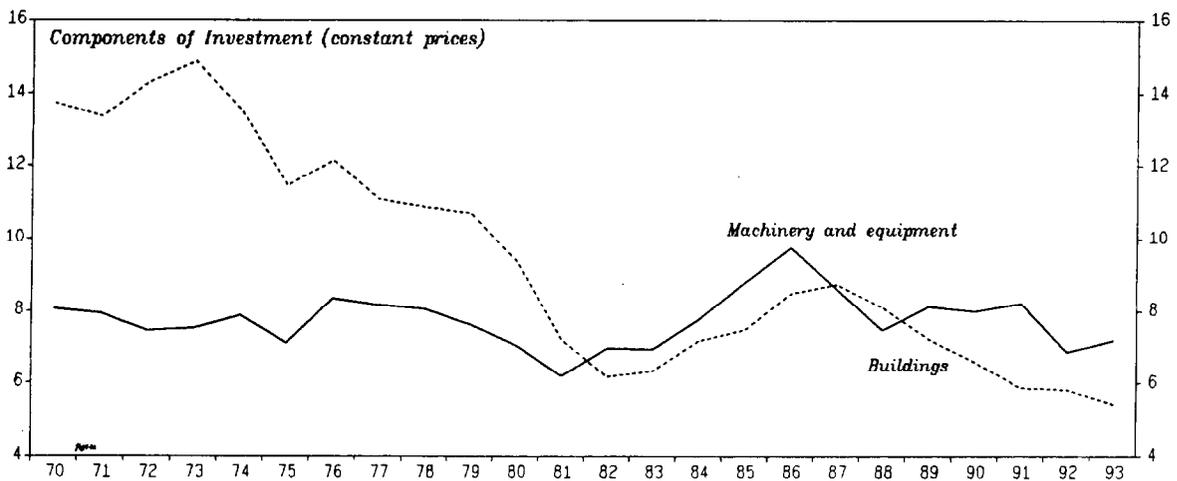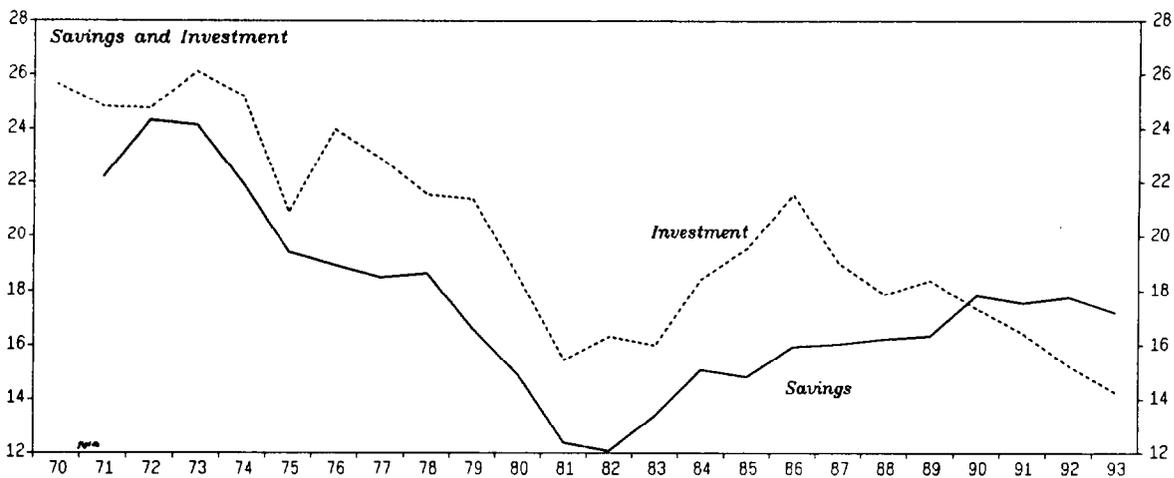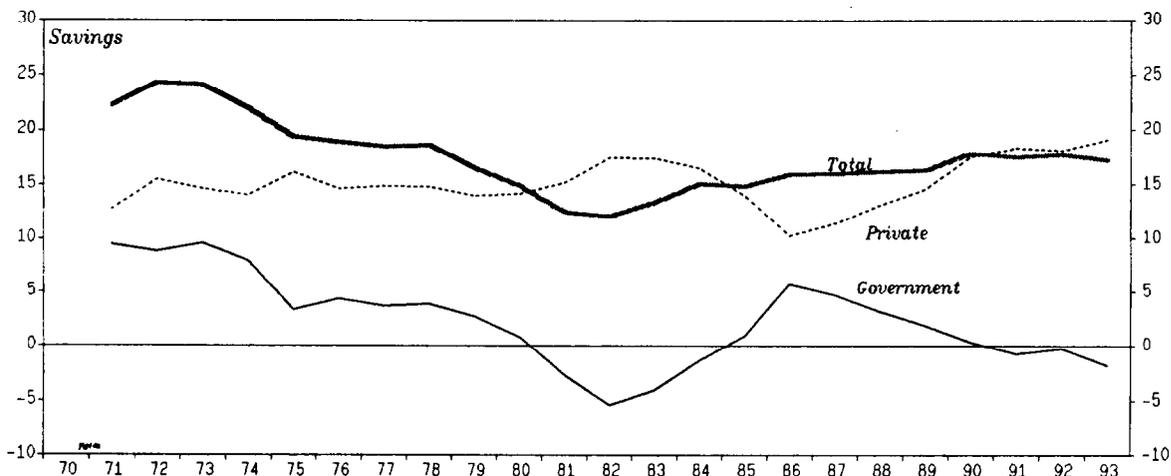
Source: Danmarks Statistik.

The policies soon had a powerful impact. The aggregate saving rate increased with the higher after tax interest rate, and borrowing fell with the cut in interest deductibility. The resulting fall in the demand for real estate brought the increase in house prices to an abrupt halt. A spiral of falling house prices, lower wealth and higher saving ensued, which ended only with the fall in long-term interest rates in the early part of 1993. 1/ Likewise, the share of investment in GDP fell by more than 7 percentage points from its peak of 21 percent in 1986 to just over 14 percent of GDP in 1993, reflecting the higher cost of borrowing, the depressed state of domestic demand, and the collapse of the housing market. While Denmark did not technically fall into recession, economic growth became subdued and the unemployment rate began to edge up, rising to more than 12 percent in 1993. The current account surplus finally emerged.

4. Conclusion

Like the fairy stories for which Denmark is justly renowned, this tale of the fortunes of Denmark's external position has had its own mysterious elements. At first we encountered a country seemingly immune to budget constraints, apparently able to borrow continually, without ever having to repay. Then harsh reality set in, in the form of oil price shocks, world recession and higher interest rates. Denmark found itself in external difficulties in the shape of a large current account deficit and an ever-rising net foreign debt. In 1982 it took the tough medicine of fiscal consolidation, financial liberalization, and fixed exchange rates--and then, found it had economic growth rates outstripping those of its partners, and a falling rate of inflation, to boot. However, despite an increase in government saving, the current account deficit refused to vanish, and domestic supply constraints forced the authorities into further consolidation of domestic demand. This time government saving fell, but a more than offsetting increase in private saving meant the current account deficit was finally tamed--at the cost of a prolonged period of slow economic growth.

In assessing the means by which this current account transformation was achieved, it would clearly be inappropriate to focus unduly on the rise in unemployment and slow growth since 1986 when assessing the nature of the current account transformation: the economic position in 1986 and 1987 was clearly unsustainable. It required drastic action for its resolution.

Instead, focusing on the changes in the economy since the policies of fiscal consolidation were first introduced, in late 1982, yields a more accurate--and more impressive--picture. The four quadrant diagram of

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1/ House prices fell roughly 20 percent in nominal terms from mid-1986 to early 1993, before recovering suddenly in early 1994 to rise within 5 to 10 percent of the 1986 peak; however, in real terms house prices are still some 30 percent below their 1986 levels.

CHART I-12

Denmark

The Danish Economy in 1982 and 1993

Unemployment

Budget deficit
in % of GDP

1982

1993

Inflation

Current account deficit in % of GDP
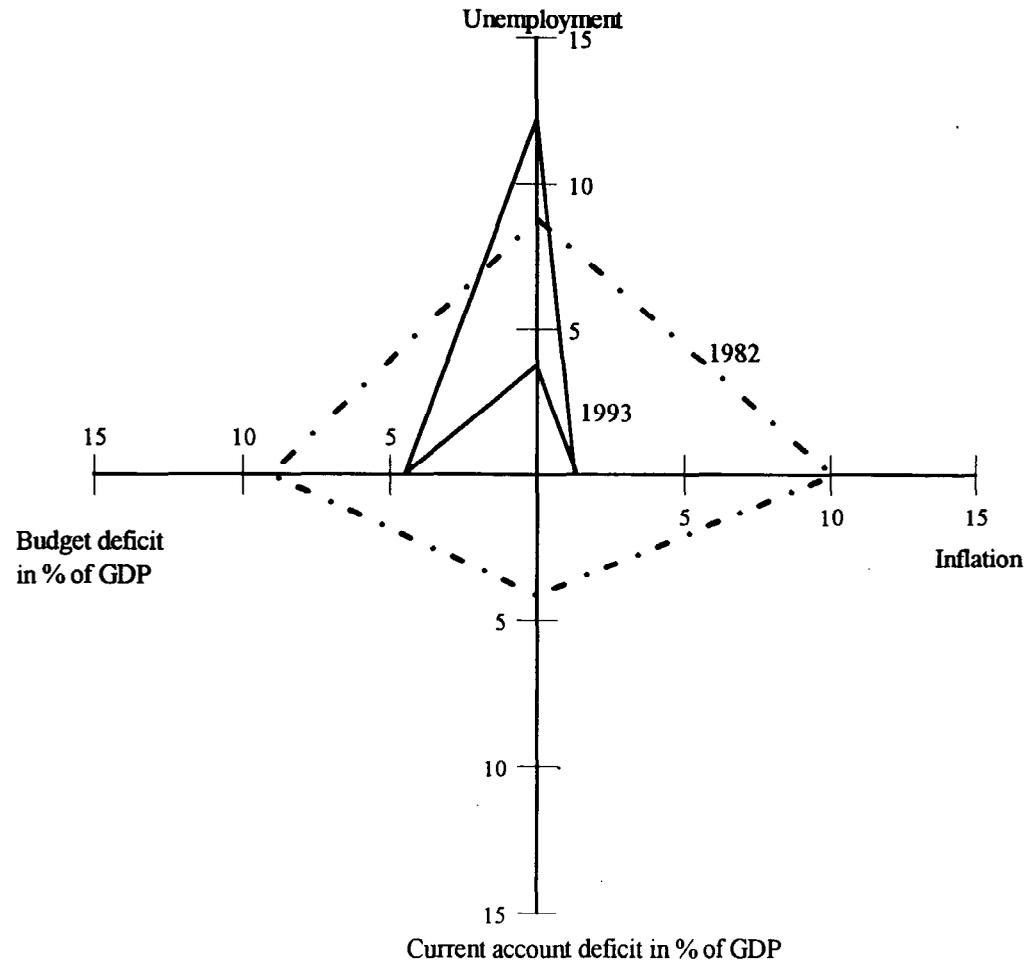
Chart I-12, updated from Andersen (1994), compares macroeconomic performance in 1993 with that in 1982, across the four dimensions of inflation, unemployment, current account and fiscal deficit. Save for the unemployment rate, on each criteria we find a considerable improvement in economic performance. In addition, although the path of output and the timing of the economic cycle has differed, since 1980 Danish output has grown at a comparable rate to its EU partners, despite having--in effect--to make a transfer exceeding 7 percent of GDP through the displacement of a current account deficit with current account surplus. Effecting such a sizable transfer always has the potential to depress domestic demand and create recession: in Denmark's case the transfer was made relatively painlessly.

While it is true that the eradication of the current account deficit came at the cost of a drastic fall in the share of investment in GDP, Chart I-11 makes it equally clear that--expressed in constant prices and placed in historical perspective--the bulk of this collapse came about in building construction. Investment in machinery and equipment has fallen less as a share of GDP when measured in constant prices and, in level terms, remains a good 50 percent above its 1982 level.

Finally, Denmark has been far from alone in its experience of attempting to reverse a persistent current account deficit. Her Nordic partners, Finland and Sweden, have similar histories of current account deficits, which have also only recently been overturned. 1/ However, visual inspection of their relative performance, as captured in Chart I-13, suggests that Denmark's achievement has been at least as impressive. Denmark effected a larger current account transformation, earlier and with less output cost, and without exchange rate depreciation.

When taken in medium-term context, these factors, together with the empirical evidence of an unexpectedly strong trade performance, suggest an impressive economic record, reflecting, in part, the success of the new macroeconomic policy regime introduced in 1982. The improvement in macroeconomic performance looks set to be maintained and the current account and net foreign debt problems of the past seem well on their way to being solved. Perhaps this fairy tale too has a happy ending.

1/ Norway is excluded from the comparison because of the importance of its North Sea oil production.

CHART I-13
Denmark

Output and the Current Account: A Nordic Comparison

Current Accounts (In percent of GDP)

Denmark

Sweden

Finland

fig16a

74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93

Output (1980=100)

Finland

Norway

Sweden

Denmark

fig16b

74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93
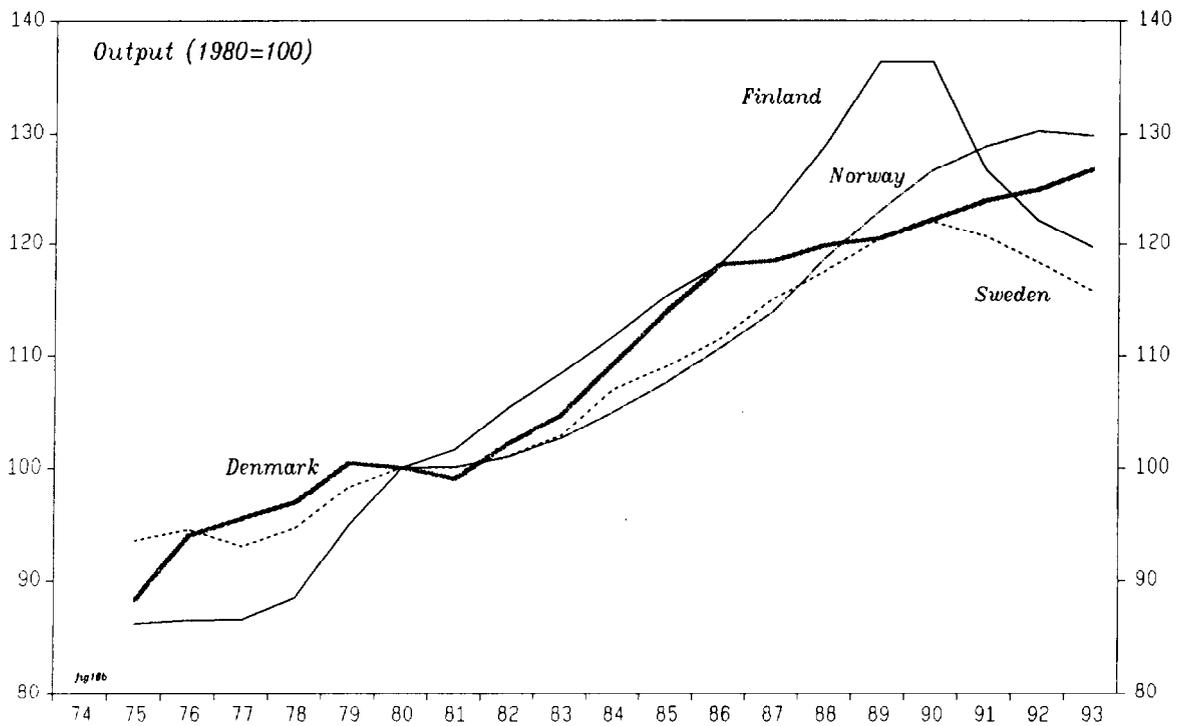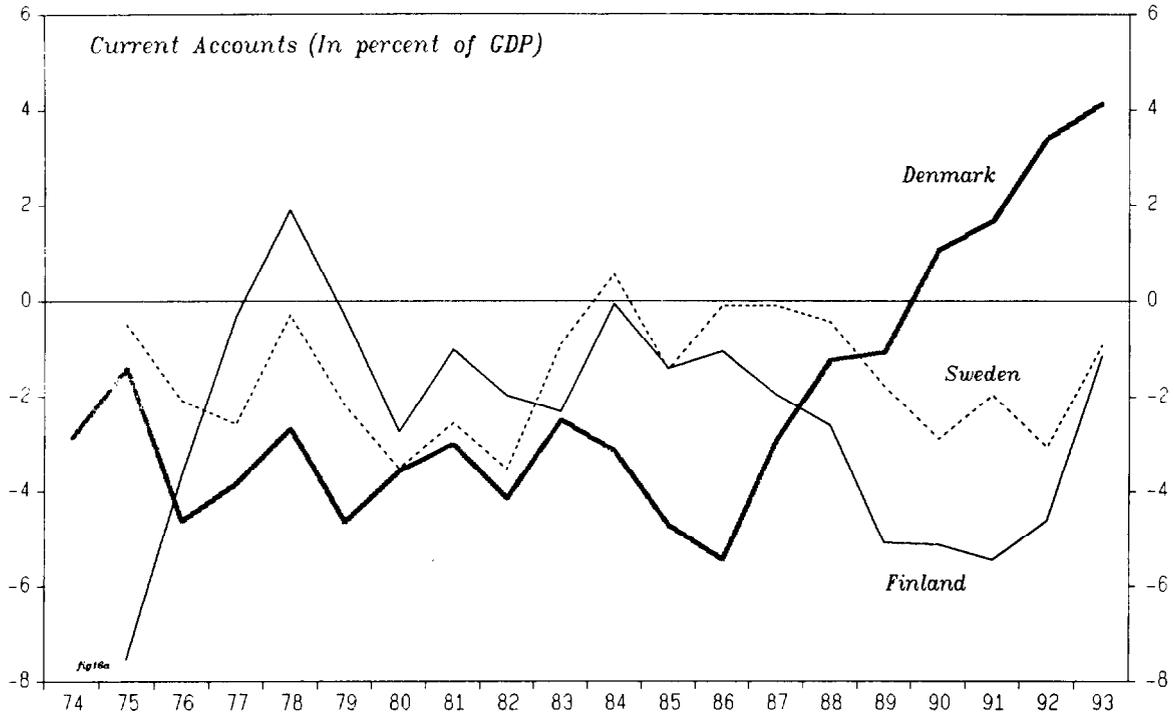
Sources: OECD Economic Outlook; Danmarks Statistik.

II. Medium-Term Scenarios 1/

This note provides two scenarios for the Danish economy through the year 2000. The baseline presents projections based on announced policies. The alternative, which analyzes the implications of successful labor market policies and a more front-loaded reversal of the fiscal stimulus of 1993-94, shares many of the features of the official medium-term projection.

1. The baseline scenario

a. Assumptions

The baseline scenario assumes the following:

● In addition to the 1995 budget measures, the remaining elements of the 1994 tax reform are completed as planned. By the staff's measure of the fiscal stance, explained in Note 4 to Appendix I of the Staff Report, this implies a withdrawal of fiscal stimulus of about 1/4 percent of GDP a year in the period 1995-97.

● Monetary policy remains oriented toward maintaining exchange rate stability within the ERM. This is assumed to be consistent with a decline in long-term interest rate differentials with Germany (adjusted for relative inflation rates) from about 2 percentage points at present to 3/4 of a percentage point at the end of the scenario. Long-term bond yields in Germany are assumed to be 7 percent throughout the scenario and inflation in Germany is assumed to average 2 percent a year.

● The medium-term global environment, as outlined in the Fund's most recent WEO exercise, is favorable. In particular, import growth in Denmark's main markets is projected at 5 percent a year while inflation in trade partner countries averages about 2 1/2 percent a year. The terms of trade remain unchanged throughout the scenario.

● The economy was operating significantly below potential in 1994, but the output gap is practically eliminated in 1995. Unemployment would be close to its structural level at the end of 1995.

A considerable degree of uncertainty surrounds the quantification of the initial cyclical position of the economy. The estimates of the output and labor market gaps rest on the assumption that the structural rate of unemployment currently lies close to 10 percent, compared with an actual rate of 10.7 percent in January 1995. This would be at the top end of the range estimated by the authorities. 2/ In support of the staff's estimate, it might be noted that: (1) the structural unemployment rate was presumably significantly greater than the 8 percent actual rate recorded in

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1/ This chapter was prepared by R. Corker.
2/ For more details of the staff's estimate, see SM/94/15. For a description of the authorities' estimate see Ministry of Finance (1995).

1986, when the economy was clearly overheated; (2) since 1986, persistently high actual unemployment is likely to have led to a further increase in the structural rate; and (3) inflation failed to decline much in 1993-94 even though unemployment was well above the postulated structural unemployment rate of 10 percent. The staff assumes that structural unemployment has been reduced only marginally as a result of the 1994 labor market reforms.

The output gap (1.7 percent) in 1994 is estimated to have been smaller than that typically implied by an "Okun's Law" relationship for Denmark because the 1994 labor market reforms initially had the perverse effect of slowing the decline in unemployment and thereby exaggerating the size of the labor market gap. 1/ Even so, the 1994 output gap is larger than that implied by the production-function-based estimates of potential output in the last Recent Economic Developments paper (SM/94/15, January 1994) and in the OECD's 1994 Economic Survey of Denmark. This is partly due to a re-assessment of the level and rate of growth of trend total factor productivity on the grounds that earlier estimates perhaps gave undue weight to the slow productivity growth that occurred in the period 1986-93. As a consequence, the medium-term rate of growth of potential output is now estimated to be 2.1 percent a year, instead of 1.9 percent. The new estimate is consistent with average labor productivity growth between similar points in the economic cycle since the late 1970s and with projected labor market trends.

b.   Projected outcome and risks

In the scenario, the fiscal withdrawal implicit in announced fiscal plans is estimated to be insufficient to prevent the emergence of a small inflationary output gap in 1996 (Table II-1). As a consequence, wage inflation is estimated to accelerate to 4 1/2 percent in 1996 from 3 1/2 percent in 1995. Price inflation would also rise to 2.8 percent in 1996, although about 0.3 to 0.4 percentage points of this would reflect higher indirect taxes. The overheating is assumed to be corrected through a slowdown in domestic demand growth in 1997-98 in response to higher market interest rates. As a result, unemployment would rise back towards its structural level. Beyond 1998, interest rates would ease and growth would settle at the potential rate of 2.1 percent a year. Inflation would moderate (in part because the earlier indirect tax increases would drop out of the calculation) to about 2 1/4 percent at the end of the scenario.

The external current account remains in surplus in the scenario, despite the fact that the acceleration in wage growth in 1996 would be associated with a modest loss of competitiveness. Indeed, the surplus would

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1/ The output gap might be expected to exceed the labor market gap in a period of cyclical recovery because of the procyclical behavior of productivity and because the reversal of discouraged worker effects would raise labor market participation. On average, the Okun coefficient for the years 1991-94 is 1.5, in line with historical experience.

Table II-1. Baseline Medium-Term Scenario

	1994	1995	1996	1997	1998	1999	2000
Output, unemployment and inflation:	(Percentage changes)						
Domestic demand	7.1	4.2	3.1	1.6	1.8	1.9	1.9
Exports of goods and nonfactor services	6.0	5.2	4.9	2.6	2.9	3.0	3.1
Imports of goods and nonfactor services	12.7	7.0	5.5	2.4	2.7	2.8	2.8
GDP:							
Actual	4.6	3.6	2.9	1.7	1.9	2.0	2.1
Potential	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Gap	-1.7	-0.3	0.6	0.2	0.1	--	--
Unemployment: 1/							
Actual	12.1	10.3	9.4	9.6	9.7	9.8	9.8
Structural	9.9	9.8	9.8	9.8	9.8	9.8	9.8
Inflation (GDP deflator)	2.2	2.5	2.8	2.9	2.7	2.4	2.2
General government accounts:	(In percent of GDP)						
Revenue	60.5	59.1	58.9	59.0	59.0	58.9	58.8
Expenditure	64.7	61.5	60.3	60.3	60.3	60.2	60.0
Balance:							
Actual	-4.2	-2.5	-1.4	-1.3	-1.3	-1.3	-1.2
Structural	-2.0	-2.0	-1.9	-1.6	-1.4	-1.3	-1.2
Gross debt	78.5	79.0	75.9	73.8	71.9	70.2	68.5
External accounts:							
Current account	2.3	1.9	2.0	2.3	2.8	3.1	3.3
Of which:							
Net investment income	-3.2	-2.8	-2.6	-2.3	-1.9	-1.7	-1.5

Source: Staff estimates.

1/ In percent of labor force.

tend to grow for two main reasons. First, beyond 1996, real net exports would make a persistent positive contribution to economic growth. Second, favorable external debt dynamics permit a sizable reduction in net investment income payments abroad. The projected sizable surplus suggests that the external position should be able to withstand adverse shocks to the terms of trade and world economic activity. Nevertheless, the strong net trade performance underpinning this conclusion is subject to a high degree of uncertainty, being based on equations (described in Chapter I) which not only have high estimated standard errors, but which also cannot fully account for recent developments in trade flows.

The planned withdrawal of fiscal stimulus, in concert with strong economic growth, would reduce the general government deficit to about 1 1/4 percent in 1996. It would remain broadly at this level through the end of the scenario. Both revenue and expenditure would decline modestly as a percent of GDP, largely as a result of lower interest receipts and payments. At close to 60 percent of GDP, the expenditure and revenue ratios would remain high by international standards.

The main risk is that overheating could turn out to be more substantial either because the output gap is currently smaller than assumed or because the present growth momentum is stronger than assumed. In this case, there would be a likelihood of a greater increase in inflation and wider nominal and real interest rate differentials with Germany. As a consequence, the subsequent cyclical downturn in growth would be expected to be magnified and the projected fiscal deficit would in the longer term be larger. The risk of overheating could be significantly lessened by augmenting the planned withdrawal of fiscal stimulus in 1996. To the extent that additional fiscal withdrawal was not simply borrowed from that planned for later years, the fiscal position would also move closer to the objective in the Convergence Plan of running a small surplus on average over the economic cycle.

2. Alternative scenario--policies to lower structural unemployment

In many respects the baseline scenario projects a satisfactory economic performance: real per capita incomes and consumption rise steadily, inflation is generally low, the external position strong, and the budget deficit small enough to put the public debt ratio on a declining path. A less satisfactory feature is the persistence of a near double-digit unemployment rate. In addition to associated social costs, high unemployment implies an underutilization of resources and a reduction in national income. The alternative scenario illustrates the potential benefits of successful policies to reduce structural unemployment. The scenario also assumes a more front-loaded policy of fiscal withdrawal.

In the scenario, the structural unemployment rate is assumed to decline to 9.5 percent in 1995 and thereafter by 1/2 a percentage point a year (Table II-2). In the year 2000 it would be 7 1/2 percent, in line with the assumption in the Convergence Plan. The reduction in structural unemployment is estimated to be consistent with a 2.6 percent a year potential growth rate. As a result, actual growth could be considerably faster than

Table II-2. Alternative Medium-Term Scenario

	1994	1995	1996	1997	1998	1999	2000
Output, unemployment and inflation:	(Percentage changes)						
Domestic demand	7.1	4.2	2.9	2.7	2.5	2.5	2.5
Exports of goods and nonfactor services	6.0	5.2	4.9	3.1	3.4	3.4	3.4
Imports of goods and nonfactor services	12.7	7.0	5.4	3.4	3.4	3.4	3.3
GDP:							
Actual	4.6	3.6	2.8	2.6	2.6	2.6	2.6
Potential	2.1	2.1	2.6	2.6	2.6	2.6	2.6
Gap	-1.7	-0.3	--	--	--	--	--
Unemployment: 1/							
Actual	12.1	10.3	9.5	9.1	8.5	8.0	7.5
Structural	9.9	9.8	9.5	9.0	8.5	8.0	7.5
Inflation (GDP deflator)	2.2	2.5	2.5	2.4	2.2	2.0	2.0
General government accounts:	(In percent of GDP)						
Revenue	60.5	59.1	59.2	59.2	59.1	58.9	58.7
Expenditure	64.7	61.5	60.6	59.9	59.3	58.6	57.8
Balance:							
Actual	-4.2	-2.5	-1.4	-0.6	-0.2	0.3	0.9
Structural	-2.0	-2.0	-1.4	-0.6	-0.2	0.3	0.9
Gross debt	78.5	79.0	76.3	73.3	70.1	66.6	62.8
External accounts:							
Current account	2.3	1.9	2.0	2.2	2.6	2.9	3.1
Of which:							
Net investment income	-3.2	-2.8	-2.6	-2.3	-1.9	-1.7	-1.5

Source: Staff estimates.

in the baseline without an increase in inflation (Chart II-1). Furthermore, it is assumed that a fiscal withdrawal of about 1/2 percent of GDP in 1996, in conjunction with a small fall in the structural unemployment rate, would be sufficient to prevent overheating and an increase in the underlying inflation rate. The baseline rise in market interest rates would thus be avoided. Moreover, a better medium-term inflation performance would be associated with a decline in the real long-term interest rate differential with Germany to just 1/2 percentage point at the end of the scenario.

Growth at the higher potential rate would largely be supported by domestic demand. The contribution from net exports would be smaller than in the baseline: although export growth might be stronger as there would be no erosion of competitiveness, import growth would rise by more in response to faster economic growth. Consequently, the current account surplus would be a little smaller than in the baseline--although at 3 percent of GDP at the end of the scenario it would still be sizable.

The fiscal position would be considerably stronger than in the baseline owing to substantial savings on unemployment benefits and lower interest payments. 1/ In the scenario, the deficit would be eliminated by 1998 and a surplus of nearly 1 percent of GDP would emerge by the year 2000. Gross public debt would be falling rapidly as a percent of GDP and would be just over 60 percent in the year 2000.

The alternative scenario shares many of the features of the official medium-term scenario, which is also normative in the sense that it does not outline specific policies to reduce structural unemployment. 2/ In the official scenario, economic growth is broadly similar to that in the staff scenario (Table II-3). Likewise, the official scenario depicts a sound external current account position: the surplus is projected at 2 percent of GDP in the medium term, a little lower than in the staff's scenario owing to more buoyant import growth. The general government balance would also be in surplus to the tune of 1 percent of GDP by the end of the scenario. However, because the official projection assumes a tighter rein on public consumption growth (to average 0.8 percent a year in real terms) and lower government bond yields (1 to 1 1/2 percentage points below those in the staff scenario) the fall in the ratio of public expenditure to GDP would be somewhat greater (9 percentage points in the period 1994-2000, compared with 7 percentage points in the staff scenario). Correspondingly, the official projection implies room for some reduction in the tax burden.

1/ The extent of public expenditure savings would depend on the nature of the implicit labor market policies. Targeted job subsidies and tax relief, for example, could lead to a substantial erosion of the fiscal savings described here.
2/ The official medium-term scenario is articulated in Denmark's updated Convergence Program, as submitted to the Monetary Committee of the EU on January 9, 1995, although subsequent refinements were made to the projections for 1995-96.

CHART II-1
Denmark

Medium-Term Scenarios
(In percent)

GDP Growth

alternative

baseline

Unemployment Rate

baseline

alternative

Inflation

baseline

alternative

General Government Balance/GDP

alternative

baseline

General Government Debt/GDP

baseline

alternative

Current Account/GDP

baseline

alternative
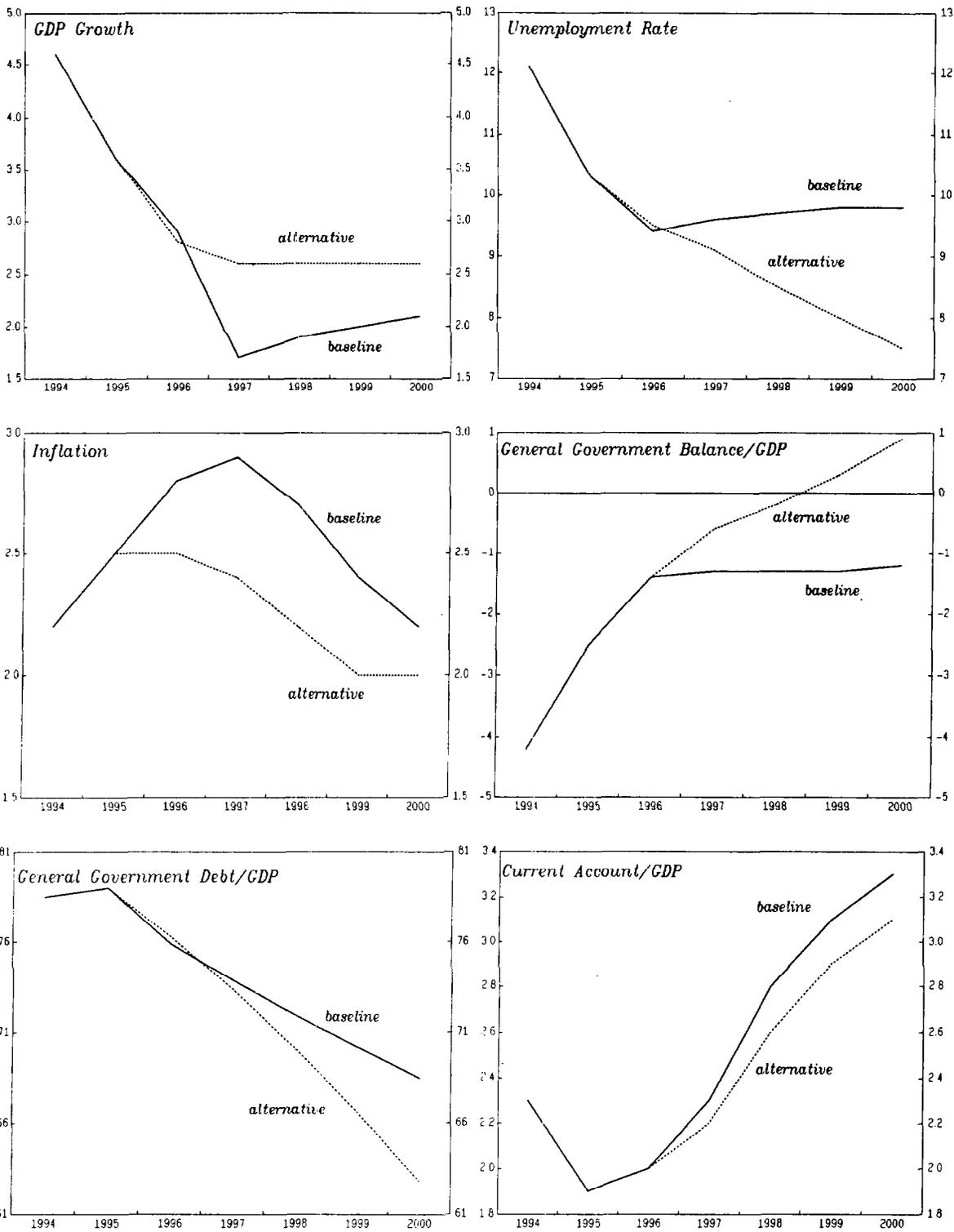
Source: Staff estimates.

Table II-3.   Official Medium-Term Projection 1/

(In percent)

	1994	1995	1996	1997-2000 average
Real GDP growth	4.6	3.7	3.0	2.8
CPI Inflation	2.0	2.4	2.4	2.5
Unemployment rate	12.1	10.3	9.7	7.3 2/
Current account/GDP	3.1	2.5	2.9	2.0 2/
General government balance/GDP	-4.3	-2.5	-1.5	1.0 2/

1/   Convergence Program estimates for the years
1997-2000; final 1995 Budget projections for 1994-96.
2/   Value in year 2000.

III. Danish-German Interest Rate Differentials

This note reviews the recent history of long-term interest differentials between Denmark and Germany and examines the persuasiveness of standard explanations for the persistence of positive differentials. Under conditions of near-perfect capital mobility persistent cross-country interest rate differentials are notoriously difficult to explain. Investigations of this phenomenon have focussed on the credibility of prevailing exchange rate policy and expectations regarding the probability of currency re-alignments, and on the determinants of credibility as measured by a variety of indicators including inter alia the fiscal position, the rate of inflation, the external position, and the unemployment rate.

1. Interest differentials between Denmark and Germany 1971-1994

Since the early 1970s Denmark has experienced persistent positive interest rate differentials vis-à-vis Germany. Excepting a short period in 1973-1974 when Denmark experienced very high inflation (15 percent), persistent differentials have also applied to inflation adjusted rates. The magnitude of interest rate differentials has varied over time and also across the spectrum of maturities (Tables III-1 and III-2). For nominal differentials in long-term bond yields, two broad phases can be identified. First, interest rate differentials between the two countries trended upward in the 1970s (Chart III-1). Second, the differential has tended to diminish since 1982 as Denmark's commitment to the ERM, which it joined in 1979, became more credible and Denmark moved to being a low inflation country. However, the downward trend in interest rate differentials has not been smooth and there have been spikes (in 1982, 1987 and 1992) associated in particular with periods of currency market unrest.

The behavior of "real" long-term interest rate differentials, where real differentials are defined as the difference between the nominal yield on 10-year government bonds less a five year moving average of past changes in the CPI between the two countries, has followed a broadly similar pattern, with the exception of the recent past. Since 1992, the real interest rate differential has been increasing as the fall in relative nominal rates has not matched the improvement in Denmark's relative inflation performance to that of Germany.

2. Findings for other countries

Studies have found that a variety of variables help to explain interest rate differentials between Germany and other ERM countries.

For the case of Belgium, Koen (SM/91/104) found that both the stance of fiscal policy (as measured by the primary deficit) and the public debt ratio had some limited influence on short-term interest differentials but rather less apparent influence on long-term differentials. More positive results were reported for the effects of inflation differentials and exchange rate

Table III-1. Denmark-Germany: Comparison of Nominal Interest Rates

Denmark: Short- and Long-Term Nominal Interest Rates

	Euro deposits 3 months	Euro deposits 12 months	Govt. bonds 3 years	Govt. bonds 5 years	Govt. bonds 7 years	Govt. bonds 10 years
1988	8.72	9.14	9.35	9.77	10.48	11.03
1989	9.66	9.74	9.68	9.76	9.78	9.88
1990	10.96	11.01	10.75	10.74	10.72	10.6
1991	9.78	9.87	9.65	9.52	9.42	9.26
1992	11.1	10.44	9.6	9.31	8.99	8.88
1993	10.88	8.68	7.36	7.21	7.3	7.3
1994	6.2	6.54	6.93	7.4	7.65	7.83
1995 1/	5.95	6.85	7.56	8.46	8.87	8.9

Germany: Short- and Long-Term Nominal Interest Rates

	Euro deposits 3 months	Euro deposits 12 months	Govt. bonds 3 years	Govt. bonds 5 years	Govt. bonds 7 years	Govt. bonds 10 years
1988	4.28	4.58	5.25	5.67	6.21	6.49
1989	7.04	7.24	7.06	7.05	7.03	6.91
1990	8.46	8.96	8.75	8.89	8.89	8.68
1991	9.21	9.33	8.87	8.76	8.59	8.42
1992	9.43	9.12	8.37	8.0	7.89	7.79
1993	7.21	6.4	5.98	6.06	6.26	6.47
1994	5.29	5.37	5.93	6.34	6.78	6.81
1995 1/	4.98	5.62	6.81	6.94	7.43	7.43

Denmark-Germany: Short- and Long-Term Nominal Interest Differentials

	Euro deposits 3 months	Euro deposits 12 months	Govt. bonds 3 years	Govt. bonds 5 years	Govt. bonds 7 years	Govt. bonds 10 years
1988	4.44	4.56	4.11	4.1	4.27	4.55
1989	2.61	2.5	2.61	2.71	2.75	2.97
1990	2.5	2.05	1.99	1.85	1.83	1.92
1991	0.57	0.54	0.78	0.76	0.83	0.84
1992	1.67	1.33	1.24	1.31	1.09	1.09
1993	3.67	2.29	1.39	1.15	1.04	0.84
1994	0.91	1.17	1.00	1.06	0.87	1.02
1995 1/	0.95	1.23	0.75	1.52	1.44	1.47

Source: All data are from Wharton Economic Forecasting Association (WEFA) database.

1/ Average of daily yields for January, February, and March 1-6, 1995.

Table III-2. Denmark-Germany: Comparison of Real Interest Rates

Denmark: Short- and Long-Term Real Interest Rates

	Euro deposits 3 months	Euro deposits 12 months	Govt. bonds 3 years	Govt. bonds 5 years	Govt. bonds 7 years	Govt. bonds 10 years
1988	4.18	4.61	4.82	5.24	5.94	6.50
1989	4.89	4.97	4.91	4.98	5.01	5.11
1990	8.32	8.37	8.11	8.10	8.08	7.96
1991	7.39	7.48	7.26	7.13	7.03	6.87
1992	9.01	8.35	7.51	7.21	6.89	6.78
1993	9.62	7.43	6.11	5.95	6.04	6.05
1994	4.20	4.54	4.93	5.40	5.64	5.83
1995 1/	3.45	4.35	5.06	5.96	6.37	6.40

Germany: Short- and Long-Term Real Interest Rates

|	Euro deposits 3 months	Euro deposits 12 months	Govt. bonds 3 years	Govt. bonds 5 years	Govt. bonds 7 years	Govt. bonds 10 years
1988	3.00	3.31	3.97	4.40	4.94	5.21
1989	4.27	4.46	4.29	4.27	4.25	4.13
1990	5.78	6.27	6.07	6.20	6.20	5.99
1991	4.64	4.76	4.31	4.20	4.03	3.86
1992	4.55	4.23	3.48	3.12	3.01	2.90
1993	2.49	1.68	1.25	1.34	1.54	1.74
1994	2.23	2.31	2.87	3.28	3.72	3.75
1995 1/	2.98	3.62	4.81	4.94	5.43	5.43

Denmark-Germany: Short- and Long-Term Real Interest Differentials

	Euro deposits 3 months	Euro deposits 12 months	Govt. bonds 3 years	Govt. bonds 5 years	Govt. bonds 7 years	Govt. bonds 10 years
1988	1.18	1.30	.85	.84	1.00	1.29
1989	.62	.51	.62	.71	.76	.98
1990	2.54	2.10	2.04	1.90	1.88	1.97
1991	2.75	2.72	2.95	2.93	3.00	3.01
1992	4.46	4.12	4.03	4.09	3.88	3.88
1993	7.13	5.75	4.86	4.61	4.50	4.31
1994	1.97	2.23	2.06	2.12	1.92	2.08
1995 1/	.47	.73	.25	1.02	.94	.97

Source: All data are from Wharton Economic Forecasting Association (WEFA) database.

1/ Real interest rates are calculated as the difference between the average annual nominal interest rate and the annual percent change in the CPI. The figures for 1995 are the average of daily yields for January, February, and March 1-6, 1995 assuming that the percent change in CPI=2.5 for Denmark and CPI=2.0 for Germany during 1995.

CHART III-1
Denmark
Long-Term Interest Rate Differentials with Germany
(In percent)

Inflation adjusted 1/

Nominal

Inflation adjusted 2/

march7
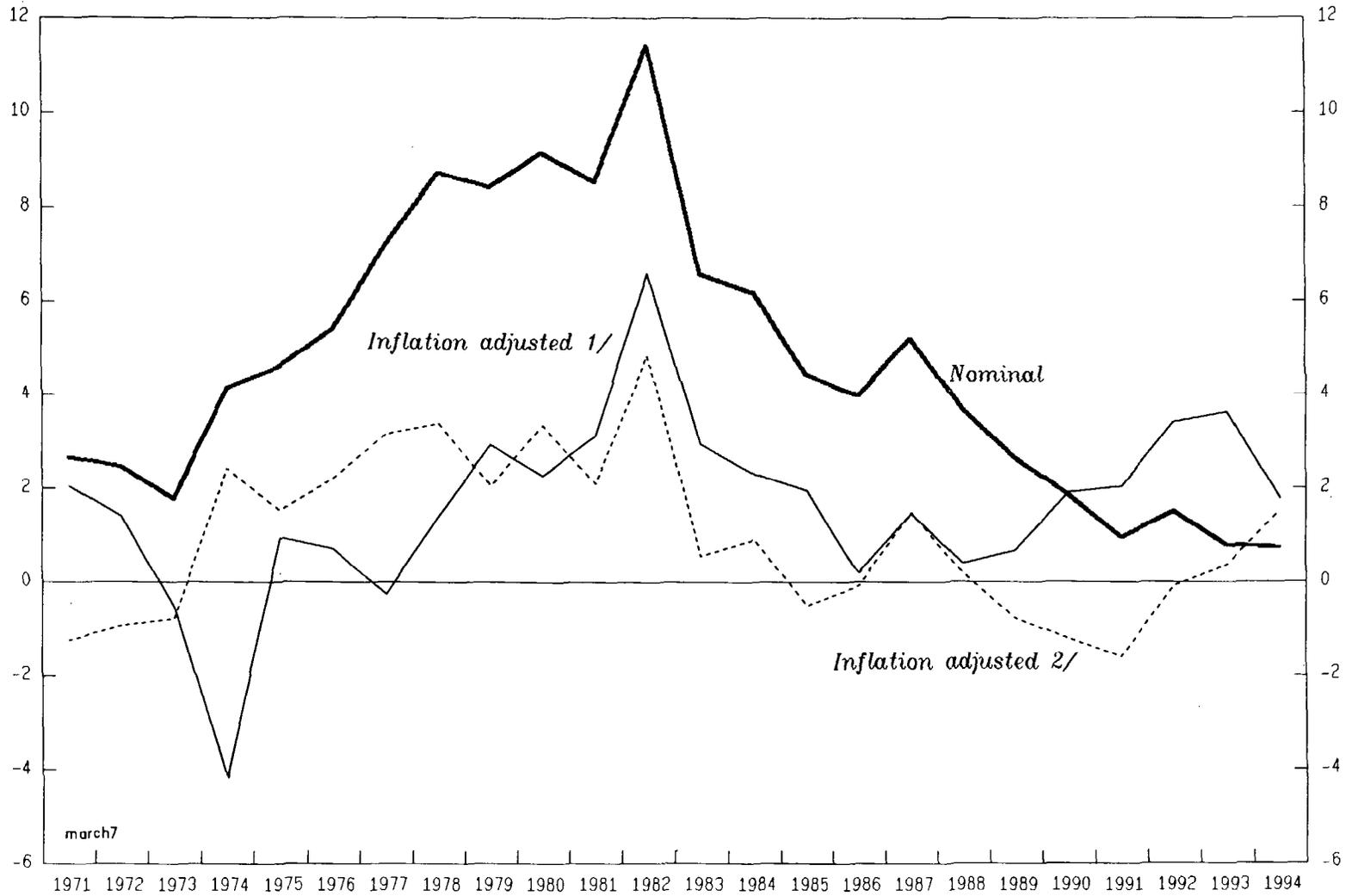
Source: IMF, International Financial Statistics.
1/ Bond yields minus current-year rate of change of CPI.
2/ Bond yields minus a five year moving average of CPI inflation, lagged one year.

volatility (defined as the short-run volatility of the exchange rate vis-à-vis the deutsche mark), which retained approximately the same degree of significance for both short- and long-term differentials; the inflation gap was found to be roughly equivalent to the interest rate differential, while exchange rate volatility was estimated to contribute approximately 15 basis points to the short-run differential. The external current account ratio netted extremely limited, if any, explanatory gains. By contrast, Halikias (1994) found that fiscal variables were more significant even for long-term interest rate differentials although he concluded that large changes in Belgium's fiscal position would be needed to eliminate the differential with Germany.

For the case of France, Caramazza (SM/92/183 and 1993) found that the differential in the yield on long-term bonds was related to inflation differentials, competitiveness, and the unemployment rate. The unemployment rate in particular was found to be a highly significant explanator of differentials in both short- and long-term rates. Little significance could be found for fiscal variables.

In a more general cross-sectional analysis Masson and Moghadam (SM/94/218) explored the significance of relative prices, relative unemployment rates, and relative government deficits on interest rate differentials for a panel of 10 EMS countries for the 1978-1993 period. While the significance of these variables differed across countries, the overall results supported the conclusion that increases in government deficits and unemployment rates have a negative impact on the credibility of monetary policy in EMS countries, and hence are typically associated with a widening of interest rate differentials.

Finally, in a discussion of factors underlying the increase in long-term bond yields in industrial countries during 1994, the World Economic Outlook (10/94) suggested that the magnitude of the increase in individual countries depended upon inflation and fiscal variables. The WEO cautioned however, that some countries, e.g. Switzerland and Belgium, were anomalous in combining relatively small increases in long-term interest rates with relatively unfavorable fiscal indicators. In this study, Denmark appeared to combine a relatively large increase in long-term bond yields with a relatively moderate general government balance/GDP ratio, and a relatively high general government net debt/GDP ratio.

3. **The Danish case**

The Danish case aptly illustrates Oscar Wilde's dictum that the truth is seldom pure and never simple. During the course of 1994, despite relatively favorable fiscal indicators and one of the lowest inflation rates in the EU, long-term Danish bond yields increased by 3 percentage points (difference between long-term yield on January 1, 1994 and December 31, 1994), a considerably larger increase than was experienced by most other European countries (Table III-3). The findings described above suggest a variety of factors that might be relevant in explaining Danish long-term interest rate behavior. In addition, it has frequently been suggested that

(In percent)

	Changes in long-term bond yield, Jan.-Dec. 1994	Standard deviation of monthly exchange rate changes 1/			Inflation rate 2/		Real interest rate 3/		Gen. gov. budg. bal. 1993 4/	Gen. gov. net debt 1993 4/	Trade Balance 1993 3/
		DM rate	$ rate	Effect. rate	Avg.	Std. dev.	Short term	Long term			
Austria	1.6 5/	0.2	2.9	0.5	3.6	1.6	3.3	4.3	-3.3	55.9	-4.2
Belgium	1.8	0.7	2.9	0.8	4.1	2.4	4.1	5.7	-6.7	132.2	2.7
Denmark	3.0	0.7	2.8	0.9	5.1	3.3	6.0	6.6	-4.6	65.4	5.8
Finland	3.9 6/	1.8	2.7	1.4	5.7	3.1	5.7	...	-8.0	24.0	6.5
France	1.9	0.7	2.9	0.8	5.5	3.9	4.2	4.5	-5.8	34.7	0.6
Germany	1.9	--	2.9	0.8	3.0	1.8	3.6	4.4	-3.3	26.9	2.3
Ireland	2.5	1.3	2.9	1.1	7.5	6.4	5.0	4.4	-2.9	104.9	14.9
Italy	3.3	1.3	2.8	1.1	8.9	5.1	4.6 5/	3.9 5/	-10.0	109.4	3.3
Netherlands	1.8	0.3	2.9	0.7	2.8	2.1	4.4	5.2	-2.9	60.4	3.9
Norway	2.7	1.3	2.4	0.8	6.2	3.4	5.3	4.8	-2.7	-13.3	7.0
Portugal	0.1	1.4	2.7	0.9	13.6	6.3	1.9	0.8	-7.3	...	-9.6
Spain	3.3	1.6	2.7	1.3	8.3	3.5	5.0	4.4	-7.3	42.3	-2.5
Sweden	3.9	1.9	2.7	1.5	6.9	3.2	4.4	3.8	-13.4	16.1	2.8
Switzerland	1.2	1.2	3.2	1.3	3.4	1.8	0.4	1.4	-4.9	...	0.8
United Kingdom	2.0	2.2	3.0	1.9	6.2	3.9	3.4	3.7	-8.5	33.0	-2.1
Australia	3.7	3.4	2.3	2.2	6.8	3.3	4.5	5.4	-4.0	20.0	-0.1
Canada	2.3	2.8	1.0	1.0	5.1	3.2	4.9	5.3	-7.1	62.3	1.3
Japan	0.6	2.5	2.9	2.3	2.3	1.9	3.3	3.7	-0.6	6.5	3.4
New Zealand	3.6	3.2	2.7	1.9	9.1	6.0	7.1	3.2	-1.9	...	4.0
United States	2.1	2.9	--	1.9	5.3	3.4	3.3	4.2	-3.4	56.4	-2.1

Sources: International Financial Statistics and World Economic Outlook.

1/ Calculated as the standard deviation of 100 times the monthly change in the log of the relevant exchange rate.

2/ Twelve-month change in the log of consumer prices times 100.

3/ Calculated as the 3-month rate minus the quarterly percent change in the consumer price index, and the 10-year government bond yield minus the 12-month percent change in consumer prices, respectively.

4/ Ratio to GDP.

5/ Data to October 1994.

6/ Data to August 1994.

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Denmark's interest rates are subject to a "Nordic effect," i.e., that
financial markets group Denmark with its neighbors, even when it has very
different policies and economic fundamentals.

Charts III-2 and III-3 suggest, however, that no easy explanation of
Danish-German long-term interest differentials is ready to hand. While
Chart III-2 suggests a relatively strong relationship between differentials
in government bond yields and relative inflation rates, it is difficult to
extract any obvious relationship between interest differentials and either
relative current account or fiscal positions, although it does appear that
improvements in both are broadly coincident with declines in the interest
differentials since the mid-1980s. A similar conclusion can be drawn with
respect to depreciations of the Swedish krona against the deutsche mark
(Chart III-3). While there are no obvious systematic relationships between
interest differentials and the Swedish krona/deutsche mark exchange rate (a
proxy for "Nordic effects"), it is frequently the case that such
depreciations coincide with an increase in Danish-German interest rate
differentials.

Regression analysis confirms that there are no clear cut explanations
for interest differentials (Table III-4). 1/ The regression equation
relates the real interest rate differentials between Danish and German
10-year government bonds to differences between the current account/GDP
ratios and the general government balance/GDP ratios of the respective
countries. The real interest rate is calculated as the difference between
nominal yields on 10-year government bonds and expected inflation, where
expected inflation is taken to be a five year moving average of past changes
in the CPI. 2/ The equation also includes dummy variables for large
changes in the nominal Swedish krona/deutsche mark exchange rate and for
participation in the ERM. 3/ Overall the regression fits rather badly and
the Durbin-Watson statistic indicates that the equation is subject to serial
autocorrelation, which probably indicates a "missing variable" problem.
Nonetheless, each of the variables enters the regression with the
appropriate sign. The results suggest that changes in the Swedish
krona/deutsche mark exchange rate, differences in the current account/GDP
ratios, and the fiscal balance play some role in determining long-term
differentials. Moreover the ERM dummy suggests that Denmark gained some
credibility from participation in the ERM.

1/ All data are described in the Annex to Chapter III.
2/ Originally, the regressand was expressed in nominal terms and the
expected inflation term included as a separate regressor. However, the
coefficient on expected inflation was statistically indistinguishable from
unity.
3/ Several other variables were tried in this equation including
unemployment differentials and net external debt/GDP. None proved
satisfactory. In addition the equation was run on monthly data for a wide
variety of interest differentials of different maturities.

CHART III-2
Denmark

Bond Yields and Various Economic Indicators
Relative to Germany

(In percent)

Bond yield differentials

Relative CPI inflation 1/

71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94

(In percent of GDP)

Relative general government balances

Relative current account position

71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94

(In percent)

Relative unemployment rate

71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94
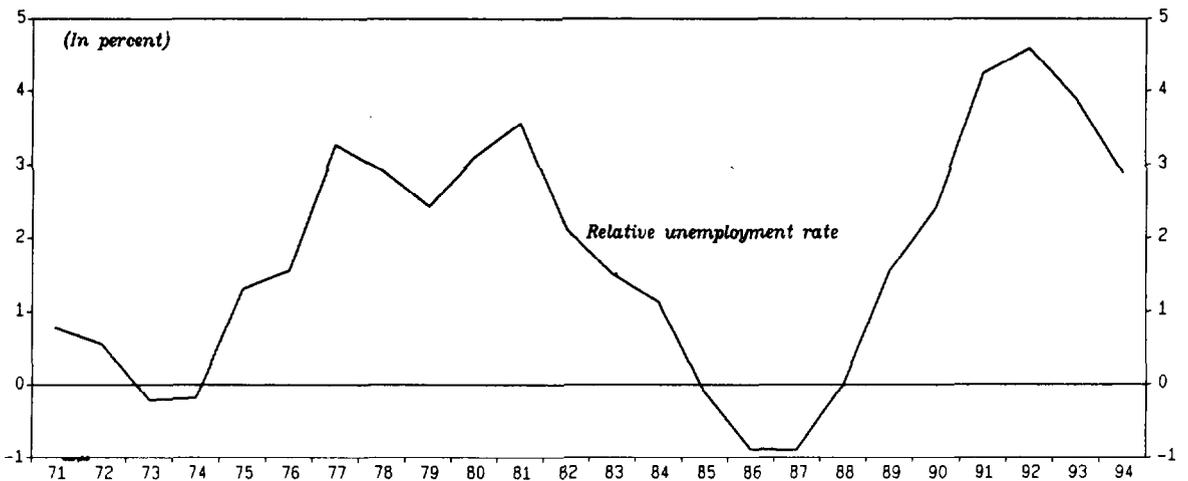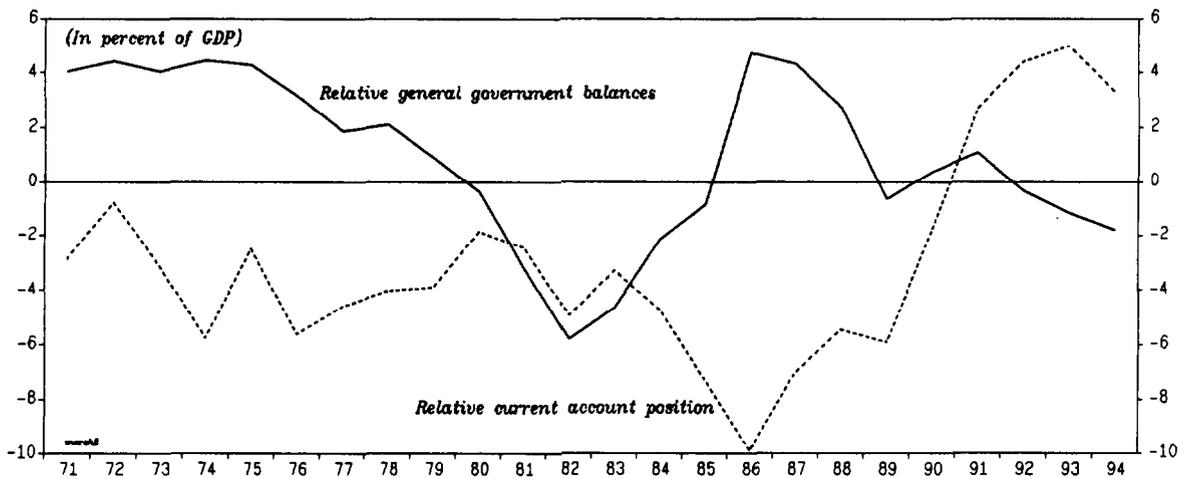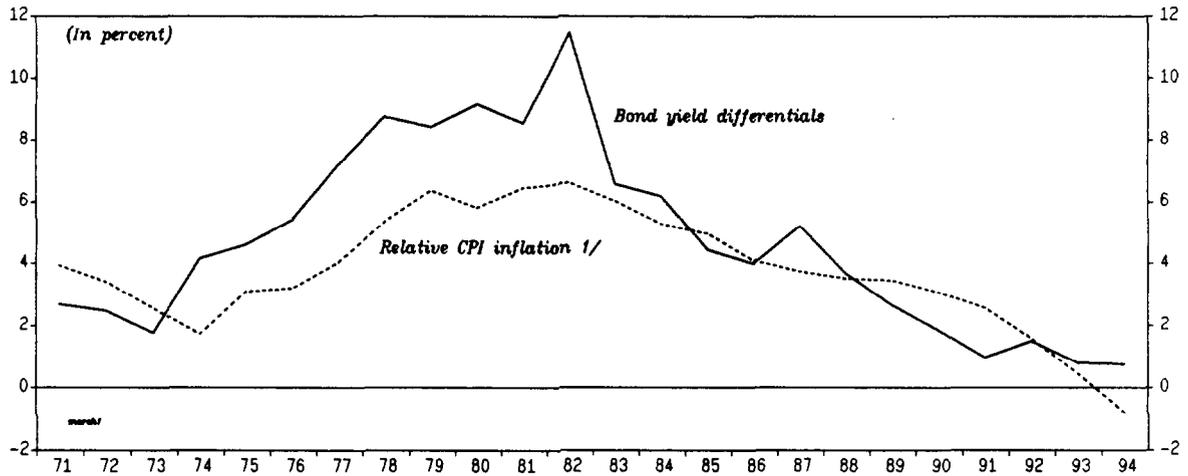
Source: Danmarks Statistik, IFS, and WEO databases.
1/ Five year moving average, lagged one year.

CHART III-3
Denmark
Bond Yield Differentials with Germany
and Nordic Effects
(In percent)
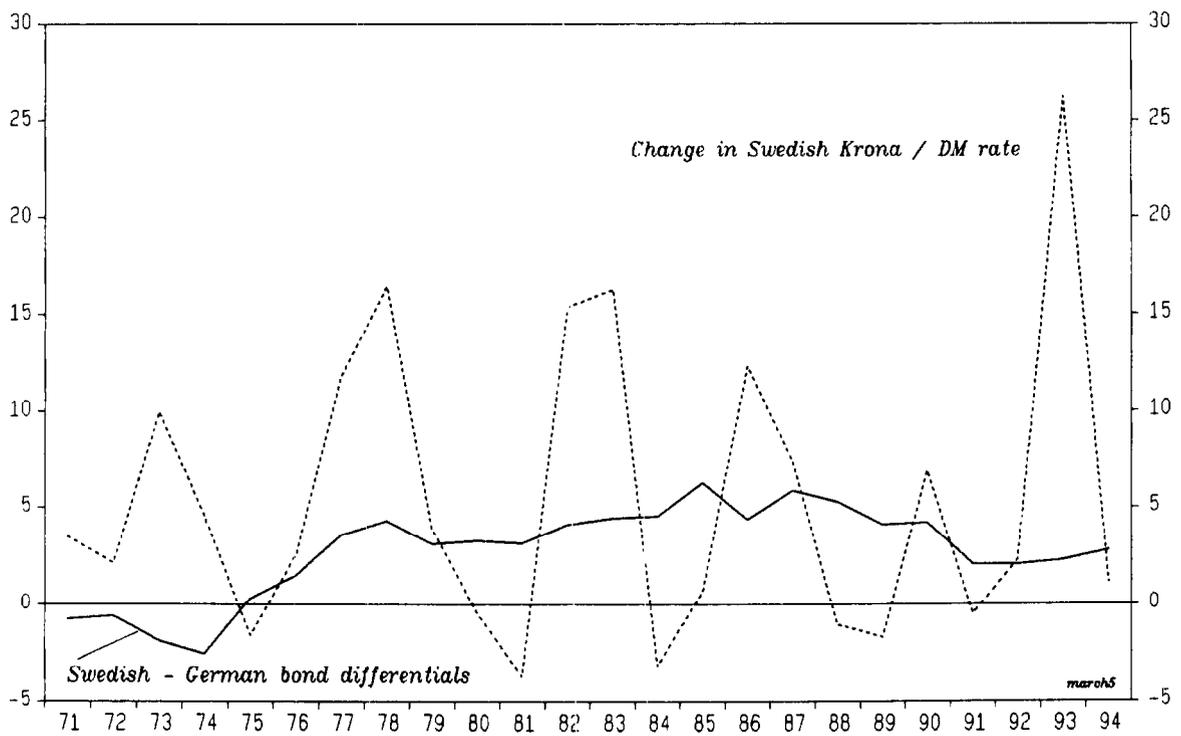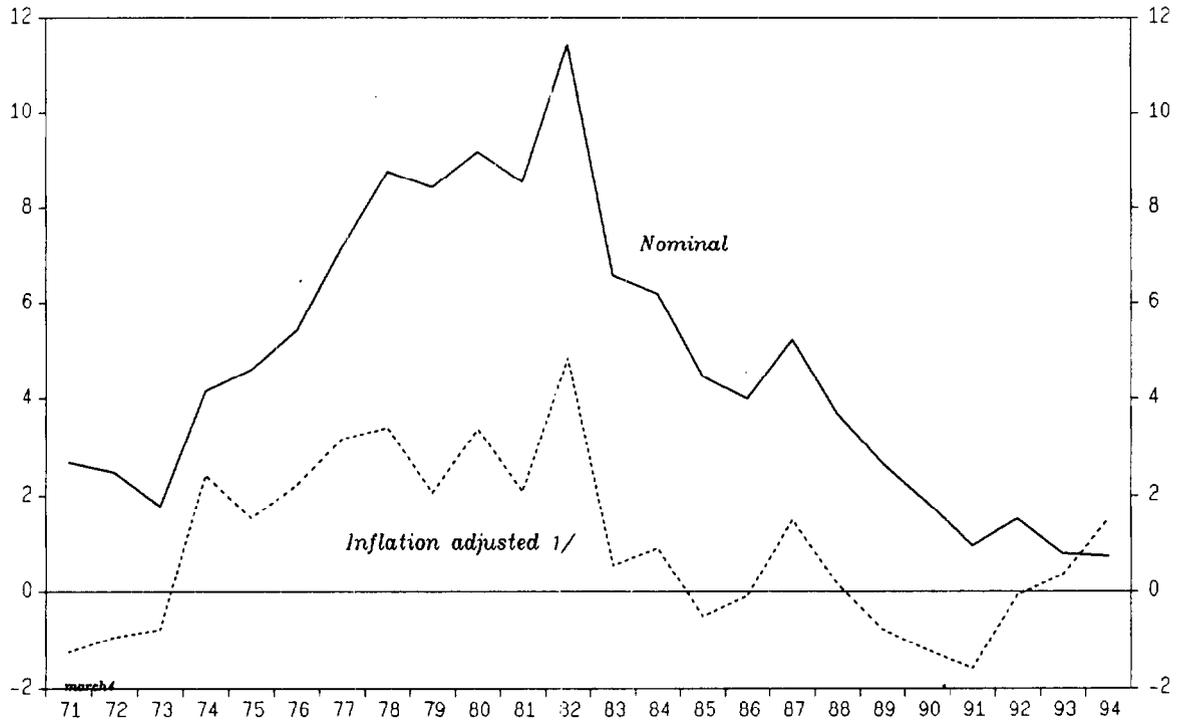
Source: IMF, International Financial Statistics.
1/   Bond yields minus a five year moving average of CPI inflation, lagged one year.

Table III-4. Denmark-Germany: Determinants of Long-Term Real
Interest Rate Differentials

(1971-1994)

Variable	Coefficient	t-Statistics
Relative current account/GDP	-.142	(1.5)
Relative general government budget balance/GDP	-.314	(2.1)
Dummy for changes in Swedish krone/Deutsche mark exchange rate	.04	(.84)
ERM dummy	-1.55	(1.7)
Constant	1.67	(1.9)

R^2 - .30 D.W. - 1.1 S.E.E. - 1.6 Mean of dependent variable - .95 N - 24

Source: Staff estimates.

A more global context for these results is provided by Charts III-4 and III-5, which depict the position of Denmark relative to several other industrial countries with respect to average inflation adjusted long-term interest rate differentials with Germany and relative general government and current account balances. While the cross country correlation between these variables is very weak, the charts illustrate that Danish differentials with Germany have been high given Denmark's relatively good current account and fiscal positions.

A tentative conclusion would be that the building of credibility on these fronts requires a fairly long time period. Of the countries which experienced an increase in long-term rates of fewer than three percentage points during 1994, only the U.K., France, Ireland, Norway, Portugal, and the U.S. had a higher average inflation rate for the period spanning 1979-94 and, with the exception of Ireland, all of these had lower general government net debt to GDP ratios in 1993. While these results are suggestive rather than conclusive, it may be that the markets are waiting for Denmark's policymakers to prove their ability to maintain the remarkably low inflation rate achieved in the course of an economic downturn during the recovery portion of the business cycle.

CHART III-4

Denmark

Average Differentials with Germany, 1987-94
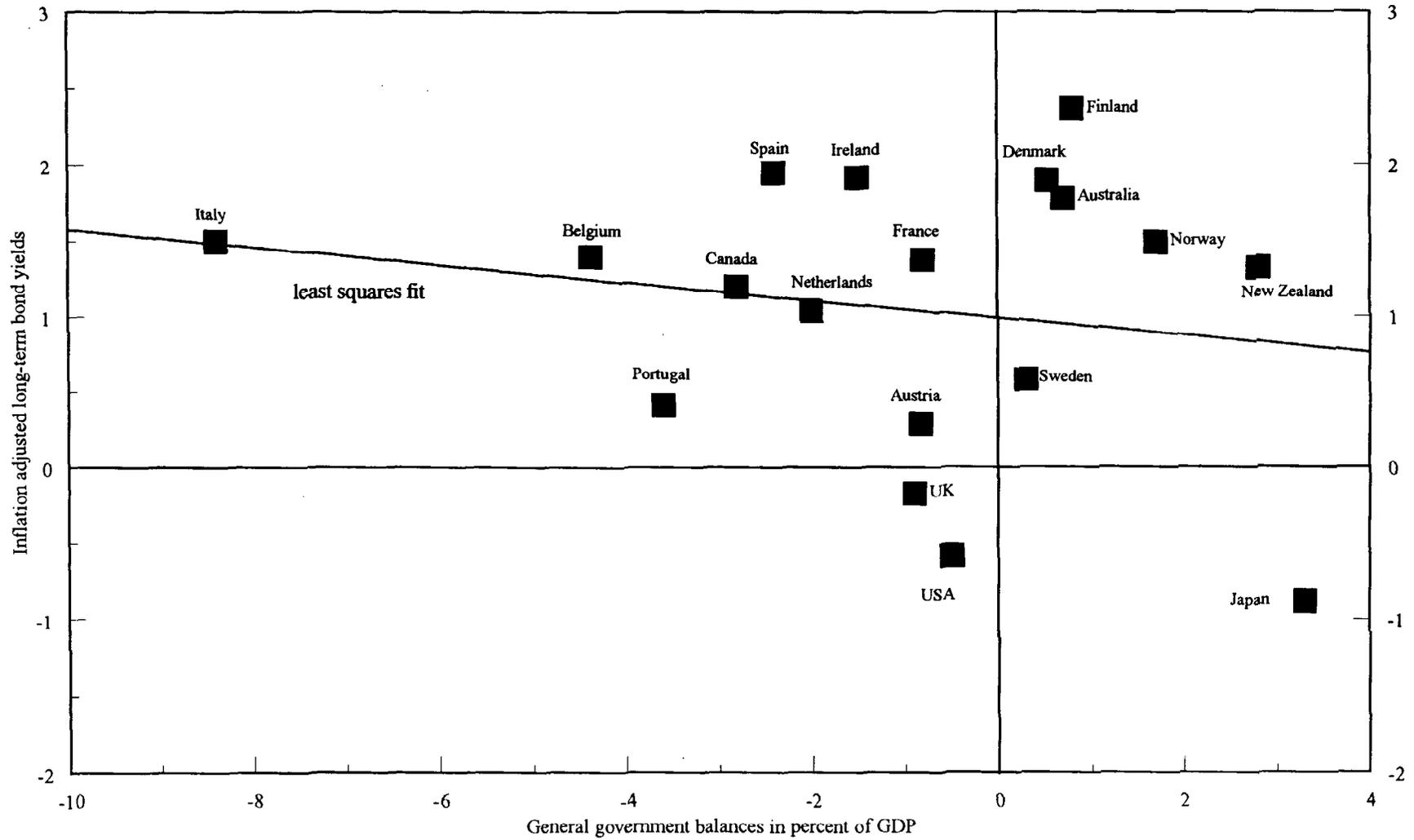
(In percent)

Source: Staff estimates.

CHART III-5

Denmark

Average Differentials with Germany, 1987-94
(In percent)
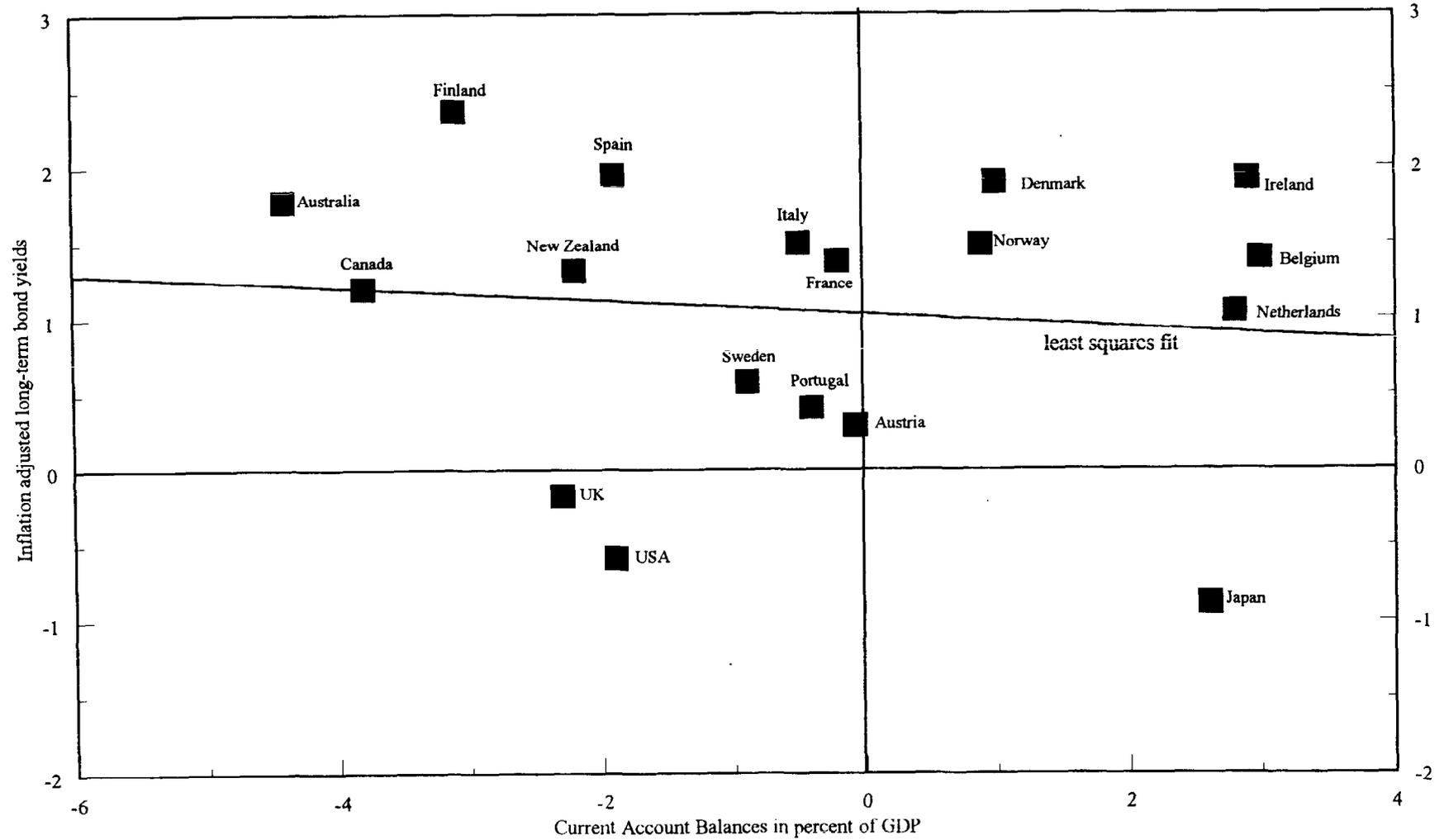
Source: Staff estimates.

Real interest rate: For the time-series regression the real interest rate differential is defined as the difference between the nominal yield on 10-year government bonds and a 5-year moving average of percent changes in the CPI. For the cross-country regression the real interest rate is defined as the difference between the nominal yield on 10-year government bonds and the percent change in the CPI for the same year. For Finland the yield for the 7-year government bond is employed.

Real interest rate differential: Defined as the difference between the real interest rate and Germany's real interest rate.

Dummy for changes in the Swedish krona/deutsche mark exchange rate: The dummy takes the value of 0 for any year in which the change in the nominal Swedish krona/deutsche mark exchange rate is less than 10 percent. For years in which the change is greater than 10 percent the dummy takes the value of the percent change in the exchange rate.

ERM dummy: The ERM dummy takes a value of 0 for any year prior to 1979 whereas it takes a value of 1 for the years 1979-1994, the years during which Denmark participated in the ERM.

Relative general government budget balance/GDP ratio: The ratio is defined as the difference between a country's general government budget balance as a percent of GDP and Germany's general government budget balance as a percent of GDP.

Relative trade balance/GDP ratio: The ratio is defined as the difference between a country's trade balance as a percent of GDP and Germany's trade balance as a percent of GDP.

Relative current account balance/GDP ratio: The ratio is defined as the difference between a country's general government budget balance as a percent of GDP and Germany's general government budget balance as a percent of GDP.

   Sources: All data are from the World Economic Outlook and International Financial Statistics databases.

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