

**FOR
AGENDA**

SM/04/296

August 23, 2004

To: Members of the Executive Board

From: The Secretary

Subject: **Kingdom of the Netherlands—Netherlands—Selected Issues**

This paper provides background information to the staff report on the 2004 Article IV consultation discussions with the Kingdom of the Netherlands—Netherlands (SM/04/262, 7/22/04), which is tentatively scheduled for discussion on **Wednesday, September 8, 2004**. At the time of circulation of this paper to the Board, the Secretary's Department has received a communication from the authorities of the Kingdom of the Netherlands—Netherlands indicating that they consent to the Fund's publication of this paper.

Questions may be referred to Mr. G. Bell (ext. 37672) and Mr. Jianping Zhou (ext. 34297) in EUR.

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the WTO Secretariat on Tuesday, August 31, 2004; and to the European Commission, the Food and Agriculture Organization, the Organisation for Economic Cooperation and Development, the United Nations Economic Commission for Latin America and the Caribbean, and the World Food Programme, following its consideration by the Executive Board.

This document will shortly be posted on the extranet, a secure website for Executive Directors and member country authorities.

Att: (1)

Other Distribution:
Department Heads

INTERNATIONAL MONETARY FUND
KINGDOM OF THE NETHERLANDS—NETHERLANDS

Selected Issues

Prepared by Jianping Zhou and Gerwin Bell (both EUR)

Approved by the European Department

August 20, 2004

Contents	Page
I. Recent Fiscal Developments in the Netherlands	3
A. Introduction.....	3
B. Fiscal Deterioration: Nature and Causes.....	6
C. Fiscal Framework and Procyclical Fiscal Behavior.....	9
D. Effects of Automatic Stabilizers	12
E. Effects of Asset Prices	15
F. Concluding Remarks.....	17
References.....	19
II. Recent Productivity Trends in the Netherlands	20
A. Overview and Background	20
B. Stylized Macroeconomic Facts.....	21
C. Some Growth Accounting.....	27
D. Possible Explanation.....	35
E. Conclusions.....	38
References.....	39
Boxes	
I.1 The Dutch Fiscal Framework.....	10
II.1 The Relative Merits of Different Data Sets	28
Tables	
I.1 Fiscal Developments in Selected Countries, 2000–03.....	3
I.2 General Government Accounts.....	7
I.3 Expenditures Under Different Coverages.....	9
I.4 Growth of Real Public Spending, 1999–2002	11
I.5 The Effectiveness of Automatic Stabilizers.....	14

I.6	Estimates of Revenue Elasticities	17
II.1	Components of Labor Utilizations.....	21
II.2	Measures of Average Labor Productivity	24
II.3	TFP Growth Estimates	27

Figures

I.1	Fiscal Deficit in 2003	4
I.2	Real Expenditures Covered by the Fiscal Framework.....	5
I.3	Output Gaps, 1982–2004	8
I.4	Expenditure Development, 1999–2003	12
I.5	Automatic Fiscal Stabilizers in EU Countries	13
I.6	Response to Cholesky One S.D. Innovations +/- 2 S.E.	15
I.7	Developments of Revenues and Assets Prices	16
II.1	Trends in Real Per Capita GDP (at PPP Exchange Rates)	22
II.2	Real GDP in Relation to Working Age Population	23
II.3	Average Economy Wide Productivity	25
II.4	Hourly Labor Productivity in the Business Sector	26
II.5	Long-Run Growth Accounting	29
II.6	Trends in Total Factor Productivity Growth.....	30
II.7	Scatter Plots of Sectoral TFP Growth Rates (1980–90 vs. 1990–2001	32
II.8	Evolution of Industry TFP Growth (1990–2001 compared to 1980–90)	33
II.9	Difference Between Netherlands and U.S. Average TFP Growth by Industry, 1990–2001	34

I. Recent Fiscal Developments in the Netherlands¹

A. Introduction

1. **The Dutch fiscal position deteriorated sharply during 2000–03, amid a steady decline in economic growth.** Between 2000 and 2003, the general government balance shifted from a surplus of 2.2 percent of GDP to a deficit of 3.2 percent of GDP, while the primary balance deteriorated by more than 6 percentage points of GDP. The deterioration, either in nominal or in structural terms, was one of the largest among euro area countries and only smaller than those recorded by the United States and the United Kingdom, countries in which recent economic growth has been propped up by substantial fiscal stimuli (Table 1). With the sharp fiscal deterioration in the Netherlands accompanied by sizeable output fluctuations, questions arise about the effectiveness of automatic stabilizers.

Table 1. The Netherlands: Fiscal Developments in Selected Countries, 2000-03

(General government balance; in percent of GDP)

	Changes in Fiscal Balance	Changes in Structural Balance	Fiscal Balance
	During 2000-03	During 2000-03	In 2003
Spain	1.1	2.3	0.3
Austria	0.2	2.6	-1.4
Belgium	0.2	0.7	0.2
Portugal	0.1	3.0	-2.8
Greece	-1.2	-0.5	-3.2
Italy	-1.8	1.0	-2.4
France	-2.7	-1.2	-4.1
Ireland	-4.2	-2.0	0.2
Finland	-5.0	-3.2	2.1
Germany	-5.2	-0.6	-3.9
Netherlands	-5.4	-2.2	-3.2
Euro area	-1.9	-0.1	-2.8
United Kingdom	-7.3	-4.0	-3.4
United States	-6.5	-4.5	-4.9

Source: WEO database.

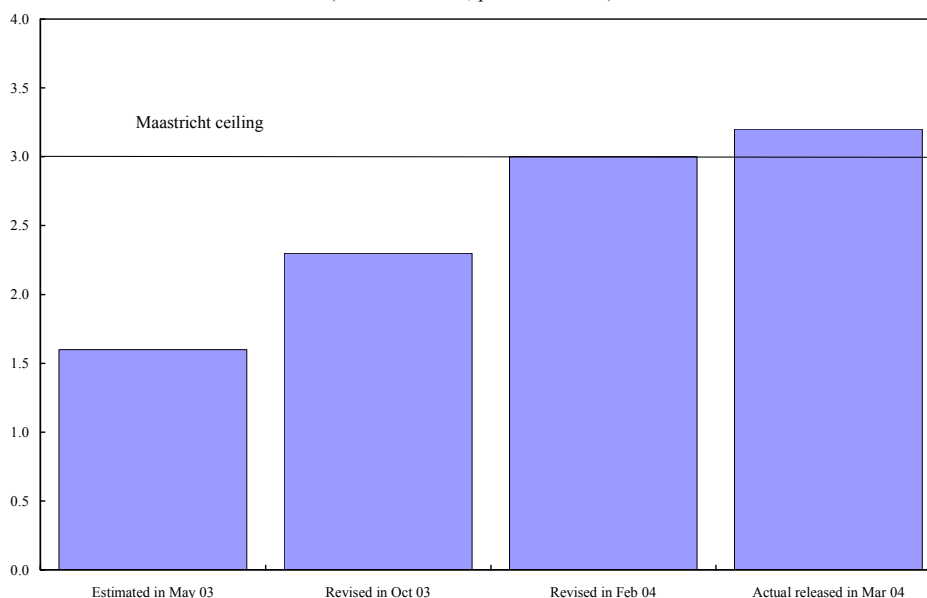
2. **Fiscal deterioration during economic slowdowns is not unusual and can be justified on economic grounds.** Indeed, according to “tax-smoothing” theory, it is optimal for the budget balance to serve as a buffer to allow tax rates to be approximately constant at the level that keeps the budget in intertemporal balance (Barro, 1979). Moreover, staff has generally argued for letting the automatic stabilizers act as a damper to slowing economic

¹Prepared by Jianping Zhou.

activity. In this case, however, deteriorations would be expected to reverse themselves during economic expansions.

3. **The magnitude of the deterioration in the Dutch fiscal position surprised many.** After taking office in May 2003 and until recently, the government has had to deal with worse-than-expected fiscal outcomes. The final figure on the 2003 fiscal deficit released at end-March 2004 was 3.2 percent of GDP, much higher than the 1.6 percent estimated in May 2003 and exceeding the 3 percent Maastricht ceiling (Figure 1). New budgetary measures were introduced in August 2003 and again in April 2004 to address the fiscal deterioration and to bring the deficit in 2004 to below the 3 percent ceiling.

Figure 1. The Netherlands: Fiscal Deficit in 2003
(EMU definition; percent of GDP)

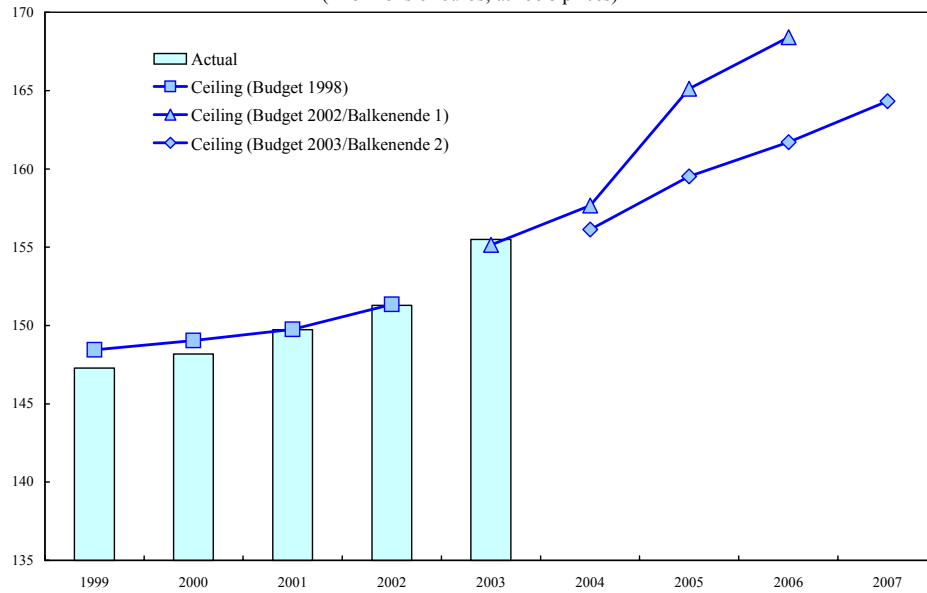


Source: Ministry of Finance.

4. **Those who were surprised by these events had good reason to be.** First, the remarkable fiscal consolidation undertaken during the 1990s led to sustained improvements in the fiscal balance: by 2000, the structural balance was close to zero. According to the policy guidelines of the SGP and related studies, this should have provided sufficient room to allow for the free play of the automatic stabilizers while avoiding a breach of the 3 percent deficit ceiling. Second, the Dutch fiscal framework—with its emphasis on real expenditure ceilings and strong spending discipline—played an important role in the fiscal consolidation of the 1990s and has been held up as a role model for other countries (Daban and others, 2003).

5. **The fiscal slippage during 2000–03 was all the more puzzling because it took place while the real spending ceilings were largely adhered to.** As shown in Figure 2, the spending ceilings were met through 2002 and exceeded by only a small margin in 2003.

Figure 2. The Netherlands: Real Expenditures Covered by the Fiscal Framework
(In billions of euros; at 1998 prices)



Source: Ministry of Finance.

6. **With a focus on the role of the fiscal framework and the effects of movements in asset prices, this paper analyzes the fiscal deterioration during 2000–03 and the effectiveness of the automatic stabilizers in the Netherlands.** The main results are as follows:

- The deterioration reflected contributions from (i) cyclical factors, especially falling revenue; and (ii) structural factors, including the 2001 tax reform and spending increases, particularly in the social sector (and notably health care).
- Although the real spending ceilings were largely adhered to, procyclical elements embedded in the fiscal framework contributed to the structural fiscal deterioration, particularly in 2001 and 2002. This reduced or offset the damping effect of the automatic stabilizers on output fluctuations.
- Asset market bubbles exacerbated the procyclical policy bias and masked an expansionary fiscal policy stance during the late 1990s.

7. **The rest of paper is organized as follows:** Section B examines various factors that may have contributed to the fiscal deterioration during 2000–03. Section C discusses the procyclical elements of the fiscal framework. Section D analyzes the effectiveness of the automatic stabilizers in smoothing output fluctuation. Section E looks at the effects of changes in asset prices on revenue elasticities. Section F concludes.

B. Fiscal Deterioration: Nature and Causes ²

8. **Distinguishing between the cyclical and structural nature of fiscal deterioration is important for assessing the fiscal policy stance.** In theory, cyclical deteriorations reflect the play of automatic stabilizers and should be reversed during the subsequent economic upturn. Structural deteriorations, measured by changes in structural balances, are usually the result of discretionary changes in fiscal policy.³ In practice, however, estimates of the cyclical-structural breakdown are sensitive to the assumptions about output gaps and revenue elasticities. These assumptions, as discussed in Section E, are subject to large uncertainties, especially during periods of asset price swings. There is also the possibility that part of the structural deterioration may be self-correcting and in this sense could be treated as cyclical.⁴

9. **With these caveats in mind, staff estimates indicate that of the 5.4 percentage points of GDP of the deterioration during 2000–03 (Table 2), some 3.4 percentage points were of cyclical nature.** Sharp declines in the revenues from corporate profit taxes and social security contributions, as well as increases in social security spending (especially in 2003), were largely responsible for the cyclical deterioration.

10. **Structural factors, though accounting for less than half of the fiscal deterioration, were still significant (2 percentage points).** These included the 2001 tax reform and increase in health care and education spending, a result of the discretionary changes in fiscal policy. These changes were related to the procyclical elements embedded in the fiscal framework (see Section C).

11. **Several possible factors may have contributed to the unexpectedly large fiscal deterioration during 2000–03.**

- ***First, the strength of the underlying fiscal positions during 2000–03 had been overestimated.*** The recent fiscal deterioration occurred against the background of both the end of the stock market boom and the sudden halt of rapidly rising housing prices, and asset price bubbles can give rise to spurious assessments of the strength of underlying structural

²The assessment of total revenue and expenditure developments is based on data from the Dutch Statistics Bureau (CBS), which are consistent with the national accounts and EMU balance. However, the detailed “accounting” breakdown of the fiscal deterioration is based on the Netherlands Bureau for Economic Policy Analysis’s (CPB) standard tables on government finance, because the CBS data for 2002 (revised) and 2003 are still unavailable. Since the coverage of government accounts by the CBS is different from that by the CPB, the presentation in Table 2 includes a category labeled “other.”

³In the longer term, population aging could also generate changes in structural balances, even in the absence of discretionary policy changes.

⁴For example, the large losses that companies appear to have carried forward are coming to an end.

Table 2. The Netherlands: General Government Accounts 1/

(In percent of GDP, unless otherwise indicated)

	2000	2001	2002	2003	Changes During 2000-03
Revenues	47.5	46.6	45.9	45.6	-1.9
Tax revenues and social security contribution	40.6	39.2	38.9	38.8	-1.8
Tax revenues, <i>of which</i>	24.6	24.9	25.0	24.3	-0.3
Income tax	5.9	5.7	6.6	6.4	0.6
Corporate tax	4.2	4.1	3.5	2.9	-1.2
VAT	6.7	7.1	7.3	7.4	0.7
Social security contributions	16.0	14.3	13.9	14.5	-1.5
Nontax revenues	6.9	6.5	6.2	6.0	-0.9
Other 2/	0.0	0.8	0.8	0.8	0.8
Expenditure	45.3	46.6	47.8	48.8	3.5
Social security and assistance benefits	17.9	18.0	18.7	19.7	1.8
Social security	14.5	14.6	15.4	16.3	1.8
Social assistance	3.4	3.3	3.3	3.4	0.0
Subsidies and other current transfers	1.8	1.7	1.8	1.7	-0.1
Other current spending	2.6	1.8	1.9	1.8	-0.8
Other taxes on production	0.1	0.1	0.1	0.1	0.0
Unfunded employee social benefits	2.5	1.7	1.7	1.7	-0.8
Capital formation (gross)	3.1	3.2	3.3	3.2	0.1
Capital transfers	0.6	0.9	0.8	0.6	0.0
Net acquisitions of nonfinancial assets	-0.9	-0.1	-0.1	0.1	0.9
Consumption	16.3	16.9	17.4	17.9	1.6
Compensation of employees	10.0	10.1	10.5	10.8	0.8
Intermediate consumption	6.3	6.8	6.9	7.1	0.8
Property income	3.8	3.4	3.1	3.0	-0.9
Other 2/	0.0	0.8	0.9	0.8	0.9
Unemployment insurance	0.8	0.8	0.9
Welfare	1.0	0.9	0.9	0.9	0.0
Defense spending	1.3	1.3	1.3	1.3	0.0
Fiscal balance (EMU definition) 3/	2.2	0.0	-1.9	-3.2	-5.4
Interest receipts	1.2	1.4	1.1	0.9	-0.3
Interest payments	3.8	3.4	3.1	3.0	-0.9
Net interest payments	2.6	2.0	2.0	2.0	-0.6
Memorandum items:					
Primary balance (in percent of GDP)	6.0	3.4	1.2	-0.3	-6.3
Structural balance (in percent of potential GDP) 4/	-0.2	-0.9	-2.2	-2.2	-2.0
Structural balance CPB-method	-0.1	-1.5	-2.1	-2.1	-1.9

Sources: CPB, CBS, and IMF staff estimates.

1/ Based on CPB data, except for the total revenue and expenditure, which are based on the CBS data and consistent with the EMU deficit.

2/ Reflecting the difference between the CPB and CBS data.

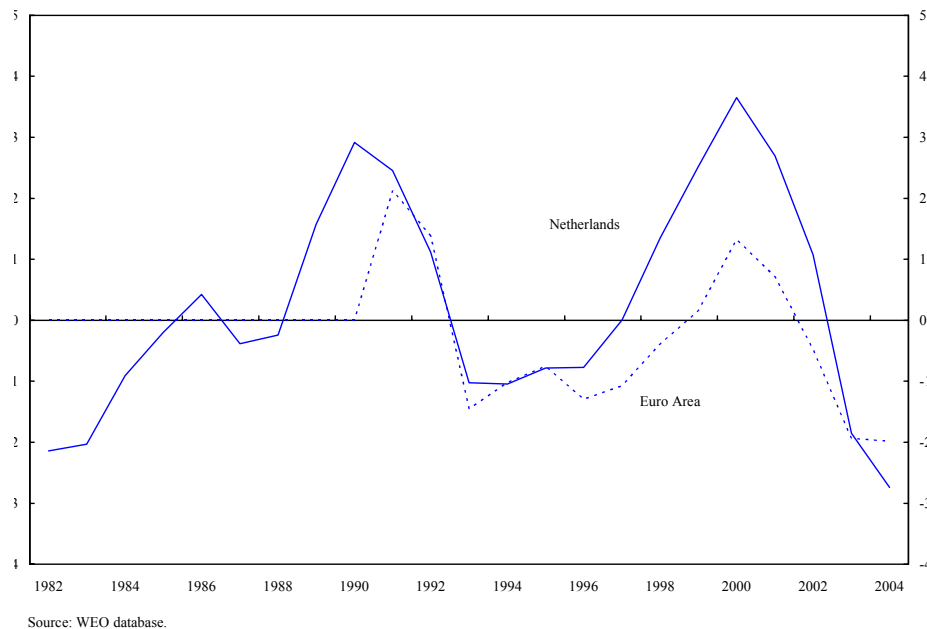
3/ Including UMTS receipts (0.7 percent of GDP) in 2000 and the purchase of gas rights from DSM (0.3 percent of GDP) in 2001.

4/ IMF staff estimates. Excluding the UMTS receipts in 2000 and the purchase of gas rights from DSM in 2001.

fiscal positions (Jaeger and Schuknecht, 2004).⁵ Indeed, in April 2004, the CPB revealed that the underlying structural position for 2002 and 2003 was 1 percentage point of GDP worse than the bureau had previously estimated.

- ***Second, the impact of the cycle may have been larger than normally assumed.*** This could be due to a more accentuated Dutch business cycle or higher cyclical elasticities. Relative to both its previous cycle and the euro area economy, the boom-and-bust cycle that the Dutch economy has gone through since the mid-1990s, has been more pronounced (Figure 3), amplified by wealth as well as policy effects.⁶ Moreover, revenue elasticities seem to be sensitive to the changes in asset prices. A study by Eschenbach and Schuknecht (2002) finds that during a boom-and-bust cycle, revenue elasticities tend to be larger than during a normal cycle.

Figure 3. The Netherlands: Output Gaps, 1982-2004
(In percent of potential output)



- ***Finally, the link between total expenditures under to the EMU deficit and those spending items covered by the fiscal framework is not obvious.*** While the coverage of the former is based on the national accounts definition and includes the general government, the latter excludes the local governments and is based on a net concept (e.g., it treats nontax revenues, mainly gas revenues, as negative expenditures).

⁵ Asset price bubbles can pose serious challenges to fiscal policymakers. Jaeger and Schuknecht (2004) find that, in many euro area countries, fiscal policy behavior during boom-and-bust periods often raises questions about the commitment to fiscal rules and discipline.

⁶ The staff report for the 2004 Article IV consultation discusses these wealth and policy effects.

For 2002 and 2003 (with available data), the expenditures covered by the framework are about 80 percent of the total expenditures relevant to the EMU balance (Table 3). Local government finances, which are excluded from the fiscal framework, also contributed to the worsening of the EMU balance in 2003 by surprisingly recording a deficit of 0.6 percent of GDP, after years of running close to balance.

Table 3. The Netherlands: Expenditures Under Different Coverages

	Expenditures	
	2002	2003
A. Under the EMU balance (NA based)		
In billions of euros	213	222
In percent of GDP	48	49
B. Covered by the fiscal framework		
In billions of euros	175	184
In percent of GDP	39	41

Sources: Ministry of Finance; and IMF staff estimates.

C. Fiscal Framework and Procyclical Fiscal Behavior

12. **The expenditure-based fiscal framework was introduced in 1995 by the first Kok government, with a view to achieving a countercyclical fiscal policy.** It is based on *real spending ceilings*, which are determined at the beginning of the government's term of office on the basis of medium-term fiscal objectives and fixed for the subsequent four years. The key features of the framework are summarized in Box 1.

13. **However, certain elements embedded in the framework have resulted in procyclical discretionary measures.** These were related, notably, to the cautious GDP growth assumptions, the allocation rules for revenue or expenditure windfalls and shortfalls, and the revisions of nominal ceilings in line with the inflation outlook.

- The use of *cautious growth assumptions* led to the presumption that the revenue would tend to outperform the projections under the framework. Based on the *allocation rule*, part of revenue windfalls would be used for cuts in taxes and social contributions. Indeed, revenue windfalls grew steadily during 1999–2002, reaching some €13.2 billion in the latter year. The full play of automatic stabilizers on the revenue side was limited as a result of the cautious growth assumptions and the revenue allocation rule, with, for example, additional taxes being cut in 2001 when the economy was above its potential. This had undesirable macroeconomic consequences.
- *Revisions of nominal ceilings* in line with revisions of inflation projections imply that higher-than-expected inflation is “accommodated” by raising the nominal spending ceilings, adding another procyclical element to the fiscal policy.

Box 1. The Dutch Fiscal Framework¹

During the period of 1983 to 1994, the Dutch fiscal framework was based on the operational target of the central government deficit, which at times generated a strongly procyclical fiscal policy. In some cases, for example, lower-than-expected economic growth led to substantial ad hoc austerity measures, such as the supplementary budget in 1991, under which the government was forced to cut spending and raise taxes.

This experience led to the adoption in 1995 of a framework emphasizing expenditure rules.

Specifically, the framework centers on four-year real spending ceilings and a strict separation between spending and revenue decisions (decisions on spending are taken in March or April, whereas decisions on revenues are made in August):

- The *real spending ceilings* are determined at the beginning of the government's term of office, on the basis of medium-term fiscal objectives, and are fixed for the subsequent four years (the normal term of office). They are defined in absolute levels and based on "net expenditures", i.e., aggregate expenditures less nontax revenues. Moreover, spending on certain public infrastructure does not fall under these ceilings.
- In addition to ceilings on total net expenditures, the framework sets *individual subceilings for three categories of expenditures*: central government spending, public health care, and spending related to social security and the labor market. Within each category, spending overruns for some items are allowed to be offset by cuts in other items. Any cross-category compensation, however, would require cabinet approval.
- The real ceilings are converted to *nominal ceilings* using, until 2003, the projected GDP deflator, and the projected expenditure deflator since 2003. Unlike the fixed real ceilings, nominal ceilings are revised—usually during the midyear supplementary budget discussion—in line with the most recent inflation projections.
- Until 2002, a *spending reserve* was set up to deal with the situation where the growth of wages and prices in the public sector diverged from that of the GDP deflator. In this case, nominal spending on some items (e.g., unemployment benefits, which are wage adjusted) could turn out to be higher than the GDP deflator-adjusted nominal ceiling. The difference was offset by the use of the reserve, to avoid spending cuts on other items. According to official estimates, such potential cuts amounted to €1 billion between 1999 and 2002 (about 0.3 percent of the average GDP over this period) and were avoided through the help of the spending reserve.
- Until recently, revenue targets were based on *cautious GDP growth assumptions* (potential growth minus a "safety margin"). Also, until recently, *revenue windfalls* were to be used equally for deficit reduction and cuts in taxes and social security contributions, as long as the EMU deficit was lower than 0.75 percent of GDP; if the deficit turned out to be higher, more of the windfalls (75 percent) would be devoted to deficit reduction and less to tax cuts (25 percent). In principle, any unexpected increase in tax or social security revenues should not lead to higher government spending, and vice versa. There are also rules governing *revenue shortfalls*: 25 percent of shortfalls are to be offset by raising taxes or social security contributions if the EMU deficit is lower than 1.75 percent; the 25 percent is increased to 50 percent if the deficit is higher.

¹Based on "The Budgetary Policy of the Second Kok Government," Ministry of Finance, October 2000.

- In addition, structural increases in spending were made possible by savings on the cyclical component of expenditure during the boom. The room under the ceilings due to *temporary expenditure shortfalls* in some categories was used to fund permanent increases in others. At the same time, rules regarding spending allocation across subceilings have not, in practice, been followed consistently as below-ceiling expenditure in one category has been used to accommodate overspending in another. As shown in Table 4, lower-than-expected social security spending and interest payments during 1999–2002 were offset by higher spending in other items, including health care and education. However, when the temporary shortfalls in unemployment benefits vanished, higher spending in other items—in this case health care—was not lowered commensurately.

Table 4. The Netherlands: Growth of Real Public Spending, 1999-2002

(Annual percentage changes)

	Targets in 1998 Coalition Agreement	Actual Outcome	Target in Budget 2003
Total 1/	1.00	1.75	1.50
Social security	0.50	-0.75	3.00
Interest payments	-2.50	-5.75	-3.00
Other, of which	1.50	3.50	1.00
Health 2/	2.50	5.00	3.50
Education	2.00	3.75	2.25
Infrastructure	3.25	10.25	1.75
Safety	...	8.00	2.25
Subsidies, etc	0.75	1.75	-0.50
GDP growth	2.25	2.23	2.50

Sources: Budget Memorandum 2003 (Table 3.16); and IMF staff estimates.

1/ Excluding nontax revenues.

2/ On the national account basis and excludes the privately-funded spending on health care.

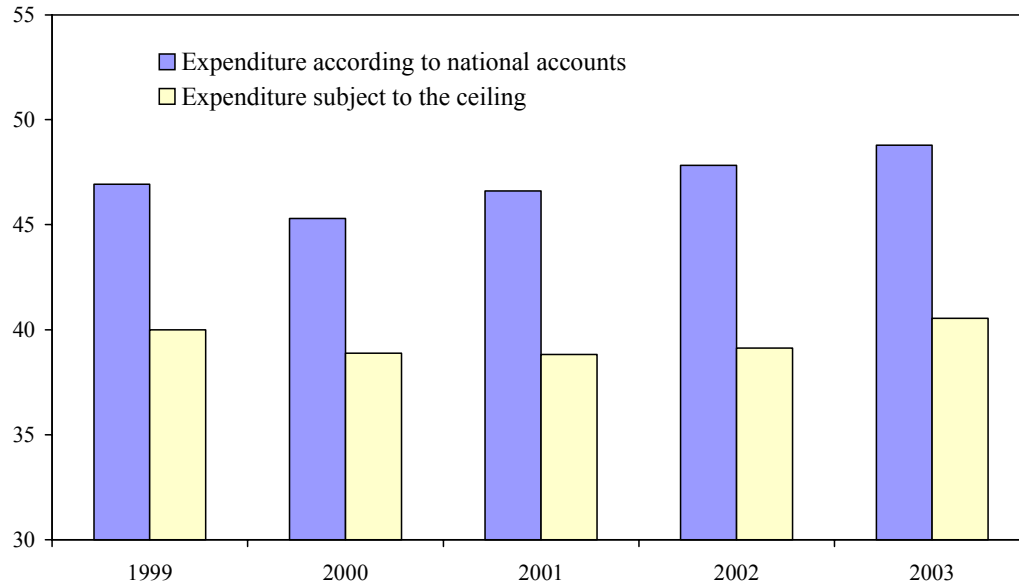
14. **Undercutting the transparency of the framework to some degree, the preannounced spending ceiling is defined on different terms than the actual expenditure outturn relevant for the EMU-defined fiscal deficit.** For example, between 2000 and 2003, the latter increased by 3.5 percentage points of GDP, whereas the former increased by only 1.7 percentage points (Figure 4).

15. **The treatment of nontax revenues as negative expenditures adds another element of complication to assessing fiscal policy.** Specifically, expenditure ceilings are applied to net rather than gross expenditures.⁷ Thus, temporarily high nontax revenue (for instance, resulting from larger natural gas proceeds) could raise gross expenditure without

⁷The expenditure framework also excludes the government's infrastructure investment, which is financed through a special fund replenished partly with gas revenues and privatization proceeds.

breaching the spending ceilings. Table 4 shows that between 1999 and 2002, total real spending excluding nontax revenues grew by an average of 1.75 percent, against the initial target of 1 percent.

Figure 4. The Netherlands: Expenditure Development, 1999-2003
(In percent of GDP)



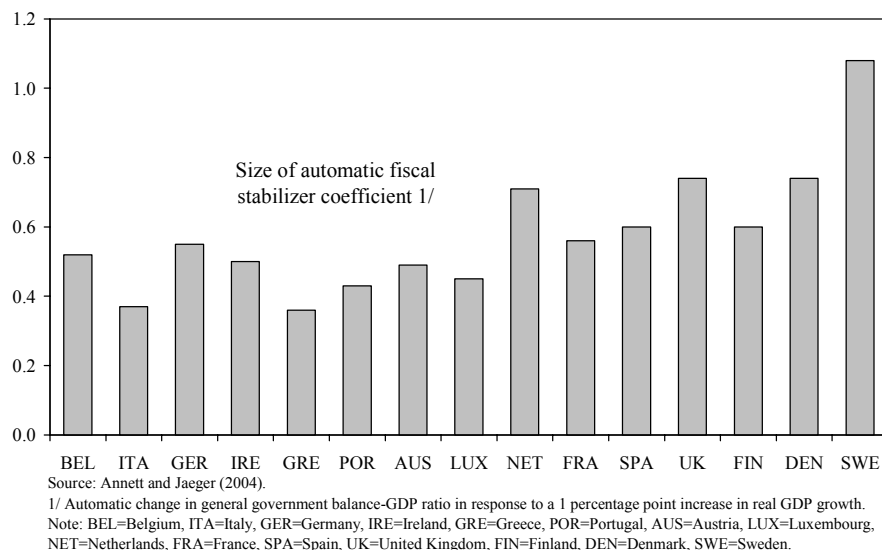
Source: Ministry of Finance, CBS, and staff estimates.

D. Effects of Automatic Stabilizers

16. **Automatic stabilizers are those elements of fiscal policy that tend to mitigate output fluctuations without any explicit government action.** As activity slows, tax revenues fall and some expenditures (transfers and unemployment benefits, for example) rise, cushioning private sector incomes. The SGP's budgetary framework emphasizes the need to rely on automatic stabilizers, rather than active fiscal policies, to smooth output fluctuations—especially those representing divergences from euro area-wide developments—over the business cycle.

17. **The size of automatic stabilizers tend to increase with the size of the government sector, the progressivity of the tax system, and the relative importance of the cyclically-sensitive revenue, as well as expenditure, items.** Figure 5 suggests that the Netherlands—together with Sweden, Denmark, and the United Kingdom—has relatively large automatic stabilizers.

Figure 5. Automatic Fiscal Stabilizers in EU Countries



18. **In general, the smoothing effect of the automatic stabilizers on output fluctuations can be significantly influenced by country-specific factors.** These include the openness of the economy, the flexibility of the labor, product, and financial markets, and the types of shocks.⁸ For example, Brunila, Buti and 't Veld (2002) find that automatic stabilizers are largely ineffective in smoothing output fluctuations induced by supply-side shocks.

19. **In this section, the effects of automatic stabilizers on output are estimated following the simple approach in Fatas and Mihov (2001).** In this approach, the role of automatic stabilizers implies that disposable income should be less volatile than total income because fluctuations in GDP or income are partially smoothed by changes in taxes and transfers over the business cycle. This view is based on Keynesian models of the business cycle, in which, owing to imperfections in the credit market, consumers cannot smooth consumption completely and therefore can benefit from the stabilizing effect of transfers and taxes on disposable income and, hence, consumption.

20. **Empirically, this view implies that the smoothing effects of the automatic stabilizers can be estimated with the following equations:**

$$\Delta \log(y_t^d) = \alpha_1 + \beta_1 \Delta \log(y_t) + \varepsilon_{1t} \quad (1)$$

$$\Delta \log(c_t^p) = \alpha_2 + \beta_2 \Delta \log(y_t^d) + \varepsilon_{2t} \quad (2)$$

where y , y^d , and c^p are GDP, disposable income, and private consumption. Hence, $1 - \beta_1$ measures the sensitivity of after-tax-and-transfer income (disposable income) to before-tax-

⁸See Fatas and Mihov (2001), Brunila, Buti, and 't Veld (2002), and Auerbach and Feenberg (2000).

and-transfer income (GDP); a smaller β_1 implies a greater effect of automatic stabilizers. β_2 measures the extent to which private consumption reacts to current disposable income.

21. **Estimation results suggest that the smoothing effects of automatic stabilizers on output were small in the Netherlands.** During the period 1990–2003, only 5 percent of output fluctuations were smoothed by the automatic stabilizers, compared with 22 percent in Belgium, 30 percent in the United Kingdom, and 58 percent in the United States (Table 5). Moreover, changes in disposable income seem to have a smaller impact on private consumption in the Netherlands than in some other countries.

Table 5. The Effectiveness of Automatic Stabilizers

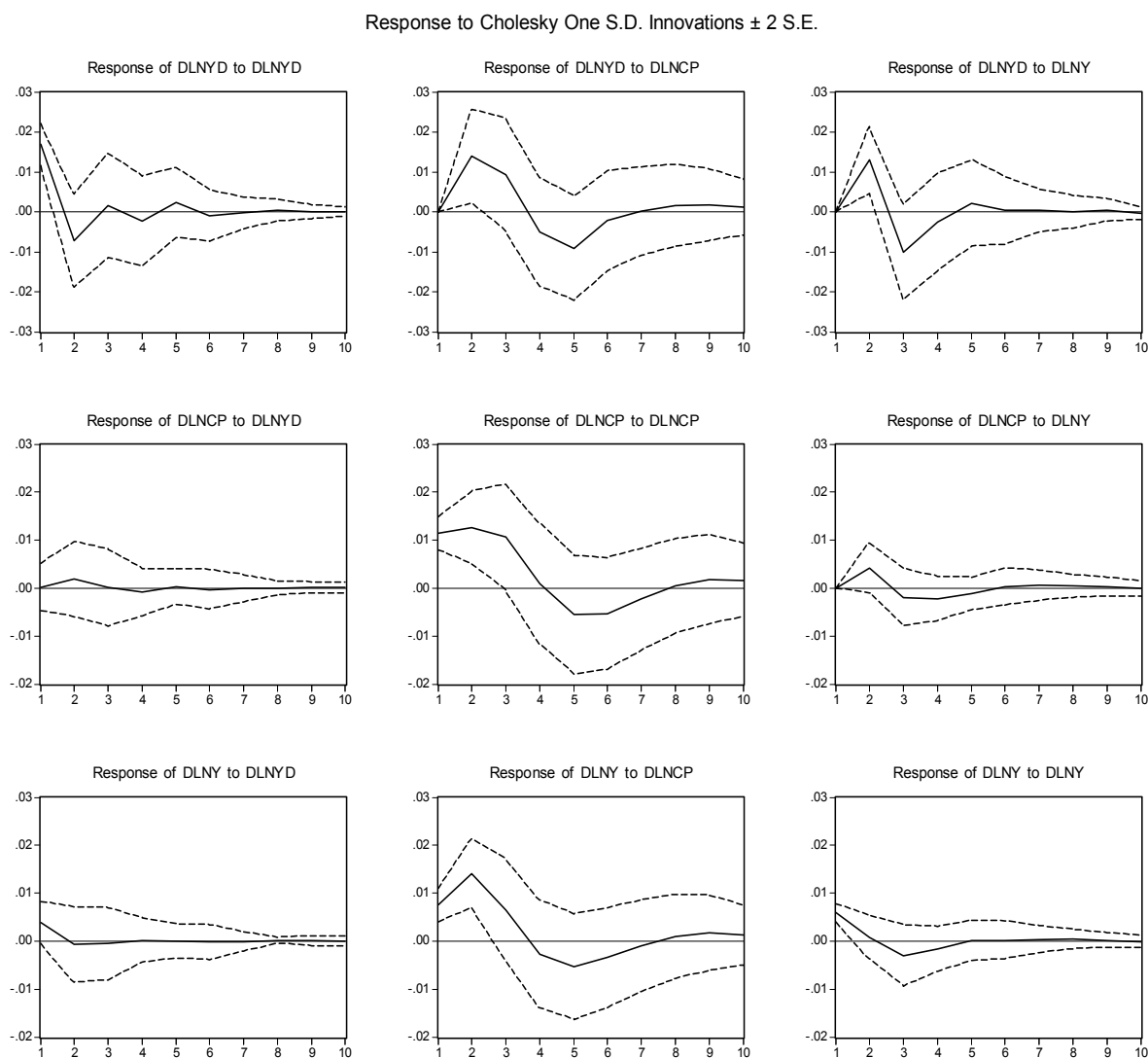
	$1-\beta_1$	β_2
The Netherlands	0.05	0.27
Belgium	0.22	0.44
France	0.18	0.54
Finland	0.47	0.73
United Kingdom	0.30	0.25
United States	0.58	0.48

22. **From an econometric standpoint, the small coefficient of β_1 could be due to the problem of reverse causality.**⁹ In other words, the estimation treats the changes in income as exogenous and, hence, ignores the possibility that output itself might depend on the size and cyclicity of taxes, transfers, and government spending. This problem may lead to a downward bias in a simple ordinary least square (OLS) regression. A Granger test based on two lagged values of y and y^d was performed but failed to reject the causality from y^d to y . For this reason, a VAR model with three endogenous variables— y^d , y , and c^p —was estimated to assess the effects of automatic stabilizers in the Netherlands. Similar results to those shown in Figure 6 were found.

23. **There are two possible explanations for these somewhat surprising results.** First, Dutch household saving rates have risen sharply during recent years. While this may have largely reflected the balance sheet adjustments related to the adverse developments in the equity and housing markets, there is a possibility that these rising rates were partly a reaction to the deteriorating fiscal balances (a “non-Keynesian” response), or were a reflection of the weak consumer confidence (amid rising unemployment). If so, the demand impetus stemming from the automatic stabilizers would be smaller than expected. Second, it is possible that the procyclical fiscal policy bias embedded in the framework may have reduced or offset the effect of the automatic stabilizers.

⁹This problem, which is quite common in estimating tax revenue elasticities, highlights the attraction of using stochastic dynamic general equilibrium models.

Figure 6.



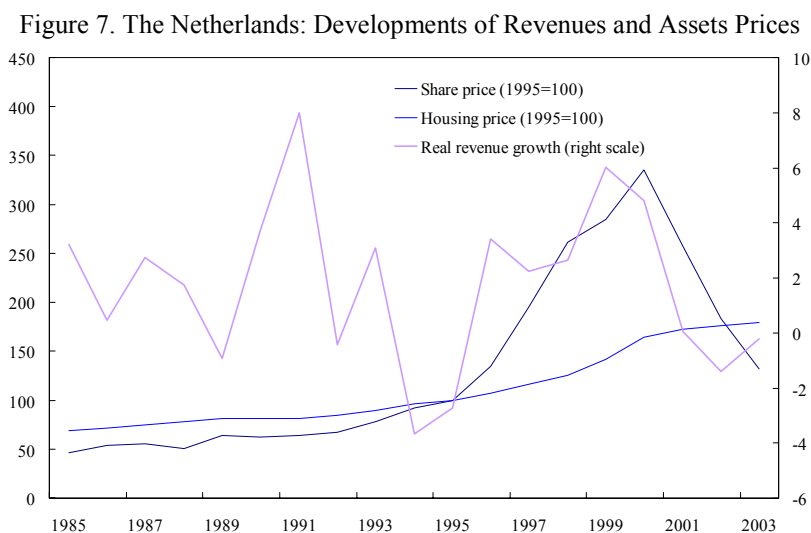
E. Effects of Asset Prices

24. **The recent fiscal deterioration occurred against the background of a sharp decline in share prices and a sudden halt to the acceleration of housing prices.** Between 2000 and 2003, Dutch share prices fell by 60 percent, nearly wiping out the gain of the previous four years. The Dutch experience thus fits the pattern also observed in other countries: the fiscal balance improved during the asset market booms but deteriorated significantly during the bust phase (see Jaeger and Schuknecht (2004)).

25. **The boom-and-bust cycle of asset prices could have exacerbated already existing procyclical policy biases in the Netherlands.** The revenue allocation rule implied that

revenue windfalls during the boom were partly used for tax cuts. In addition, during the period of large asset price swings, the assessment of fiscal stance and the strength of underlying fiscal positions was complicated by the large uncertainties surrounding the estimations of output gaps and revenue elasticities. In particular, conventional methods tend to underestimate revenue elasticities and could help hide expansionary policies in the boom by assigning too much of the fiscal improvement to structural, or noncyclical factors. This can result in significant ex-post revision of the structural balance, as was the case for the Dutch structural balance in 1999: an estimated surplus of 0.7 percent in the European Commission's (EC) spring 2000 forecasts was revised down to a deficit of 1.3 percent in its fall 2003 forecasts.¹⁰ The bottom line is that, given the benefit of hindsight, the adjustment needed during the boom period of the late 1990s may have been delayed into the bust period of the early 2000s, thereby contributing to the procyclicality of fiscal policy.

26. **Particularly important were the asset price changes and their effect on fiscal balances through their direct and indirect effects on tax revenues.** These changes can affect revenues directly via taxes on capital and financial transactions, and indirectly via wealth effects on consumption and indirect taxes.¹¹ Indeed, the real growth of revenues was highly correlated with the movements of share prices during the latest boom-and-bust phase of 1995–2003, in contrast to earlier periods (Figure 7).



27. **The responsiveness of tax revenues to the changes in asset prices can be investigated by examining the sensitivity of revenue elasticities to these changes.** In particular, we estimate separately the revenue elasticities for the normal period of 1970–89

¹⁰While the staff estimate of -0.7 percent for 1999 is slightly different from the EC estimate of -1.3 percent, a similar revision was made.

¹¹See Jaeger and Schuknecht (2004) and Eschenbach and Schuknecht (2002).

and the boom-and-bust period of 1990 to 2003. Recognizing that the estimation could be complicated by the effects of the tax reform in 2000 (which entailed a shift from income to value-added taxation), a dummy variable is included in the following equations to capture these effects:¹²

$$\Delta \log(REV_{it}) = \alpha_{i1} + \alpha_{i2} \Delta \log(TAXBASE_{it}) + \alpha_{i3} Dummy2000 + \varepsilon_{it}. \quad (3)$$

28. **The estimation results indicate that, for corporate and indirect taxes (and possibly the capital tax), the revenue elasticities during the boom-and-bust period are indeed significantly higher than normal** (Table 6). This suggests that the responsiveness of fiscal balances to a given output shock was stronger during the boom-and-bust cycle than during the normal cycle. Calculations of structural balances based on underestimated revenue elasticities could make the underlying fiscal position look more favorable and, hence, hide expansionary policies during the boom period.¹³

Table 6. The Netherlands: Estimates of Revenue Elasticities 1/

Tax	Base	1970-2003	1970-89	1990-2003
Direct taxes on household	Compensation of employees	1.1 (7.11)***	1.1 (12.72)***	0.9 (1.95)*
Direct taxes on companies	Gross operating surplus of corporations	0.9 (3.23)***	0.8 (2.29)**	1.4 (2.59)**
Indirect taxes	Private consumption	1.1 (13.00)***	1.0 (9.88)***	1.3 (7.66)***

Sources: OECD, AMECO, and IMF staff estimates.

1/ Values in parentheses are *t*-statistics; ***, **, and * indicate 1 percent, 5 percent, and 10 percent significance levels, respectively.

F. Concluding Remarks

29. **The Dutch fiscal balance deteriorated sharply during 2000–03, breaching the 3 percent Maastricht ceiling in the latter year.**

30. **A key question is why the fiscal situation deteriorated so rapidly and staff's assessment points to several possibilities.** First, changes in the cyclical balance may have been larger than expected, due to a more accentuated business cycle. Second, higher-than-usual cyclical elasticities on revenue items during the boom-and-bust period may have caused a surprisingly large deterioration, even accounting for the relatively strong cycle.

¹²Revenue elasticities were estimated based on the simple OLS method and were statistically significant.

¹³By the same token, if the misestimation of the elasticities is symmetric in booms and busts, current estimates of the structural balance would be too gloomy.

Finally, discretionary policy actions, including the tax cuts and spending overruns, contributed to the structural deterioration. Procyclical elements embedded in the fiscal framework contributed to the structural deterioration and limited the intended countercyclical orientation of the expenditure-based fiscal framework.

31. **The Dutch government has appropriately taken steps to correct the procyclical policy bias.** These include the adoption of a realistic macroeconomic scenario (hence, the elimination of revenue safety margins) and the decision to devote revenue windfalls solely to debt reduction. Most recently, the government also indicated it would change the expenditure rules: cyclical expenditure windfalls (related, for example, to unemployment and other social spending) will not be used to fund other spending without further consideration. However, recognizing the difficulty in determining whether spending windfalls are cyclical, a stronger formulation may be needed to preclude new spending. The authorities have also renewed their intention of not allowing reallocation across the spending subceilings.

32. **Enhancing the transparency of the spending ceilings would facilitate public monitoring and their accessibility to a broader audience, adding an additional element of clarity and discipline to the system.** In this regard, there is a merit in aligning the spending ceiling more closely with the national account concepts and focusing the ceilings solely on spending by discontinuing the practice of treating nontax revenues as negative expenditures. All this would also help to communicate policy, with the potential advantage of enhancing confidence.

33. **The difficulty in reliably gauging the revenue elasticities and the strength of the underlying fiscal positions, especially in a boom-and-bust environment, points to the need to build up structural surpluses against future shocks.** This includes both anticipated (for example, the aging of population) and unanticipated shocks. In the past, the authorities and the staff both agreed that a sustained fiscal surplus of between 1 and 2 percent of GDP would allow the cost of aging to be met from interest savings on public debt, thus avoiding the need to raise taxes.¹⁴

¹⁴IMF Country Report No. 01/94.

REFERENCES

- Annett, Anthony, and A. Jaeger, 2004, "Europe's Quest for Fiscal Discipline," *Finance and Development*, Vol. 41 (No 2), pp. 22–5.
- Auerbach, Alan J., and Daniel Feenberg, 2000, "The Significance of Federal Taxes as Automatic Stabilizers," *Journal of Economic Perspectives*, Vol. 14 (No 3), pp. 37–56.
- Barro, Robert, 1979, "On the Determination of Public Debt," *Journal of Political Economy*, Vol. 87 (October), Part 1, pp. 940–71.
- Brunila, Anne, Marco Buti, and Jan 't Veld, 2002, "Fiscal Policy in Europe: How Effective are the Automatic Stabilizers?" European Commission Economic Papers, No. 177 (Brussels: European Commission).
- Daban, Teresa, and others, 2003, "Rule-Based Fiscal Policy in France, Germany, Italy, and Spain," IMF Occasional Paper No. 225 (Washington: IMF).
- Eschenbach, Felix, and Ludger Schuknecht, 2002, "Asset Prices and Fiscal Balances," European Central Bank Working Paper No. 141 (Frankfurt: European Central Bank).
- Fatas, Antonio, and Ilian Mihov, 2001, "Government Size and Automatic Stabilizers: International and Intranational Evidence," *Journal of International Economics*, Vol. 55 (October), pp. 3–28.
- Jaeger, Albert, and Ludger Schuknecht, 2004, "Boom-Bust Phases in Asset Prices and Fiscal Policy Behavior," IMF Working Paper 04/54 (Washington: IMF).
- van den Noord, 2000, "The Size and Role of Automatic Fiscal Stabilizers in the 1990s and Beyond," OECD Economics Department Working Paper No. 230 (Paris: OECD).

II. RECENT PRODUCTIVITY TRENDS IN THE NETHERLANDS¹⁵

A. Overview and Background

34. **Over the last three decades, the Dutch economy has seen dramatic turnabouts in economic performance.** The 1970s marked a period of a sharp deceleration in economic growth, as the demise of the Bretton Woods system and the subsequent oil price shocks brought into sharp relief the drawbacks of the then prevailing efforts by unions and some politicians to boost the share of labor in income through high wage increases. Accordingly, unit labor costs accelerated and economic growth slowed, even turning negative in the early 1980s. At that time, a new approach, based on structural reforms and wage moderation, was ushered in (the Wassenaar agreement), resulting in a quick improvement in economic performance. Indeed, by the end of the 1990s, the Netherlands could be viewed as being well along the way to meeting the Lisbon summit targets, which called for the EU to become the “most competitive and dynamic knowledge-based economy in the world by 2010.” However, a degree of skepticism settled in following the marked drop in growth after 2000, which was also more dramatic in the Netherlands than in the remainder of the EU or euro zone.

35. **While much of the recent slowdown is arguably due to the inevitable correction of imbalances associated with the overheated economy in the latter half of the 1990s, there is also a more fundamental concern that the Dutch economy has lost ground in raising productivity.** This point is often made in comparing the Netherlands to similar small, open, and deregulated economies or to Anglo-Saxon countries, which have generally recorded buoyant productivity growth since the mid-1990s. Moreover, the decline in productivity occurred at the same time that major inroads were made in raising employment and participation rates. In this connection, some observers have suggested a causal link between labor market reforms and declining productivity, which, if true, would cast a shadow over current labor market reform efforts in the Netherlands and elsewhere in Europe.

36. **Against this background, this chapter examines key issues involved in the evolution of productivity trends over recent decades.** Section B presents the relevant stylized macroeconomic facts, starting with an examination of the Dutch economy’s stalling convergence to U.S. per capita income levels. The section underscores that this was driven mainly by a less intensive utilization of labor than in the United States and was compatible with robust economic growth thanks to the relatively favorable evolution of total factor productivity (TFP). Section C, however, demonstrates that recent developments in TFP growth have turned more adverse. Section D turns to possible explanations and attendant policy implications of these findings and, importantly, uncovers no support for a causal link between increasing employment and lower TFP growth, but, instead, identifies areas where economic reforms in the Netherlands may still be usefully advanced. Section E concludes.

¹⁵Prepared by Gerwin Bell.

B. Stylized Macroeconomic Facts

37. **Dutch real per capita income growth has fallen behind the U.S. benchmark.** Like other European countries, the Netherlands has not made any progress in converging to U.S. per capita GDP levels since the early 1970s (Figure 1). Unlike other European countries, however, which have essentially remained at 75 percent of the U.S. level, the Netherlands fell further behind the United States from the mid-1970s to the late 1980s, followed by a gradual pickup to almost the 1970 level during the 1990s. This pattern becomes more pronounced when GDP is related to the working age population (Figure 2). After having attained 92 percent of the U.S. level in 1978, this measure of relative income was 12 percentage points lower ten years later. After a brief period of accelerated convergence in the early 1990s, the ratio has since then remained essentially flat. This finding suggests that the Dutch economy struggled to generate productive jobs for a growing labor force over the period.

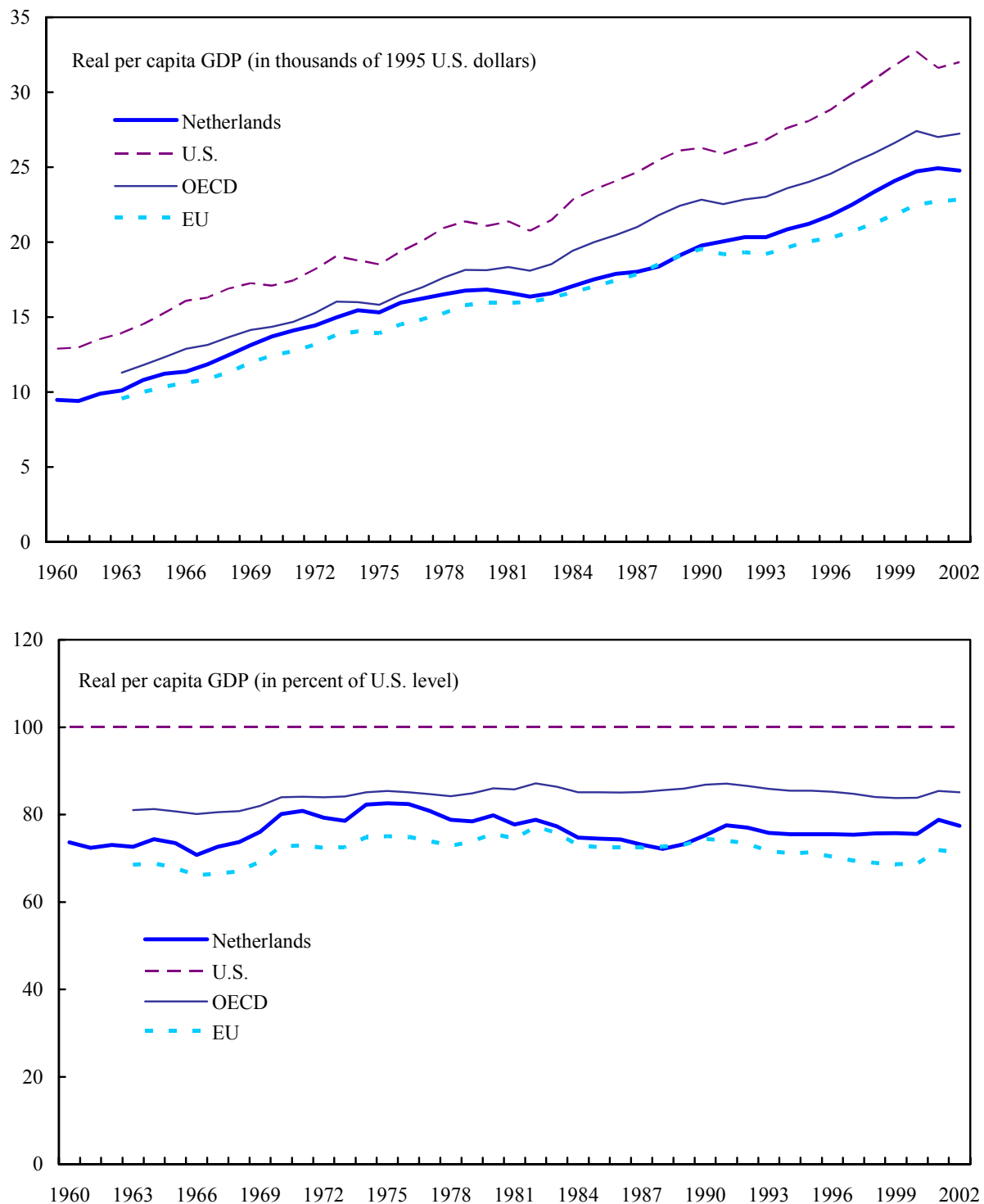
38. **Somewhat different from other euro-zone economies, the Netherlands absorbed a rapidly growing labor force.** Over much of the last three decades, the Netherlands experienced considerable growth of the working age population (Table 1). After initial employment declines in the 1970s, structural reforms that began in the 1980s were instrumental in lifting employment performance, especially during the 1990s. However, at the same time, temporary and part-time work arrangements gained increasing prominence, and hours worked per employee declined throughout, and in actual effect almost exactly offset the increase in the working age population. Thus, the increase in the employment rate closely matched the overall change in the macroeconomic labor supply (expressed in overall economy-wide hours worked). This pattern differs somewhat from other European countries that also pursued policies to shorten hours worked, e.g., Germany, but where such policies were motivated by a perceived need to redistribute a given amount of work. In this vein, the Dutch experience may offer support for Blanchard (2004) who suggests that declining hours worked in Europe represent a genuine preference for leisure on the part of workers.

Table 1. The Netherlands: Components of Labor Utilization
(Average annual change in percent)

	Population	Working Age Population Share	Employment Rate	Hours per Employee	Overall Hours Worked A+B+C+D
	A	B	C	D	
1970-80	0.8	0.6	-0.7	-1.3	-0.6
1980-90	0.5	0.4	0.1	-1.0	0.1
1990-2002	0.6	-0.1	1.4	-0.4	1.5

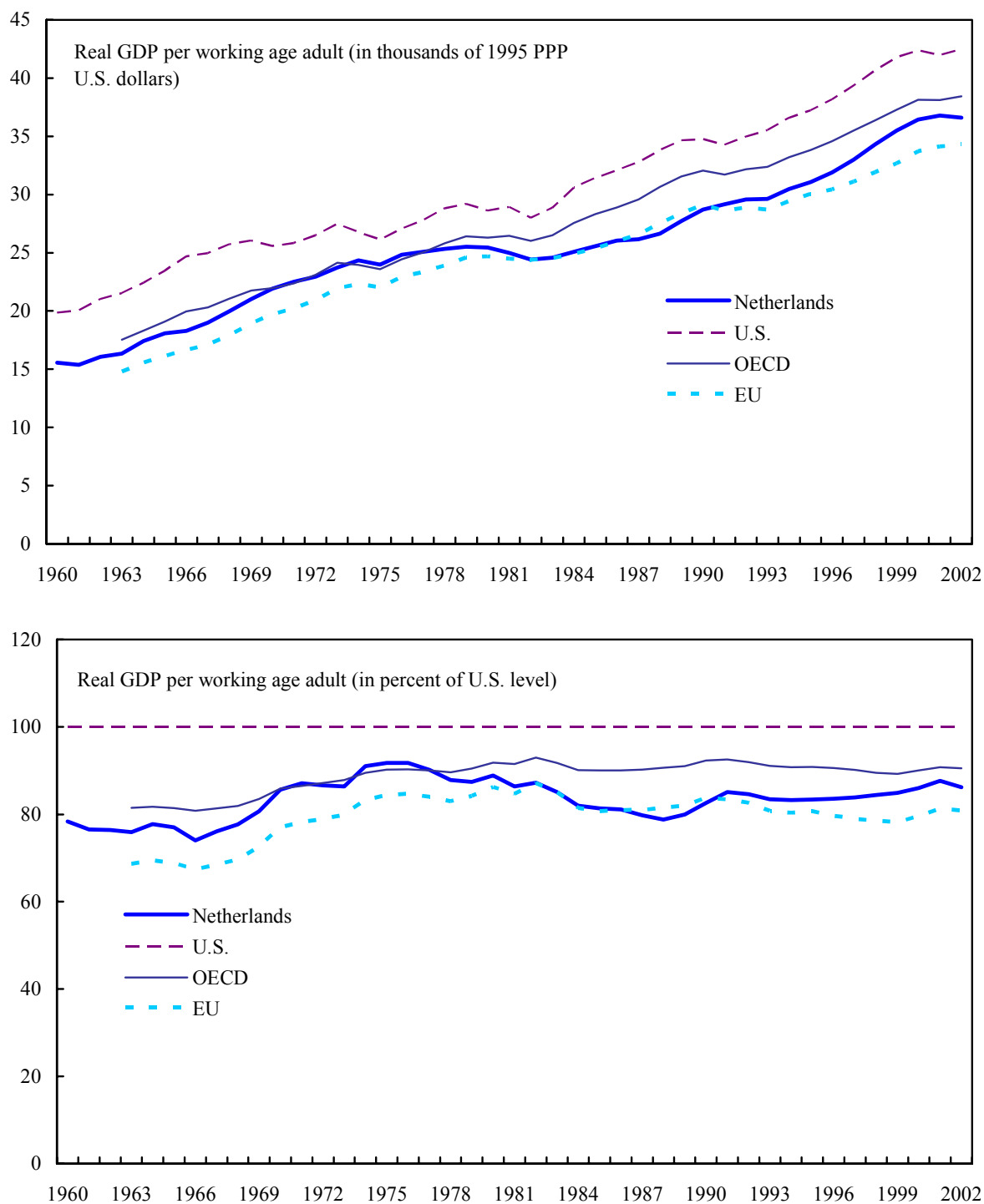
Source: IMF staff calculations.

Figure 1. The Netherlands: Trends in Real Per Capita GDP (at PPP Exchange Rates)



Sources: OECD and AMECO databases.

Figure 2. The Netherlands: Real GDP in Relation to Working Age Population



Sources: OECD and AMECO databases.

39. **Meanwhile, labor productivity growth has exhibited a secular decline.**

The productivity *level* of the Dutch economy—which at first glance is rather unfavorable (Figure 3)—is at an internationally high level when expressed in hours worked (Figure 4). Still, relative performance has more recently declined, and, more importantly, the rate of labor productivity growth has slowed drastically, irrespective of the measurement (Table 2).

Table 2. The Netherlands: Measures of Average Labor Productivity
(Average annual change in percent)

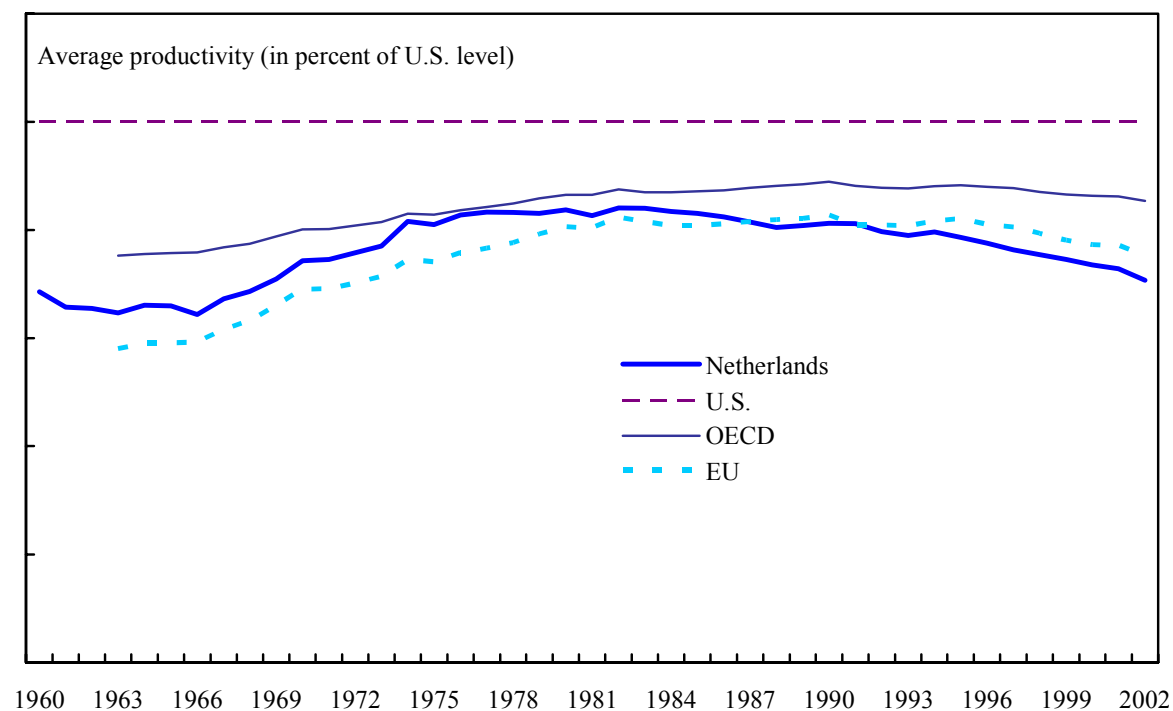
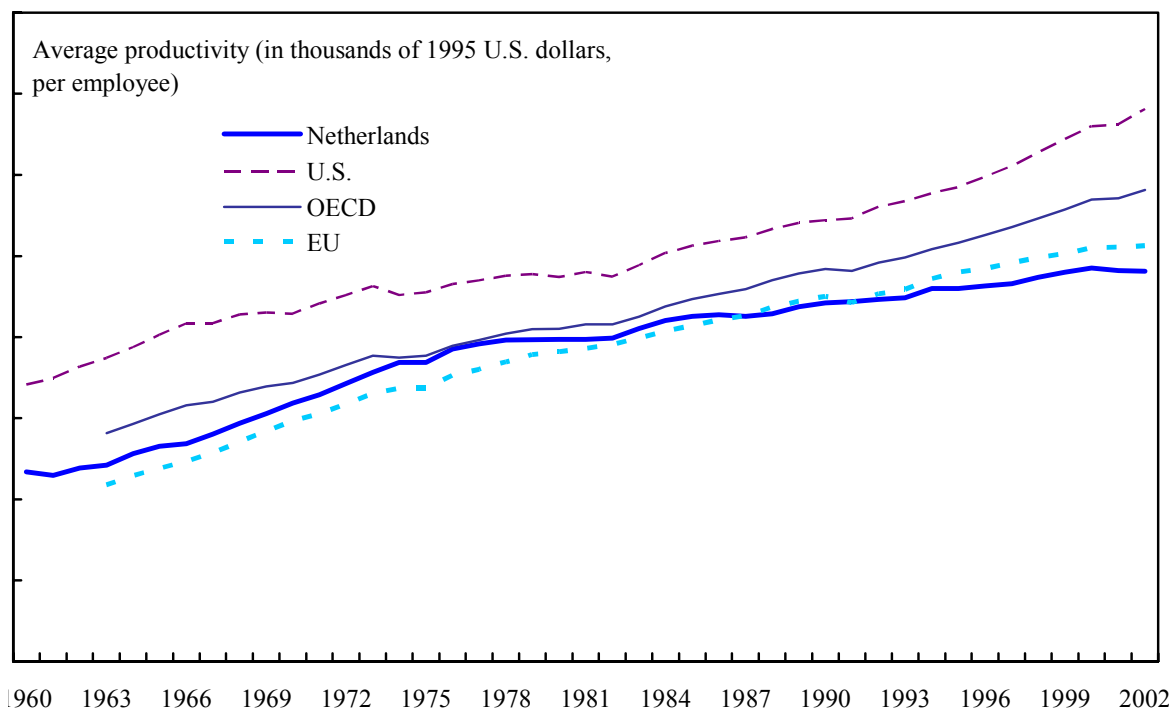
	Real per Capita GDP Divided by	
	Persons Employed	Overall Hours Worked
1970-80	2.2	3.2
1980-90	1.1	3.4
1990-2002	0.7	1.7

Source: IMF staff calculations.

40. **The mix of comparatively buoyant employment performance, but declining productivity growth has given rise to a lively policy debate.** The key issues concern implications for future growth performance:

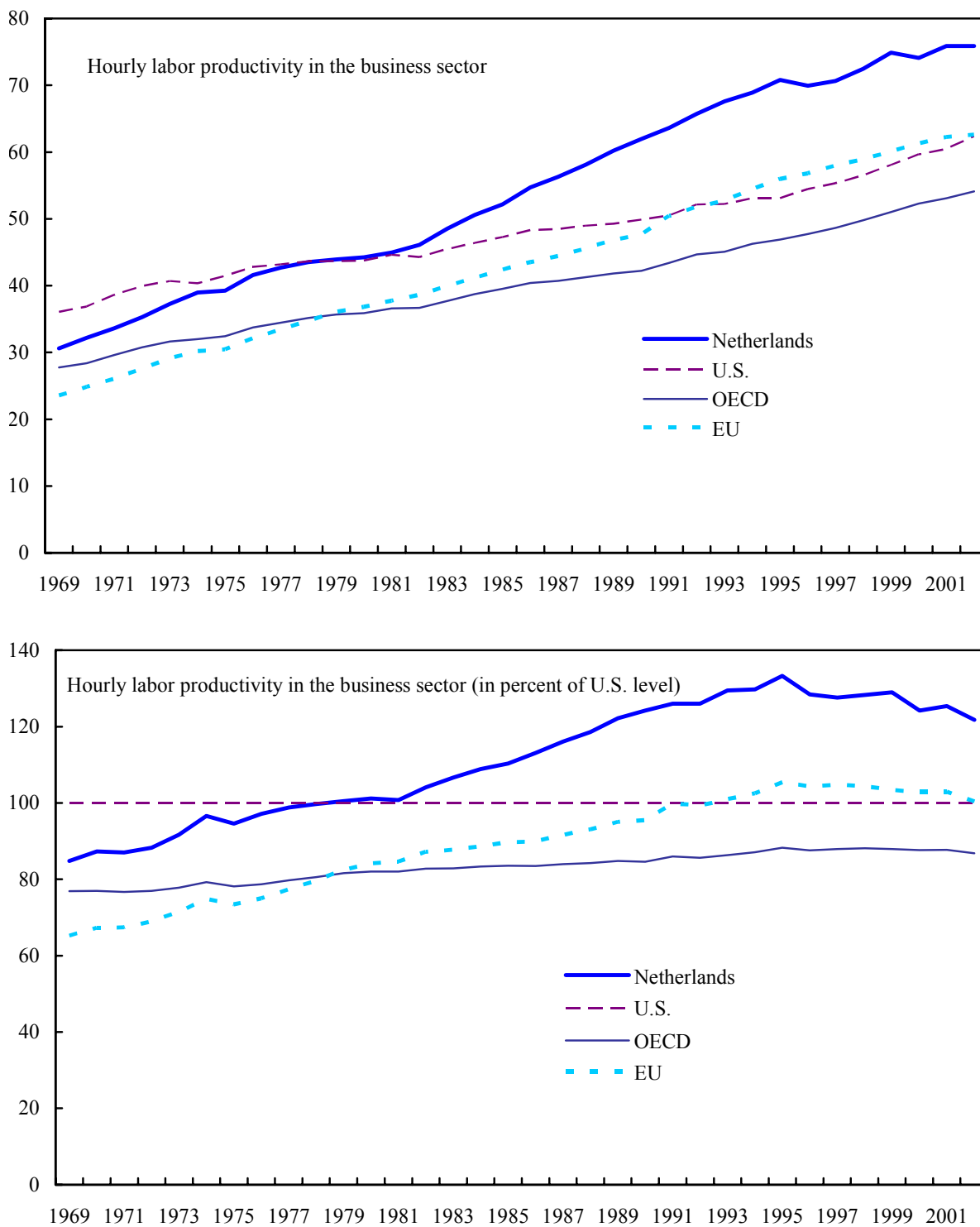
- Even if these trends reflect only a convergence or mean-reversion process, they would still imply a limit on employment growth, which during the 1990s underpinned much of Dutch economic performance. Accordingly, absent structural reforms, this would cast doubt on prospects for further gains in employment and on the sustainability of growth.
- Others, however, see a problem in further structural reforms, suspecting that recent “job-rich” growth was attracting primarily feebly qualified into the labor force, which would by-and-large lower average productivity (see Kleinknecht, 1994 or Blanchard, 2004). In this case, continued structural reforms aimed at boosting labor supply would be accompanied by lower productivity, and such reforms would become less attractive to policy makers.
- Other observers point to the need to adopt productivity-raising policies, such as increased public research and development spending (R&D), or to boost capital spending in general. Still others are skeptical of the merits of such direct interventions but are puzzled that the very open and deregulated character of the Dutch economy—factors traditionally thought of as boosting innovation and growth—did not result in higher rates of productivity growth.

Figure 3. The Netherlands: Average Economy Wide Productivity



Sources: OECD and AMECO databases.

Figure 4. The Netherlands: Hourly Labor Productivity in the Business Sector



Sources: OECD and AMECO databases.

C. Some Growth Accounting

41. **Assessing the policy implications requires more analysis of the sources of productivity growth.** Average labor productivity may reflect a host of factors, in particular the level of capital per worker. In the following, a traditional growth accounting exercise, which decomposes growth into input growth (labor and capital) and a (Solow) residual TFP is undertaken, with a view toward identifying the key factors responsible for the observed trends. However, the measurement issues involved are formidable, and even more so when attempting international comparisons. Fortunately, there are several data sets available for the Netherlands, which can be utilized to assess the robustness of findings (Box 1).

42. While growth rates of both capital and labor inputs have increased over the last three decades, TFP growth has drastically declined (Figure 5). These developments mirror those in the euro area, but are more pronounced in the Netherlands. In contrast, the United States and, to a smaller extent, the OECD aggregate have recorded an uptick in TFP growth, while capital input growth has declined. Moreover, the TFP growth trends between the United States and the Netherlands have increasingly diverged in the more recent past and are likely to have done so even more in years after the end of the samples shown here, given the starkly favorable productivity trends in the United States. The secular decline in Dutch TFP growth is robust across different levels of aggregation of the data (Table 3 and Figures 6–8). However, the Groningen data imply a more favorable development of relative TFP growth performance as compared to the United States, but the sample stops even earlier than the macro data.¹⁶

Table 3. The Netherlands: TFP Growth Estimates
(Average annual changes, in percent)

	1980-90		1991-2001	
	U.S.	Netherlands	U.S.	Netherlands
Macro data 1/				
Overall economy	0.9	1.3	1.3	0.9
Business sector	0.4	2.1	1.1	1.4
Sectoral data 2/	0.3	1.2	0.6	0.4

Source: IMF staff calculations.

1/ Based on OECD and AMECO data.

2/ Groningen dataset, O'Mahoney and van Ark (2003).

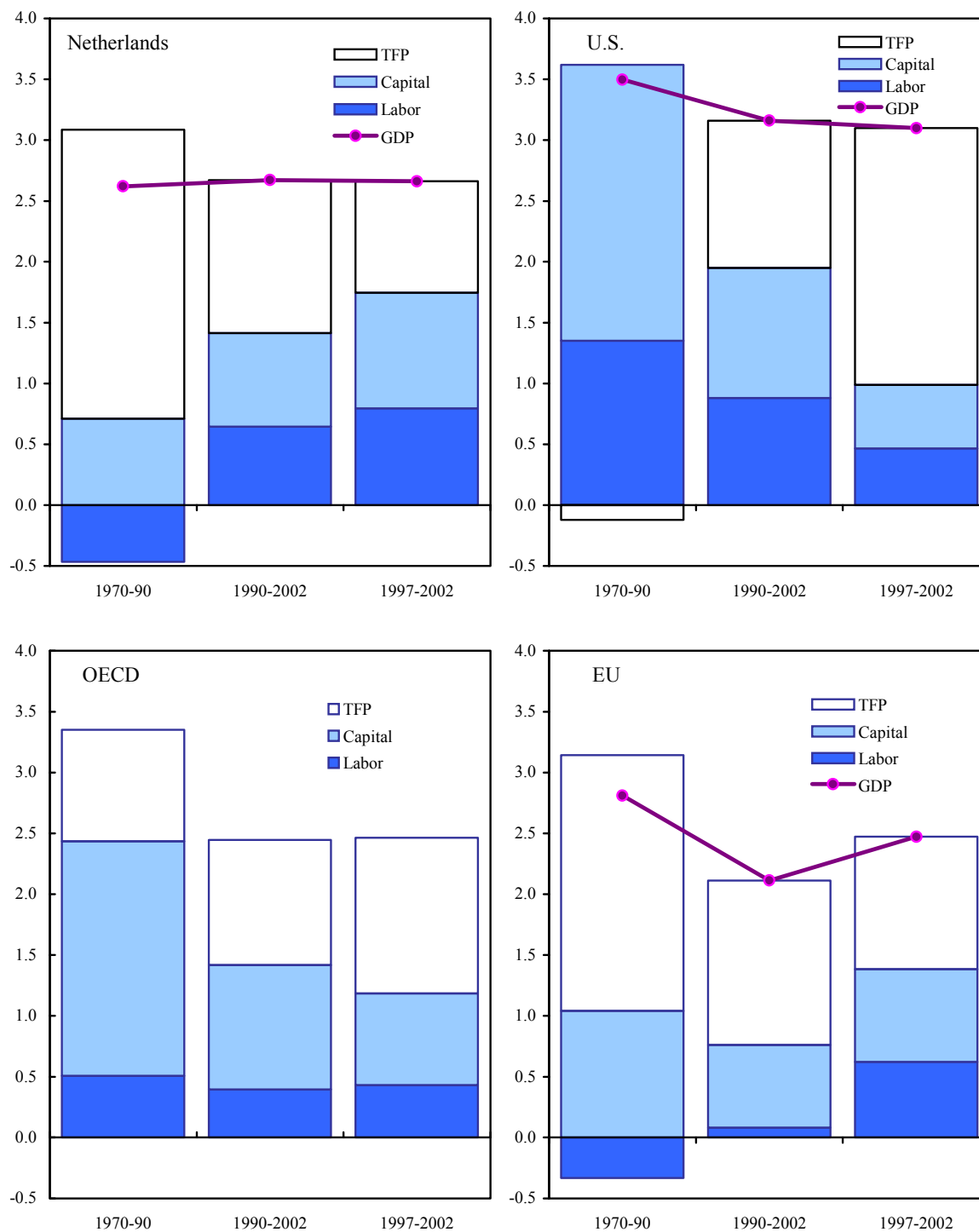
¹⁶It should, however, be pointed out that the Groningen data mask the large variation of firms within a given industry. For example, Bartelsman and de Groot (2004) document that while the Netherlands and the United States are closely matched in terms of industry performance, the highest-productivity firms in the United States are much more productive than the highest-productivity firms in the Netherlands. It would thus appear that the relatively favorable industry-level performance of the Netherlands may well erode over time as resources are reallocated to the more productive firms in either country.

Box 1: The Relative Merits of Different Data Sets

Output, employment, and productivity data differ according to the level of aggregation:

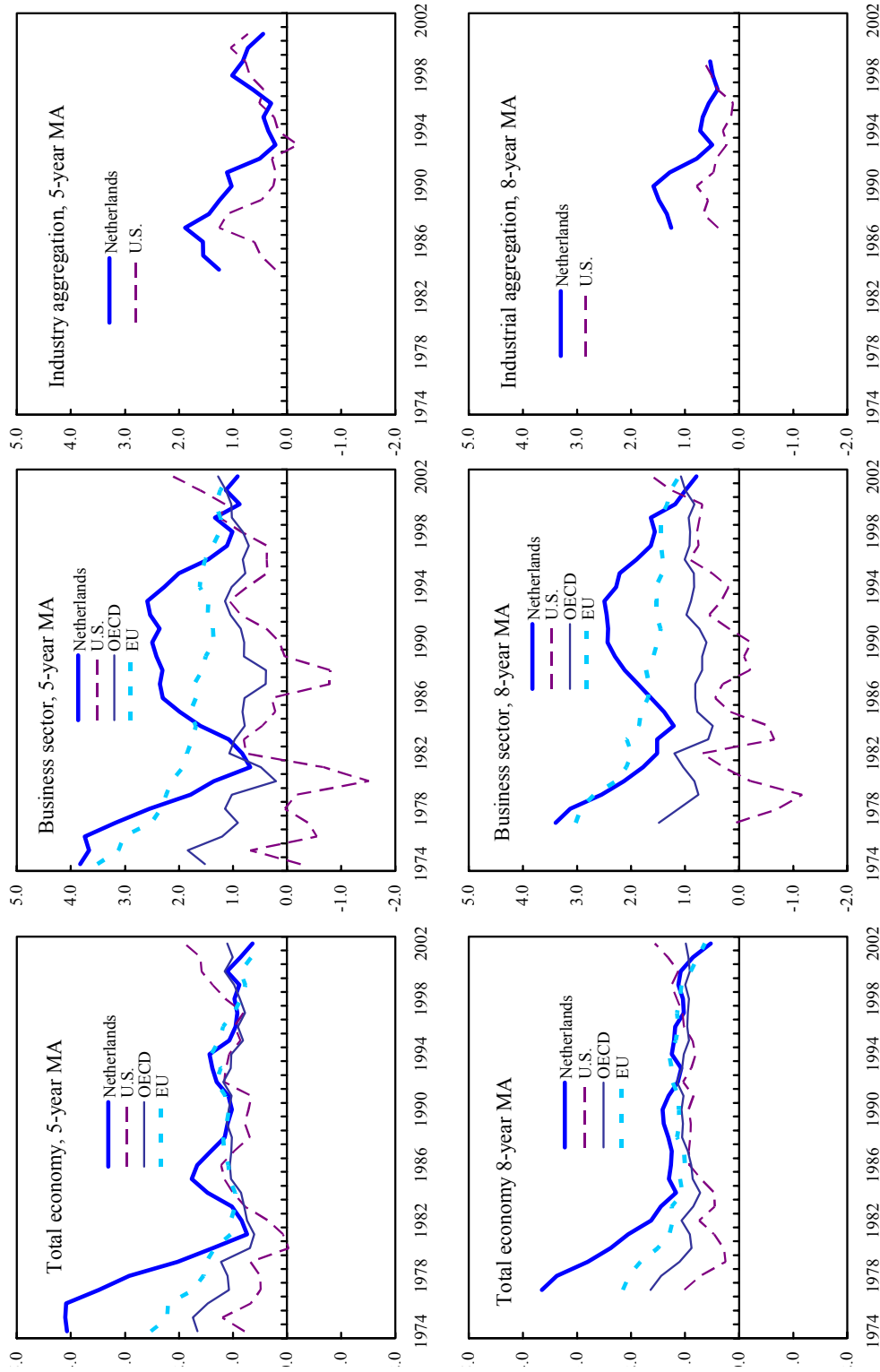
- **Macroeconomic data** are the most current and widely available, e.g., through the OECD or the AMECO database of the EU, and they are used in the majority of cross-country studies. For studies of productivity, data on the business sector, rather than the overall economy, are typically used, because hours worked are usually better measured in that sector. Also, output of the public sector tends to be inferred by input use, thus obviating the possibility of TFP growth in that sector. For purposes of international comparisons, these data are subject to several defects: they are compiled by different statistical agencies, which use differing and at times inconsistent methodologies; they obscure variations at the industry and firm levels; and they fail to control for different quality characteristics of inputs.
- **Sectoral data** can account for industry variation, but have traditionally not been widely available. For the EU, a new cross-country database, the Groningen data set, was recently compiled (O'Mahony and van Ark, 2003). It includes important improvements compared to macro data sets: data are disaggregated into their sectoral components, and common deflator methods are used, permitting a much better measurement of changes in information and communication technology (ICT). In addition, the database also includes measures of labor quality and splits the capital stock into its ICT and non-ICT parts. However, sectoral data are also subject to significant shortcomings. Fundamentally, they still involve aggregation, albeit only to the industry level, and thus mask the important within-industry variation that has been well documented in firm-level data sets. In addition, sectoral investment series, which form the basis for the calculation of the capital stock, are less reliable than in the macro data (in many countries statistical agencies limit corrections to past data for lack of resources), while hours worked are not well measured at the industry level, especially when services are outsourced. Price deflators can be problematic in the services sector when deregulation results in lower markups, as it probably did in the Netherlands.
- **Micro data** avoid aggregation problems by definition and typically provide a rich set of controls (see Bartelsman and Doms, 2002). Unfortunately, they are typically not widely available, are only produced with considerable lags, and require substantial effort to make them internationally comparable.

Figure 5. The Netherlands: Long-Run Growth Accounting
(Sources of Growth of Business-Sector GDP)



Source: IMF staff estimates.

Figure 6. The Netherlands: Trends in Total Factor Productivity Growth
(5- and 8-year moving averages of annual percentage change)



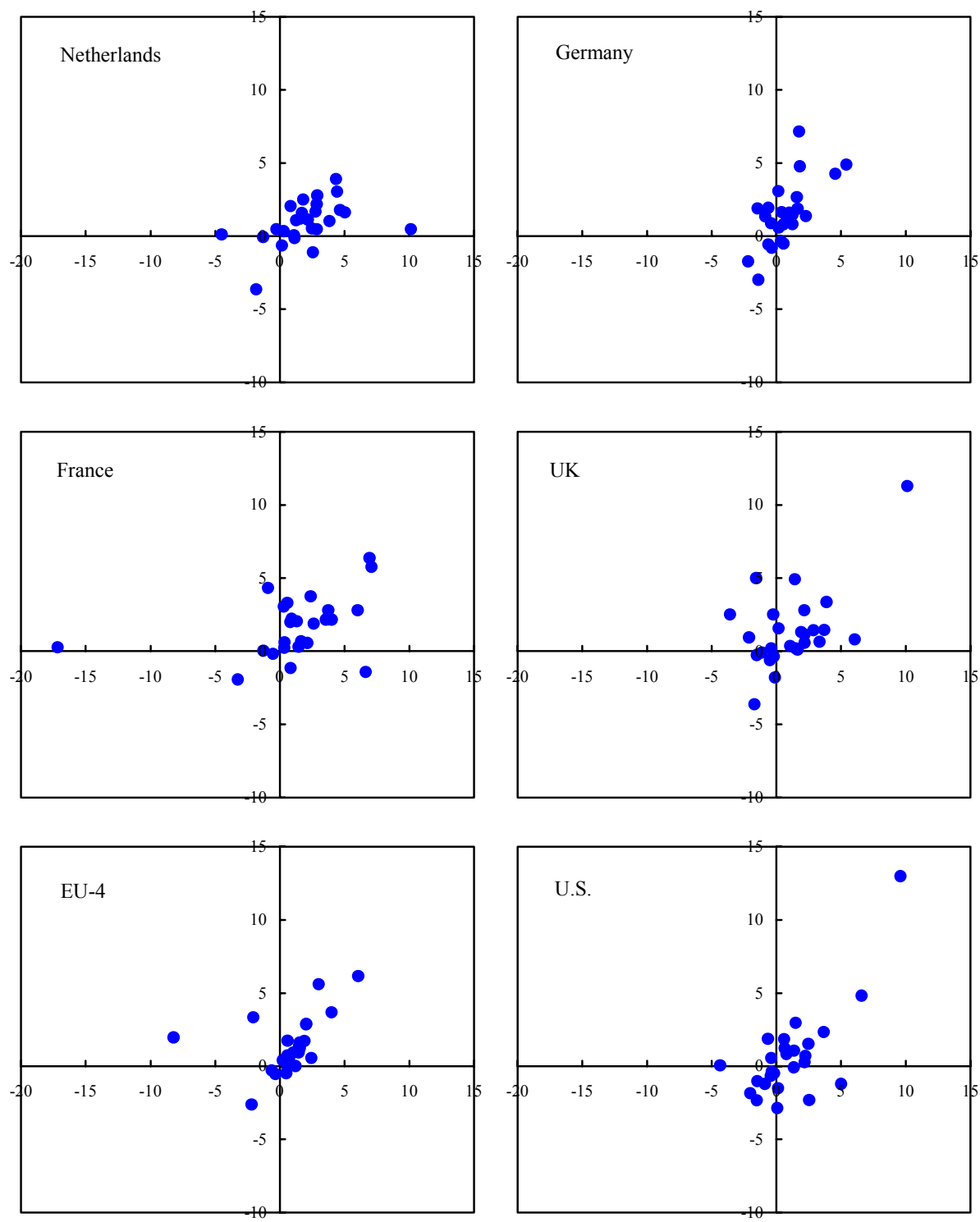
Sources: IMF staff estimates based on data from OECD, AMECO, and O'Mahony and van Ark (2003).

43. **The range of TFP growth has narrowed across industries.** As in other countries, past TFP growth appears to be a good predictor of future TFP growth in the Netherlands (Figure 7). However, the range of Dutch TFP growth during the 1990s (the y-axis in Figure 7) is considerably narrower than in other countries, or than in the 1980s in the Netherlands. While the latter outcome is consistent with convergence/mean reversion—a pattern noticeably absent in the other countries, though—it may also reflect a lack of dynamism in the 1990s.

44. **However, within industries, there is considerable variation at the firm level, albeit less so than in the United States.** Recent work by Bartelsman and collaborators has produced a large cross-country firm level data set. One noteworthy result of these data that could nuance the above concern about lacking dynamism in the Dutch economy is that the top TFP quartile of firms in the Dutch manufacturing sector exhibits twice the level of TFP than the bottom quartile (see Bartelsman and Scarpetta, 2004). This degree of variation is higher than for German or French companies, but below the 2.5 multiple exhibited in the U.S. manufacturing sector, where the TFP level of the top quintile is also well in excess of that of Dutch firms. Also, the rate of failure of new businesses appears lower in the Netherlands. The evidence, discussed further in paragraph 15, tends to be consistent with the view that Dutch companies engage in less risky experimentation than U.S. firms, which in turn may affect innovation.

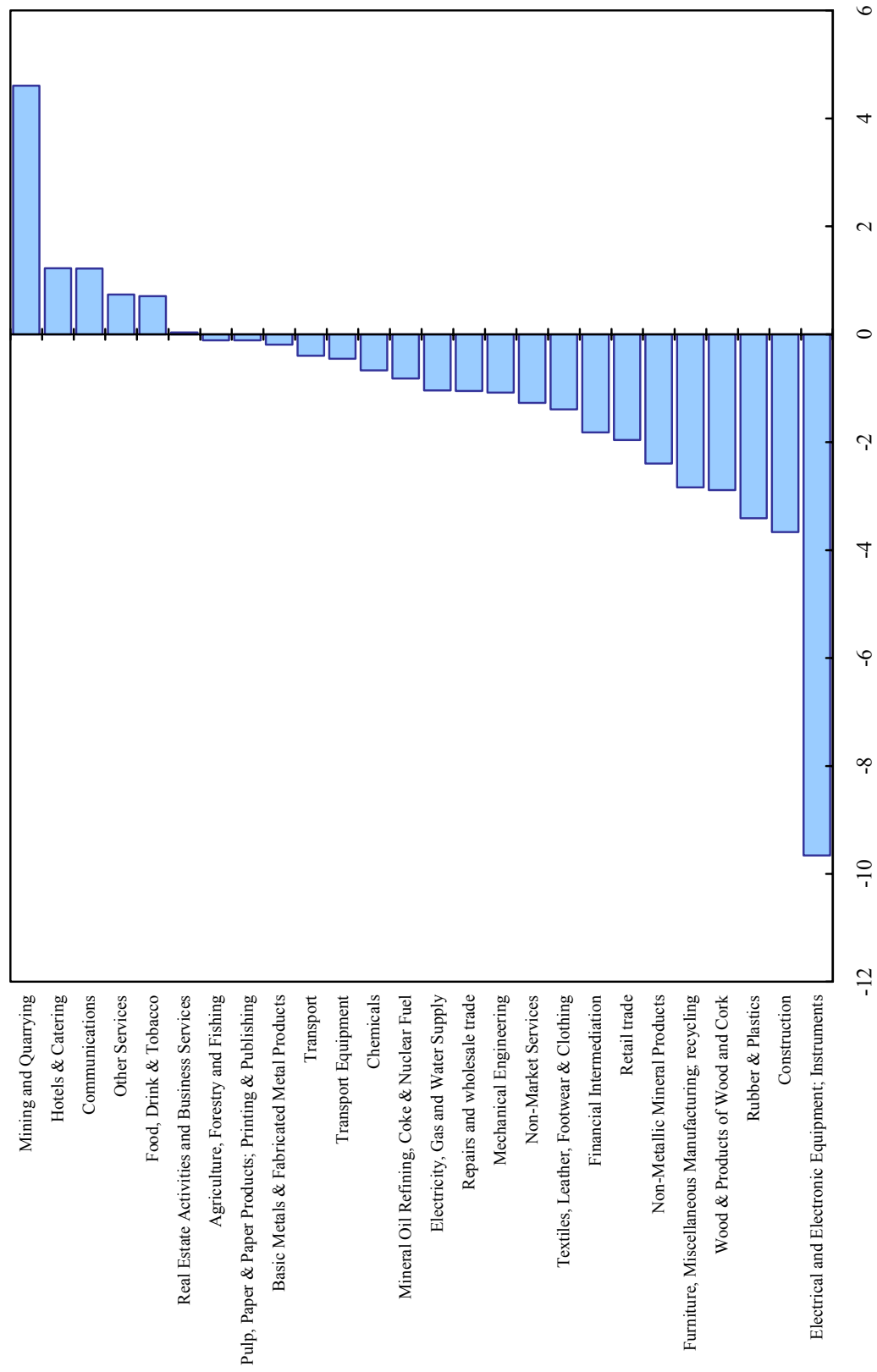
45. **Some of the industries that exhibit particularly weak TFP growth also account for a large part of the Dutch economy.** Figure 8 displays evidence of the drop in industry TFP growth over the 1990s, revealing that the important construction, financial intermediation, and nonmarket services sectors registered steep declines in TFP growth, thereby depressing the aggregate measure. Strangely, the electronics sector, a stalwart in boosting other countries' TFP growth over the 1990s, also registered a decline. While the Dutch economy recorded very buoyant ICT investments over the 1990s (growing on average by 18 percent per year), these investments appear to have had a limited payoff: a comparison of sectoral performance with the United States reveals, furthermore, that key industries in the propagation of ICT, notably, electronics, financial intermediation, and retail trade did especially poorly (Figure 9).

Figure 7. The Netherlands: Scatter Plots of Sectoral TFP Growth Rates (1980-90 vs. 1990-2001)



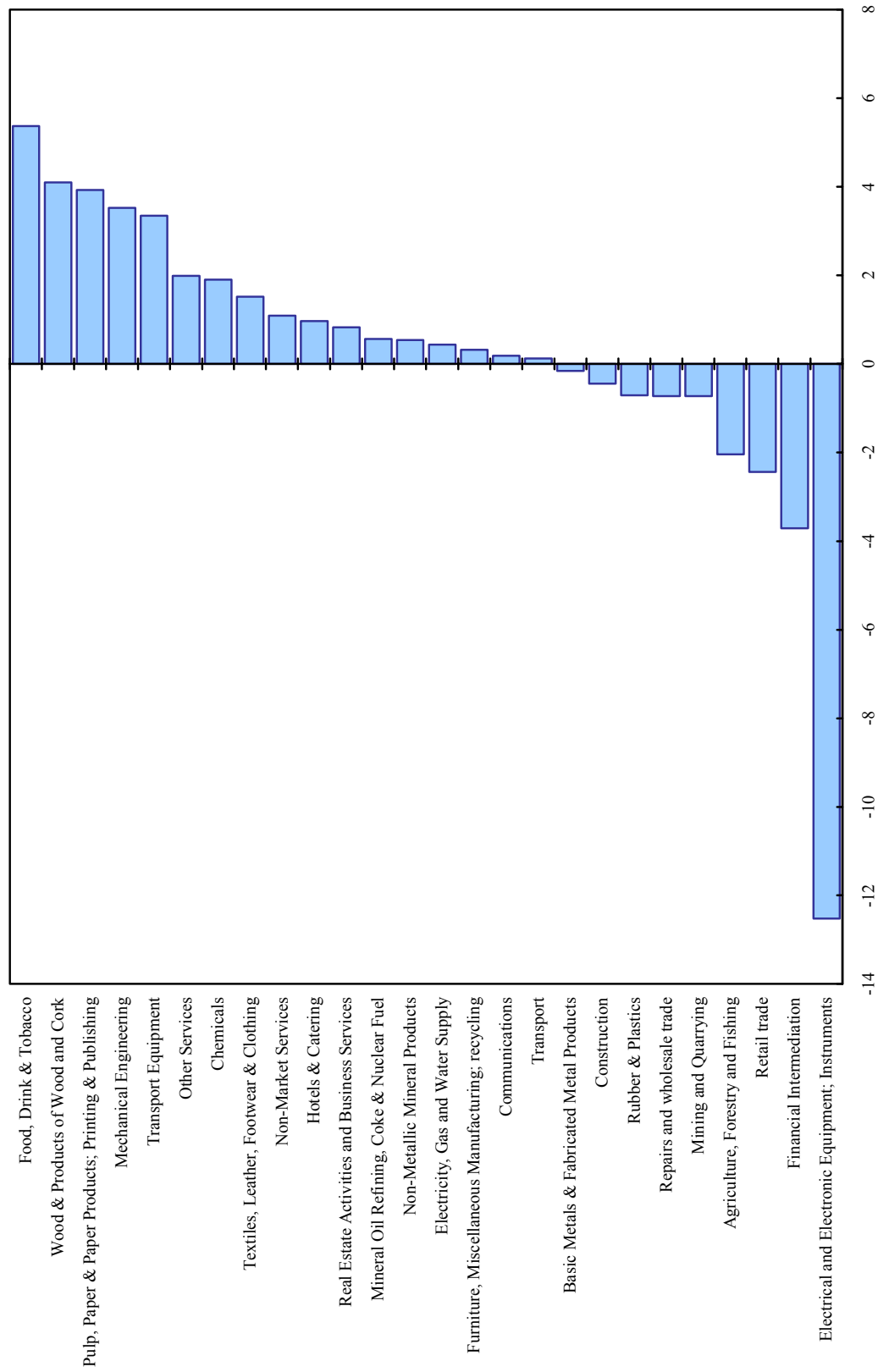
Source: IMF staff estimates.

Figure 8. The Netherlands: Evolution of Industry TFP Growth (1990-2001 compared to 1980-90)



Source: Groningen University (O'Mahoney and van Ark, 2003).

Figure 9. The Netherlands: Difference between Netherlands and U.S. Average TFP Growth by Industry, 1990-2001



Source: Groningen University (O'Mahoney and van Ark, 2003).

D. Possible Explanations

46. How can these results be explained and, if they can, are there any policy implications?

47. **The changing structure of the economy and labor market reforms do not appear to account for recent movements in TFP growth.** This inference runs counter to the argument that much of the decline in TFP growth over the 1990s was the flipside of labor market reforms, wage moderation, and other policies to effect “job-rich” growth. A prominent formulation of this rationale by Kleinknecht (1994) suggests that the rising supply of low-skilled labor triggered a move to less capital-intensive production techniques (and less substitution by capital), thus reducing incentives for productivity-increasing innovation.¹⁷ The validity of this argument can be checked in two steps.

- First, decompose aggregate changes in TFP growth into their components by utilizing a shift-share analysis:

$$\Delta \dot{TFP} = \sum_i s_i^0 (\Delta \dot{tfp}_i) + \sum_i \dot{tfp}_i^T (\Delta s_i)$$

The left-hand side of the equation indicates the change in the average aggregate TFP growth rate between 1980–90 and 1990–2001. The first term of the decomposition on the right-hand side is the product of the 1980–90 employment share of industry i with its respective rate of change of TFP growth over the two periods, that is, the effect of inherent industry TFP changes, so to speak. The second right-hand side term shows the product of industry i ’s average TFP growth weighted by the change in its employment share (in total economy-wide employment) over the two periods, that is, the effect of changes in the sectoral composition of employment.

- Next, assume that low-skill labor will not be employed proportionally across the economy, but employed more in some sectors than in others. Then one would expect for the Kleinknecht argument to hold that changes in the sectoral composition of employment would drag aggregate TFP growth down.

48. The above analysis indicates that sectoral change in the economy explains only about 6 percent of the observed decline in aggregate TFP growth, while 94 percent of it is due to a fall in TFP growth rates across all industries. Of course, it may well be that labor market reforms have *temporary* adverse effects on measured productivity that would not be picked up by the above ten-year averages. By the same token, though, such effects would not be particularly important for an assessment of long-term trends.

¹⁷Note that, even if the argument held true, per capita GDP would still be permanently lifted by job-rich growth.

49. Far from impeding productivity growth, labor market reforms are likely an essential element in boosting TFP, but such reforms must look beyond just raising participation rates to ways of facilitating the reallocation of labor. There is a risk that in the European context, where participation rates are low, labor market reforms may be too narrowly tailored to just address this problem. However, it is also true that, notwithstanding structural reforms in other areas, European labor markets have remained comparatively more regulated than those in the United States (OECD 2004). Against the background of the discussion above, the higher regulation has likely had adverse implications for productivity growth, and it is essential that labor market reforms also contain elements to facilitate the reallocation of labor and to lower the regulatory burden on enterprises.

50. As described before, and notwithstanding high levels of measured productivity in European countries, the empirical microeconomic literature has pointed to the critical importance of “creative destruction” for TFP growth, through permitting the exit of failing companies (see, for example, Bartelsman and Doms, 2000). Such a process works best with an expeditious and smooth reallocation of resources. Bartelsman and Scarpetta (2004) who study a cross-country firm-level data set for the 1989–97 period, uncover that, in the manufacturing sector, productivity growth developments *within* firms have not been very different between the United States and European countries.^{18, 19} Where the United States and Europe differ, though—and where the much better productivity performance of the United States over the period is rooted—is in the exit of firms. By freeing up resources, the exit process permits production to shift to more productive firms, thereby raising aggregate productivity. In contrast, this productivity-growth enhancing effect of firm exit is virtually absent in the European countries. In the Netherlands, the still rather comprehensive employment legislation (OECD, 2004) stands in the way of such a swift reallocation of labor.²⁰

51. A complex problem arises when labor market reform contains both liberalization and new regulation. In this context, Nicoletti and Scarpetta (2003) document that the advent of part-time arrangements in the Netherlands went along with a significant liberalization of regulations governing part-time contracts. At the same time, rights to part-time work were extended by law, and it is interesting to note that sectors that have recorded particularly large increases in part-time employment arrangements, such as trade, finance, and nonmarket services (Euwals, 2004) also recorded undynamic TFP growth. While, with the limited

¹⁸The data set covers firms in Italy, Finland, France, the western Länder of Germany, the Netherlands, Portugal, and the United Kingdom.

¹⁹Recall, however, that productivity *levels* have been found to be quite different, with the highest productivity firms in the United States being significantly more productive than their European counterparts (see footnote 2).

²⁰On the other hand, there may also be some trade offs involved in that employment protection can provide incentives for workers to acquire firm-specific human capital, which may be conducive to measured TFP growth (given that labor quality can only be imperfectly assessed). Still, such protection could arguably be provided through private contracts rather than public regulation.

observations, it is impossible to assess whether a causal link exists, it would in any event be desirable to ascertain whether or not the regulatory and tax framework governing part-time arrangements—and regulation in general—include elements that have an adverse impact on productivity growth. For example, part-time arrangements may increase overhead costs or could introduce impediments to the utilization of scale economies.

52. Insufficiently competitive product markets appear as an obstacle to productivity growth. The sectoral composition of Dutch TFP growth offers some pointers: the most sheltered sectors—particularly nonmarket services and construction—also registered the most significant declines in TFP growth. Meanwhile, public ownership remains large in some gas and electricity networks (and other networks through “golden shares”), where TFP growth performance has also been weak and falling. Moreover, competition is also hindered in general by high start-up costs and administrative red tape facing new firms. In this context, recent tougher competition enforcement and efforts to significantly reduce red tape are most welcome.

53. Shortcomings in corporate governance may have also played a role. To the extent that managers are exposed to competition and subject to control by owners (both present and prospective), static as well as dynamic efficiency gains may be forthcoming. The Dutch corporate governance regime has long been regarded as sheltering management to a relatively high degree (OECD, 2004). For example, the powers of supervisory boards have been weak and managements have been able to easily mount “poison-pill” defenses to hostile takeover bids. Recent measures to strengthen the corporate governance framework—adopted in the aftermath of several high-profile scandals—may thus also offer promise for future productivity advances.

54. Insufficient ICT spending or public R&D are unlikely to be predominant factors. This is indicated by the observation that both ICT-using and ICT-producing sectors have fared comparatively poorly in the Netherlands, notwithstanding significant past ICT investments. Moreover, in a European context, it is not evident that ICT performance is worse than in the United States.²¹ Thus, the benefits of fiscal incentives for stimulating further ICT usage may be assessed with some skepticism. Skepticism is also appropriate with respect to calls for general increases in public R&D spending. At present, the Netherlands does not spend less than other countries that have recorded better TFP growth. Still, a possible redirection of public R&D to basic research—which, being a public good, will not be sufficiently undertaken by the private sector—along with easier regulation of spin-off startups may be beneficial.

²¹In addition, a firm’s ICT investment reflects the outcome of a self-selection process, importantly based on complementarities with other production factors such as human or organization capital. Studies of rates of return on ICT typically do not control for such factors, and high estimated rates of return are likely to reflect such omitted variables—rather than market failures and unrealized arbitrage opportunities that policies could usefully remedy (see Bartelsman and Doms, 2000).

E. Conclusions

55. **The Dutch economy has experienced a secular decline in TFP growth over the last thirty years, and raising TFP growth is appropriately becoming a focal point on policy makers' agenda.** This decline is robustly estimated from many different data sets and constitutes an important explanation as to why the convergence of the Dutch economy to U.S. per capita income levels has stalled. The analysis in the paper found no evidence of an adverse effect from past labor market liberalization on TFP growth. However, while the aggregate growth of the economy through the 1990s was rather favorable—with the past reforms inducing considerable increases in labor utilization—some concerns have arisen with respect to the sustainability of continued increases. This is more the case in the Netherlands than elsewhere in Europe (where policy efforts are increasingly being geared at raising employment rates from comparatively lower levels), and has brought added urgency to reversing the decline in TFP growth.

56. **It is important that labor market reforms go beyond the narrow focus of raising participation and aim at facilitating the reallocation of labor and reducing the regulatory burden on enterprises.** Making employment protection less onerous is clearly important. In a broader context, policy makers should also look at adopting measures that would boost competition, particularly in still sheltered sectors, and increase the accountability of managers. Recent measures by the Dutch authorities to beef up competition enforcement and improve the corporate governance framework are thus most welcome and should be continued. Dirigiste intervention in R&D or fiscal incentives for capital investment would seem to be less fruitful avenues.

57. **For the Netherlands, there is room for optimism.** Productivity evolves over long periods of time as witnessed by the relatively poor showing of the U.S. economy from the 1970s to the 1990s. Thus, it cannot be ruled out that significant improvements in TFP growth, which have now become so visible in the United States, are already under way in the Netherlands. In this context, it should be noted that the Netherlands has a long history of adopting the kind of structural reforms that can be expected to boost productivity. Hopefully, this also augurs well for the implementation of a renewed and comprehensive liberalization effort—including steps to lower firing costs and cut the regulatory burden on business—that is currently on the political agenda.

References

- Bartelsman, Eric J., and Mark Doms, 2000, "Understanding Productivity: Lessons from Longitudinal Microdata," *Journal of Economic Literature*, Vol. 38 (September), pp. 569–94.
- _____, and Henri L.F. de Groot, 2004, "Integrating Evidence of the Determinants of Productivity," in Gelauff, G., L. Klomp, and T. Roeland (eds.): *Fostering Productivity: Patterns, Determinants, and Policy Implications*, *Contributions to Economic Analysis*, Vol. 263, Elsevier, forthcoming.
- Bartelsman, Eric J. and Stefano Scarpetta, 2004, *Experimentation within and between Firms: Any Role for Policy and Institutions?*, Free University of Amsterdam, mimeo.
- Blanchard, Olivier J., 2004, "The Economic Future of Europe, NBER Working Paper No. 10310, Cambridge, Massachusetts: National Bureau of Economic Research (forthcoming *Journal of Economic Perspectives*).
- Euwals, Rob, 2004, "Explaining the Growth of Part-Time Employment," CPB Discussion Paper No. 31, The Hague: Netherlands Bureau of Economic Policy Analysis.
- Kleinknecht, Alfred, 1994, "Heeft Nederland een loongolf nodig?" *Tijdschrift voor Politieke Economie*, 17, pp. 5–24.
- Nicoletti, Giuseppe, and Stefano Scarpetta, 2003, "Regulation, Productivity and Growth: OECD Evidence," *Economic Policy*, Vol. 36, April, pp. 9–72.
- OECD, 2004, *Economic Survey Netherlands*, Paris: OECD.
- O'Mahony, Mary and Bart van Ark (eds), 2003, *EU Productivity and Competitiveness: An Industry Perspective*, Brussels: European Commission.